

# CHINO BASIN WATERMASTER



## NOTICE OF MEETINGS

**Thursday, November 9, 2023**

- 9:00 a.m. – Appropriative Pool Committee Meeting
- 11:00 a.m. – Non-Agricultural Pool Committee Meeting
- 1:30 p.m. – Agricultural Pool Committee Meeting

**CHINO BASIN WATERMASTER  
APPROPRIATIVE POOL COMMITTEE MEETING**

9:00 a.m. November 9, 2023

*Mr. Chris Diggs, Chair*

*Mr. Chris Berch, Vice-Chair*

**At The Offices Of**

**Chino Basin Watermaster**

9641 San Bernardino Road

Rancho Cucamonga, CA 91730

*(Call can be taken remotely via Zoom at this [link](#))*

**AGENDA**

**CALL TO ORDER**

**ROLL CALL**

**AGENDA - ADDITIONS/REORDER**

**I. CONSENT CALENDAR**

All matters listed under the Consent Calendar are considered to be routine and non-controversial and will be acted upon by one motion in the form listed below. There will be no separate discussion on these items prior to voting unless any members, staff, or the public requests specific items be discussed and/or removed from the Consent Calendar for separate action.

**A. MINUTES**

Approve as presented:

Minutes of the Appropriative Pool Committee Meeting held on October 12, 2023 *(Page 1)*

**B. FINANCIAL REPORTS**

Receive and file as presented:

Monthly Financial Report for the Reporting Period Ended September 30, 2023. *(Page 16)*

**C. 2022/23 ANNUAL REPORT OF THE GROUND-LEVEL MONITORING PROGRAM**

Recommend to the Advisory Committee to recommend to the Watermaster Board to approve the 2022/23 Annual Report of the Ground-Level Monitoring Program (GLMP), and direct staff to file a copy with the Court. *(Page 33)*

**D. CALENDAR YEAR 2024 APPROPRIATIVE POOL COMMITTEE VOLUME VOTE**

Approve the Calendar Year 2024 Appropriative Pool Committee Volume Vote as presented, subject to Watermaster Board approval of the Fiscal Year 2023/24 Assessment Package at the November 16, 2023 meeting. *(Page 95)*

**II. BUSINESS ITEMS**

**A. WATERMASTER REAPPOINTMENT**

Recommend future Watermaster appointment to the Advisory Committee. *(Page 103)*

**B. FISCAL YEAR 2023/24 ASSESSMENT PACKAGE**

Review Fiscal Year 2023/24 Assessment Package as presented and offer advice to Watermaster. *(Page 110)*

**C. RESOLUTION 2023-07 TO LEVY REPLENISHMENT AND ADMINISTRATIVE ASSESSMENTS FOR FISCAL YEAR 2023/24, BASED ON PRODUCTION YEAR 2022/23**

Review Resolution 2023-07 as presented and offer advice to Watermaster. *(Page 156)*

**III. REPORTS/UPDATES**

**A. WATERMASTER LEGAL COUNSEL**

1. December 1, 2023 Court Hearing (OBMP Semi-Annual Status Report and 2023 Recharge Master Plan Update)
2. Court of Appeal Case No. E079052 (City of Chino, MVIC, MVWD, City of Ontario appeal re OAP Expenses and Attorney Fees)
3. Court of Appeal Consolidated Cases No. E080457 and E082127 (City of Ontario appeal re 2021-22 and 2022-23 Assessment Packages)
4. Court of Appeal Case No. E080533 (Cities of Chino, Ontario appeal re 2022-23 Watermaster budget expenses to support CEQA analysis)
5. Kaiser Permanente Lawsuit

**B. ENGINEER**

1. Water Quality Committee
2. 2025 Safe Yield Reevaluation
3. Storage and Recovery Master Plan

**C. GENERAL MANAGER**

1. OBMPU CEQA Process
2. Annual Finding of Substantial Compliance with the Recharge Master Plan
3. December Meeting Schedule
4. Other

**IV. POOL MEMBER COMMENTS**

**V. OTHER BUSINESS**

**VI. CONFIDENTIAL SESSION – POSSIBLE ACTION**

A Confidential Session may be held during the Pool Committee meeting for the purpose of discussion and possible action.

**VII. FUTURE MEETINGS AT WATERMASTER**

11/09/23	Thu	9:00 a.m.	Appropriative Pool Committee
11/09/23	Thu	11:00 a.m.	Non-Agricultural Pool Committee
11/09/23	Thu	1:30 p.m.	Agricultural Pool Committee
11/15/23	Wed	1:00 p.m.	Storage and Recovery Master Plan Committee
11/16/23	Thu	9:00 a.m.	Advisory Committee
11/16/23	Thu	11:00 a.m.	Watermaster Board*
12/05/23	Tue	9:00 a.m.	Groundwater Recharge Coordinating Committee (GRCC)

\* The Watermaster Board meeting is being advanced by a week due to the Thanksgiving Holiday. Watermaster will be dark in December and can assist with any special meetings as requested. All regularly scheduled meetings will resume in January 2024.

**ADJOURNMENT**

**CHINO BASIN WATERMASTER  
NON-AGRICULTURAL POOL COMMITTEE MEETING**

11:00 a.m. November 9, 2023

*Mr. Brian Geye, Chair*

*Mr. Bob Bowcock, Vice-Chair*

**At The Offices Of**

**Chino Basin Watermaster**

9641 San Bernardino Road

Rancho Cucamonga, CA 91730

**AGENDA**

**CALL TO ORDER**

**ROLL CALL**

**AGENDA – ADDITIONS/REORDER**

**I. BUSINESS ITEMS - ROUTINE**

**A. MINUTES**

Receive and File:

Minutes of the Non-Agricultural Pool Committee Meeting held on October 12, 2023 *(Page 6)*

**B. FINANCIAL REPORTS**

Receive and file as presented:

Monthly Financial Report for the Reporting Period Ended September 30, 2023. *(Page 16)*

**C. 2022/23 ANNUAL REPORT OF THE GROUND-LEVEL MONITORING PROGRAM**

Recommend to the Advisory Committee to recommend to the Watermaster Board to approve the 2022/23 Annual Report of the Ground-Level Monitoring Program (GLMP), and direct staff to file a copy with the Court. *(Page 33)*

**D. CALENDAR YEAR 2024 NON-AGRICULTURAL POOL COMMITTEE VOLUME VOTE**

Receive and file the Calendar Year 2024 Overlying (Non-Agricultural) Pool Committee Volume Vote as presented, subject to Watermaster Board approval of the Fiscal Year 2023/24 Assessment Package at the November 16, 2023 meeting. *(Page 99)*

**II. BUSINESS ITEMS**

**A. WATERMASTER REAPPOINTMENT**

Recommend future Watermaster appointment to the Advisory Committee. *(Page 103)*

**B. FISCAL YEAR 2023/24 ASSESSMENT PACKAGE**

Review Fiscal Year 2023/24 Assessment Package as presented and offer advice to Watermaster. *(Page 110)*

**C. RESOLUTION 2023-07 TO LEVY REPLENISHMENT AND ADMINISTRATIVE ASSESSMENTS FOR FISCAL YEAR 2023/24, BASED ON PRODUCTION YEAR 2022/23**

Review Resolution 2023-07 as presented and offer advice to Watermaster. *(Page 156)*

**D. MEMBER STATUS CHANGES**

1. Any proposed transfer of Safe Yield by a Member.
2. Any transfer of Safe Yield that has actually closed or been completed.
3. Any change in name or corporate identity of a Member (such as results from a merger or filing of a change of name certificate).

4. Any change in the name of a representative or alternate representative of a Member, or a change in e-mail address for either such person.

### **III. REPORTS/UPDATES**

#### **A. WATERMASTER LEGAL COUNSEL**

1. December 1, 2023 Court Hearing (OBMP Semi-Annual Status Report and 2023 Recharge Master Plan Update)
2. Court of Appeal Case No. E079052 (City of Chino, MVIC, MVWD, City of Ontario appeal re OAP Expenses and Attorney Fees)
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4. Court of Appeal Case No. E080533 (Cities of Chino, Ontario appeal re 2022-23 Watermaster budget expenses to support CEQA analysis)
5. Kaiser Permanente Lawsuit

#### **B. ENGINEER**

1. Water Quality Committee
2. 2025 Safe Yield Reevaluation
3. Storage and Recovery Master Plan

#### **C. GENERAL MANAGER**

1. OBMPU CEQA Process
2. Annual Finding of Substantial Compliance with the Recharge Master Plan
3. December Meeting Schedule
4. Other

### **IV. POOL MEMBER COMMENTS**

### **V. OTHER BUSINESS**

### **VI. CONFIDENTIAL SESSION - POSSIBLE ACTION**

A Confidential Session may be held during the Pool Committee meeting for the purpose of discussion and possible action.

1. Non-Ag Budget Transfer
2. OBMPU CEQA Review
3. Exhibit G - Section 9 Transfer Rate

### **VII. FUTURE MEETINGS AT WATERMASTER**

11/09/23	Thu	9:00 a.m.	Appropriative Pool Committee
11/09/23	Thu	11:00 a.m.	Non-Agricultural Pool Committee
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11/16/23	Thu	9:00 a.m.	Advisory Committee
11/16/23	Thu	11:00 a.m.	Watermaster Board*
12/05/23	Tue	9:00 a.m.	Groundwater Recharge Coordinating Committee (GRCC)

\* The Watermaster Board meeting is being advanced by a week due to the Thanksgiving Holiday. Watermaster will be dark in December and can assist with any special meetings as requested. All regularly scheduled meetings will resume in January 2024.

### **ADJOURNMENT**

**CHINO BASIN WATERMASTER  
AGRICULTURAL POOL COMMITTEE MEETING**

1:30 p.m. November 9, 2023

*Mr. Bob Feenstra, Chair*

*Mr. Jeff Pierson, Vice-Chair*

**At The Offices Of**

**Chino Basin Watermaster**

9641 San Bernardino Road

Rancho Cucamonga, CA 91730

**AGENDA**

**CALL TO ORDER**

**ROLL CALL**

**AGENDA - ADDITIONS/REORDER**

**I. CONSENT CALENDAR**

All matters listed under the Consent Calendar are considered to be routine and non-controversial and will be acted upon by one motion in the form listed below. There will be no separate discussion on these items prior to voting unless any members, staff, or the public requests specific items be discussed and/or removed from the Consent Calendar for separate action.

**A. MINUTES**

Approve as presented:

Minutes of the Agricultural Pool Committee Meeting held on October 12, 2023. *(Page 9)*

**B. FINANCIAL REPORTS**

Receive and file as presented:

Monthly Financial Report for the Reporting Period Ended September 30, 2023. *(Page 16)*

**C. 2022/23 ANNUAL REPORT OF THE GROUND-LEVEL MONITORING PROGRAM**

Recommend to the Advisory Committee to recommend to the Watermaster Board to approve the 2022/23 Annual Report of the Ground-Level Monitoring Program (GLMP), and direct staff to file a copy with the Court. *(Page 33)*

**II. BUSINESS ITEMS**

**A. WATERMASTER REAPPOINTMENT**

Recommend future Watermaster appointment to the Advisory Committee. *(Page 103)*

**B. FISCAL YEAR 2023/24 ASSESSMENT PACKAGE**

Review Fiscal Year 2023/24 Assessment Package as presented and offer advice to Watermaster. *(Page 110)*

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4. Court of Appeal Case No. E080533 (Cities of Chino, Ontario appeal re 2022-23 Watermaster budget expenses to support CEQA analysis)
5. Kaiser Permanente Lawsuit

**B. ENGINEER**

1. Water Quality Committee
2. 2025 Safe Yield Reevaluation
3. Storage and Recovery Master Plan

**C. GENERAL MANAGER**

1. OBMPU CEQA Process
2. Annual Finding of Substantial Compliance with the Recharge Master Plan
3. December Meeting Schedule
4. Other

**IV. POOL DISCUSSION**

1. Chairman's Update
2. Pool Member Comments

**V. OTHER BUSINESS**

**VI. CONFIDENTIAL SESSION - POSSIBLE ACTION**

A Confidential Session may be held during the Pool Committee meeting for the purpose of discussion and possible action.

1. Reorganization
2. Strategic Planning

**VII. FUTURE MEETINGS AT WATERMASTER**

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12/05/23	Tue	9:00 a.m.	Groundwater Recharge Coordinating Committee (GRCC)

\* The Watermaster Board meeting is being advanced by a week due to the Thanksgiving Holiday. Watermaster will be dark in December and can assist with any special meetings as requested. All regularly scheduled meetings will resume in January 2024.

**ADJOURNMENT**

**DRAFT MINUTES**  
**CHINO BASIN WATERMASTER**  
**APPROPRIATIVE POOL COMMITTEE MEETING**  
October 12, 2023

The Appropriative Pool Committee meeting was held at the Chino Basin Watermaster offices located at 9641 San Bernardino Road, Rancho Cucamonga, CA, and via Zoom (conference call and web meeting) on October 12, 2023.

**APPROPRIATIVE POOL COMMITTEE MEMBERS PRESENT AT WATERMASTER**

Chris Berch, Vice-Chair	Jurupa Community Services District
Amanda Coker	Cucamonga Valley Water District
Ron Craig	City of Chino Hills
Oscar Ramos for Marty Zvirbulis	Fontana Union Water Company
Cris Fealy	Fontana Water Company
Justin Scott-Coe	Monte Vista Irrigation Company
Justin Scott-Coe	Monte Vista Water District
Oscar Ramos for Marty Zvirbulis	Nicholson Family Trust
Brian Lee	San Antonio Water Company

**APPROPRIATIVE POOL COMMITTEE MEMBERS PRESENT ON ZOOM**

Dave Crosley	City of Chino
Courtney Jones	City of Ontario
Nicole deMoet for Braden Yu	City of Upland
Ben Lewis	Golden State Water Company
John Lopez	Santa Ana River Water Company
Nicole deMoet for Braden Yu	West End Consolidated Water Company

**APPROPRIATIVE POOL COMMITTEE LEGAL COUNSEL PRESENT ON ZOOM**

John Schatz	John J. Schatz, Attorney at Law
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**WATERMASTER BOARD MEMBERS PRESENT ON ZOOM**

Jim Curatalo	Appropriative Pool – Minor Representative
Manny Martinez	Monte Vista Water District
Mike Gardner	Western Municipal Water District

**WATERMASTER STAFF PRESENT**

Peter Kavounas	General Manager
Edgar Tellez Foster	Water Resources Mgmt. & Planning Dir.
Anna Nelson	Director of Administration
Justin Nakano	Water Resources Technical Manager
Frank Yoo	Data Services and Judgment Reporting Mgr.
Alexandria Moore	Executive Assistant I/Board Clerk
Ruby Favela Quintero	Administrative Analyst
Kelli Hills	Office Specialist/Receptionist
Alonso Jurado	Water Resources Associate
Jordan Garcia	Senior Field Operations Specialist
Erik Vides	Field Operations Specialist

**WATERMASTER CONSULTANTS PRESENT AT WATERMASTER**

Laura Yraceburu	Brownstein Hyatt Farber Schreck, LLP
Andy Malone	West Yost

**WATERMASTER CONSULTANTS PRESENT ON ZOOM**

Garrett Rapp	West Yost
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**OTHERS PRESENT AT WATERMASTER**

Melissa Cansino  
Jiwon Seung  
Bryan Smith

City of Pomona  
Cucamonga Valley Water District  
Jurupa Community Services District

**OTHERS PRESENT ON ZOOM**

Marilyn Levin  
Tom O'Neill  
Natalie Avila  
Eduardo Espinoza  
Peter Dopulos  
Shawnda Grady  
Derek Hoffman  
Jesse Pompa  
Kevin O'Toole  
Bill Wyatt  
David De Jesus  
Mallory Gandara

Agricultural Pool – State of CA  
Chino Basin Desalter Authority  
City of Chino  
Cucamonga Valley Water District  
Egoscue Law Group, Inc.  
Ellison, Schneider, & Harris, LLP  
Fennemore Law  
Jurupa Community Services District  
Orange County Water District  
Sheppard, Mullin, Richter & Hampton  
Three Valleys Municipal Water District  
Western Municipal Water District

**CALL TO ORDER**

Vice-Chair Berch called the Appropriative Pool Committee meeting to order at 9:00 a.m.

**ROLL CALL**

(0:00:14) Ms. Moore conducted the roll call and announced that a quorum was present.

**AGENDA - ADDITIONS/REORDER**

None

**I. CONSENT CALENDAR**

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**A. MINUTES**

Approve as presented:

Minutes of the Appropriative Pool Committee Meeting held on September 14, 2023

**B. FINANCIAL REPORTS**

Receive and file as presented:

Monthly Financial Reports for the Reporting Periods Ended July 31, 2023 and August 31, 2023.

**C. APPLICATION: RECHARGE – FONTANA WATER COMPANY**

Recommend to the Advisory Committee to recommend to the Board to approve Fontana Water Company's application for Recharge and Direct Watermaster staff to account for the same.

(0:02:31)

*Motion by Ms. Amanda Coker, seconded by Mr. Justin Scott-Coe, there being no dissent, the item passed unanimously.*

***Moved to approve the Consent Calendar as presented.***

**II. BUSINESS ITEMS**

None

**III. REPORTS/UPDATES**

**A. WATERMASTER LEGAL COUNSEL**

1. Court of Appeal Case No. E079052 (City of Chino, MVIC, MVWD, City of Ontario appeal re OAP Expenses and Attorney Fees)
2. Court of Appeal Consolidated Case Nos. E080457 and E082127 (City of Ontario appeal re 2021-22 and 2022-23 Assessment Packages)
3. Court of Appeal Case No. E080533 (Cities of Chino, Ontario appeal re 2022-23 Watermaster budget expenses to support CEQA analysis)
4. Kaiser Permanente Lawsuit

(0:03:04) Ms. Yraceburu gave a report on behalf of Mr. Herrema.

**B. ENGINEER**

1. GLMC Update
2. Long Term Planning Activities
3. Mitigation Plan for the Temporary Loss of Hydraulic Control
4. Annual Streamflow Monitoring Report for Water Rights Permit 21225
5. Watermaster Model Application and Required Demonstrations
6. Annual Plumes Status Report

(0:07:00) Mr. Malone gave a report on items 1 and 6, Mr. Rapp gave a report on item 2 and 4, and Mr. Tellez Foster on item 3. A discussion ensued.

**C. GENERAL MANAGER**

1. Court Tour of Chino Basin
2. OBMPU CEQA Process
3. Fiscal Year 2023/24 Assessment Package
4. Other

(0:36:55) Mr. Kavounas gave an overview of the Chino Basin Tour with Judge Ochoa and stated the recording and transcripts are available on Watermaster website. Mr. Kavounas introduced Mr. Tellez Foster to give a report on item 2. On item 3, Mr. Kavounas reminded everyone of the upcoming Fiscal Year 2023/24 Assessment Package workshops.

**IV. POOL MEMBER COMMENTS**

(0:42:02) Vice-Chair Berch mentioned the WMWD and MWD RFP for Storage and Recovery Program, and that they are looking for proposals in the next few months to see how parties might collaborate.

**V. OTHER BUSINESS**

None

**VI. CONFIDENTIAL SESSION – POSSIBLE ACTION**

A Confidential Session may be held during the Pool Committee meeting for the purpose of discussion and possible action.

The Pool convened into confidential session at 10:10 a.m. to discuss the following AP Business.

(1:09:19) Confidential session concluded at 11:26 a.m. with the reportable action as shown below:

1. *Motion: To approve AG legal bill as follows:  
\$10,950.00 for general counsel – October 2023 Invoice (September billing)  
**Motion made by Amanda Coker, (CVWD), and seconded by Cris Fealy, (FWC):  
Passed with 63.111% volume votes in favor.***

**ADJOURNMENT**

Vice-Chair Berch adjourned the Appropriative Pool Committee meeting at 10:04 a.m.

Secretary: \_\_\_\_\_

Approved: \_\_\_\_\_

Attachment:

1. 20231012 Appropriative Pool Committee Meeting (Reportable Action from Confidential Session as provided by Pool Leadership)

**From:** Cansino, Melissa  
**To:** Alexandria Moore  
**Cc:** Chris Berch; Diggs, Chris; Anna Nelson  
**Subject:** October 12, 2023 AP Closed Session Reportable Action- Motion to approve AG legal bill Oct. 2023  
**Date:** Thursday, October 12, 2023 10:59:47 AM

Hello Alex,


I'm reaching out to let you know that the AP held a closed session meeting today from 9:50 am to 10:10 am. I realized I forgot to retrieve the sign-in sheet for your records. Can you please check if it's still at the location where the AP closed session was held?

During the meeting, a motion was made and approved as follows:

**Motion:** To approve AG legal bill as follows:

- \$10,950.00 for general counsel - October 2023 Invoice (September billing)

Amanda Coker, representing CVWD, moved the motion, which was seconded by Cris Fealy, representing Fontana Water. The motion passed with a 63.111% affirmative vote.



**2023 APPROPRIATIVE POOL VOLUME VOTE**  
 Assessment Year 2022-2023 (Production Year 2021-2022)

**QUORUM MET?**  
**YES**

Enter Y or N in Each Cell

Party	Present (Y/N)	Vote (Y/N)	Assigned	Avail Votes	Quorum	Total Yes
BlueTriton Brands, Inc.	N		1.668	0.000	0.000	0.000
CallMat Co. (Appropriative)	N		0.000	0.000	0.000	0.000
Chino Hills, City Of	Y	Y	36.689	36.689	36.689	36.689
Chino, City Of	Y	N	57.077	57.077	57.077	0.000
Cucamonga Valley Water District	Y	Y	95.130	95.130	95.130	95.130
Fontana Union Water Company	Y	Y	58.285	58.285	58.285	58.285
Fontana Water Company	Y	Y	75.523	75.523	75.523	75.523
Fontana, City Of	N		0.000	0.000	0.000	0.000
Golden State Water Company	N		10.820	0.000	0.000	0.000
Jurupa Community Services District	Y	Y	95.731	95.731	95.731	95.731
Marygold Mutual Water Company	N		12.236	0.000	0.000	0.000
Monte Vista Irrigation Company	Y	N	6.170	6.170	6.170	0.000
Monte Vista Water District	Y	N	90.372	90.372	90.372	0.000
NCL Co, LLC	N		0.000	0.000	0.000	0.000
Niagara Bottling, LLC	N		11.167	0.000	0.000	0.000
Nicholson Family Trust	Y	Y	0.035	0.035	0.035	0.035
Norco, City Of	N		1.840	0.000	0.000	0.000
Ontario, City Of	Y	N	199.137	199.137	199.137	0.000
Pomona, City Of	Y	Y	169.803	169.803	169.803	169.803
San Antonio Water Company	Y	Y	16.409	16.409	16.409	16.409
San Bernardino, County of (Shooting Park)	N		0.131	0.000	0.000	0.000
Santa Ana River Water Company	Y	Y	12.549	12.549	12.549	12.549
Upland, City Of	Y	Y	34.713	34.713	34.713	34.713
West End Consolidated Water Co	Y	Y	8.640	8.640	8.640	8.640
West Valley Water District	N		5.875	0.000	0.000	0.000
			<b>1,000.000</b>	<b>956.262</b>	<b>956.262</b>	<b>603.507</b>

CALCULATE QUORUM

CALCULATE VOTES

**"YES" VOTES**  
63.111%

**"NO" VOTES**  
36.889%

PASSED

RESET ALL

RESET VOTES

Thank you,  
 Melissa Cansino  
 City of Pomona - Water Resources Department  
 (909) 620-2236  
[Melissa.Cansino@pomonaca.gov](mailto:Melissa.Cansino@pomonaca.gov)

**DRAFT MINUTES**  
**CHINO BASIN WATERMASTER**  
**NON-AGRICULTURAL POOL COMMITTEE MEETING**  
October 12, 2023

The Non-Agricultural Pool Committee meeting was held at the Chino Basin Watermaster offices located at 9641 San Bernardino Road, Rancho Cucamonga, CA, and via Zoom (conference call and web meeting) on October 12, 2023.

**NON-AGRICULTURAL POOL COMMITTEE MEMBERS PRESENT AT WATERMASTER**

Brian Geye, Chair California Speedway Corporation

**NON-AGRICULTURAL POOL COMMITTEE MEMBERS PRESENT ON ZOOM**

Alexis Mascarinas City of Ontario

**WATERMASTER BOARD MEMBERS PRESENT ON ZOOM**

Mike Gardner Western Municipal Water District

**WATERMASTER STAFF PRESENT AT WATERMASTER**

Peter Kavounas	General Manager
Edgar Tellez Foster	Water Resources Mgmt. & Planning Dir.
Anna Nelson	Director of Administration
Justin Nakano	Water Resources Technical Manager
Frank Yoo	Data Services and Judgment Reporting Mgr.
Alexandria Moore	Executive Assistant I/Board Clerk
Ruby Favela Quintero	Administrative Analyst
Kelli Hills	Office Specialist/Receptionist
Alonso Jurado	Water Resources Associate
Jordan Garcia	Senior Field Operations Specialist
Erik Vides	Field Operations Specialist

**WATERMASTER CONSULTANTS PRESENT AT WATERMASTER**

Laura Yraceburu Brownstein Hyatt Farber Schreck, LLP  
Andy Malone West Yost

**WATERMASTER CONSULTANTS PRESENT ON ZOOM**

Garrett Rapp West Yost

**OTHERS PRESENT ON ZOOM**

Peter Dopulos Egoscue Law Group, Inc.  
Tariq Awan Agricultural Pool – State of CA

**NON-AGRICULTURAL POOL LEGAL COUNSEL PRESENT ON ZOOM**

Allen Hubsch Law Office of Allen W. Hubsch

**CALL TO ORDER**

Chair Geye called the Non-Agricultural Pool Committee meeting to order at 11:00 a.m.

**ROLL CALL**

(00:00:21) Ms. Moore conducted the roll call.

**AGENDA – ADDITIONS/REORDER**

None

**I. BUSINESS ITEMS - ROUTINE**

**A. MINUTES**

Receive and File:

Minutes of the Non-Agricultural Pool Committee Meeting held on September 14, 2023

(00:01:51)

*Motion by Chair Geye, seconded by Ms. Mascarinas. The Chair called for dissent, and, none being noted, the motion was deemed passed by unanimous vote of those present.*

***Moved to receive and file Business Item I.A. as presented.***

**B. FINANCIAL REPORTS**

Receive and file as presented:

Monthly Financial Reports for the Reporting Periods Ended July 31, 2023 and August 31, 2023.

(00:02:12)

*Motion by Chair Geye, seconded by Ms. Mascarinas. The Chair called for dissent, and, none being noted, the motion was deemed passed by unanimous vote of those present.*

***Moved to receive and file Business Item I.B. without approval as presented.***

**C. APPLICATION: RECHARGE – FONTANA WATER COMPANY**

Recommend to the Advisory Committee to recommend to the Board to approve Fontana Water Company's application for Recharge and Direct Watermaster staff to account for the same.

(00:02:35)

*Motion by Chair Geye, seconded by Ms. Mascarinas. The Chair called for dissent, and, none being noted, the motion was deemed passed by unanimous vote of those present.*

***Moved to approve staff recommendation of Business Item I.C., and to direct the Pool representatives to support at the Advisory Committee and Watermaster Board meetings subject to changes which they deem necessary.***

**II. BUSINESS ITEMS**

**A. MEMBER STATUS CHANGES**

1. Any proposed transfer of Safe Yield by a Member.
2. Any transfer of Safe Yield that has actually closed or been completed.
3. Any change in name or corporate identity of a Member (such as results from a merger or filing of a change of name certificate).
4. Any change in the name of a representative or alternate representative of a Member, or a change in e-mail address for either such person.

There were no changes to note.

**III. REPORTS/UPDATES**

**A. WATERMASTER LEGAL COUNSEL**

1. Court of Appeal Case No. E079052 (City of Chino, MVIC, MVWD, City of Ontario appeal re OAP Expenses and Attorney Fees)
2. Court of Appeal Consolidated Case Nos. E080457 and E082127 (City of Ontario appeal re 2021-22 and 2022-23 Assessment Packages)
3. Court of Appeal Case No. E080533 (Cities of Chino, Ontario appeal re 2022-23 Watermaster budget expenses to support CEQA analysis)
4. Kaiser Permanente Lawsuit

(00:03:23) Ms. Yraceburu gave a report on behalf of Mr. Herrema.

**B. ENGINEER**

1. GLMC Update
2. Long Term Planning Activities
3. Mitigation Plan for the Temporary Loss of Hydraulic Control
4. Annual Streamflow Monitoring Report for Water Rights Permit 21225
5. Watermaster Model Application and Required Demonstrations
6. Annual Plumes Status Report

(00:07:08) Mr. Malone gave a report on items 1 and 6, Mr. Rapp gave a report on item 2 and 4, and Mr. Tellez Foster on item 3. A discussion ensued.

**C. GENERAL MANAGER**

1. Court Tour of Chino Basin
2. OBMPU CEQA Process
3. Fiscal Year 2023/24 Assessment Package
4. Other

(00:19:53) Mr. Kavounas gave an overview of the Chino Basin Tour with Judge Ochoa and stated the recording and transcripts are available on Watermaster website. Mr. Kavounas introduced Mr. Tellez Foster to give a report on item 2. On item 3, Mr. Kavounas reminded everyone of the upcoming Fiscal Year 2023/24 Assessment Package workshops.

**IV. POOL MEMBER COMMENTS**

None

**V. OTHER BUSINESS**

None

**VI. CONFIDENTIAL SESSION - POSSIBLE ACTION**

A Confidential Session may be held during the Pool Committee meeting for the purpose of discussion and possible action.

None

**ADJOURNMENT**

Chair Gey adjourned the Non-Agricultural Pool Committee meeting at 11:30 a.m.

Secretary: \_\_\_\_\_

Approved: \_\_\_\_\_

**DRAFT MINUTES**  
**CHINO BASIN WATERMASTER**  
**AGRICULTURAL POOL COMMITTEE MEETING**

October 12, 2023

The Agricultural Pool Committee meeting was held at the Chino Basin Watermaster offices located at 9641 San Bernardino Road, Rancho Cucamonga, CA, and via Zoom (conference call and web meeting) on October 12, 2023.

**AGRICULTURAL POOL COMMITTEE MEMBERS PRESENT AT WATERMASTER**

Bob Feenstra, Chair	Dairy
Gino Filippi for Ron LaBrucherie	Crops
Steven Raughley	County of San Bernardino
Jimmy Medrano	State of California – CDCR

**AGRICULTURAL POOL COMMITTEE MEMBERS PRESENT ON ZOOM**

Jeff Pierson, Vice-Chair	Crops
Ruben Llamas	Crops
Nathan deBoom	Dairy
Henry DeHaan	Dairy
John Huitsing	Dairy
Geoffrey Venden Heuvel for Ron Pietersma	Dairy
Tariq Awan	State of California – CDCR
Diana Frederick for Leon Kazandjian	State of California – DOJ

**WATERMASTER STAFF PRESENT**

Peter Kavounas	General Manager
Edgar Tellez Foster	Water Resources Mgmt. and Planning Dir.
Anna Nelson	Director of Administration
Justin Nakano	Water Resources Technical Manager
Frank Yoo	Data Services and Judgment Reporting Mgr.
Alexandria Moore	Executive Assistant I/Board Clerk
Ruby Favela	Administrative Analyst
Kelli Hills	Office Specialist/Receptionist
Alonso Jurado	Water Resource Associate
Jordan Garcia	Senior Field Operations Specialist
Erik Vides	Field Operations Specialist

**WATERMASTER BOARD MEMBERS PRESENT ON ZOOM**

Mike Gardner	Western Municipal Water District
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**WATERMASTER CONSULTANTS PRESENT AT WATERMASTER**

Laura Yraceburu	Brownstein Hyatt Farber Schreck, LLP
Andy Malone	West Yost

**WATERMASTER CONSULTANTS PRESENT ON ZOOM**

Garrett Rapp	West Yost
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**OTHERS PRESENT AT WATERMASTER**

Tracy Egoscue	Egoscue Law Group, Inc.
Richard Rees	WSP USA

**OTHERS PRESENT ON ZOOM**

Carol Boyd	State of California – DOJ
Marilyn Levin	State of California – DOJ



**CALL TO ORDER**

Chair Feenstra called the Agricultural Pool Committee meeting to order at 1:36 p.m.

**ROLL CALL**

(0:00:07) Ms. Moore conducted the roll call and announced that a quorum was present.

**AGENDA - ADDITIONS/REORDER**

(0:01:31) Chair Feenstra gave a special recognition for Mr. Hedinga of Sierra Farms who recently passed away.

(0:03:35) Ms. Egoscue requested the recording secretary to call Mr. Geoffrey Vandel Heuvel instead of Mr. Ron Pietersma, Mr. Gino Fillipi instead of Mr. Ron LaBrucherie, and Ms. Diana Frederick instead of Mr. Leon Kazandjian for roll call.

(0:04:03) Ms. Egoscue suggested that account ending 8471 monies to move to account ending 8470 \$10,993.67.

(0:05:41)

*Motion by Vice-Chair Jeff Pierson, seconded by Mr. Nathan deBoom, and passed by unanimous roll call vote as attached to these minutes.*

***Moved to approve the Agenda – Addition/Reorder as shown above.***

**I. CONSENT CALENDAR**

**All matters listed under the Consent Calendar are considered to be routine and non-controversial and will be acted upon by one motion in the form listed below. There will be no separate discussion on these items prior to voting unless any members, staff, or the public requests specific items be discussed and/or removed from the Consent Calendar for separate action.**

**A. MINUTES**

Approve as presented:

Minutes of the Agricultural Pool Committee Meeting held on September 14, 2023.

**B. FINANCIAL REPORTS**

Receive and file as presented:

Monthly Financial Reports for the Reporting Periods Ended July 31, 2023 and August 31, 2023.

**C. APPLICATION: RECHARGE – FONTANA WATER COMPANY**

Recommend to the Advisory Committee to recommend to the Board to approve Fontana Water Company's application for Recharge and Direct Watermaster staff to account for the same.

(0:10:04)

*Motion by Mr. Nathan deBoom, seconded by Mr. Ruben Llamas, and passed by unanimous roll call vote as attached to these minutes.*

***Moved to approve the Consent Calendar as presented.***

**II. BUSINESS ITEMS**

**A. OLD BUSINESS**

1. Estimates of Fiscal Year 2022/23 Storm Flows

(0:11:55) Mr. Kavounas prefaced and introduced Mr. Rapp to give a report.

**III. REPORTS/UPDATES**

**A. WATERMASTER LEGAL COUNSEL**

1. Court of Appeal Case No. E079052 (City of Chino, MVIC, MVWD, City of Ontario appeal re OAP Expenses and Attorney Fees)
2. Court of Appeal Consolidated Case Nos. E080457 and E082127 (City of Ontario appeal re 2021-22 and 2022-23 Assessment Packages)
3. Court of Appeal Case No. E080533 (Cities of Chino, Ontario appeal re 2022-23 Watermaster budget expenses to support CEQA analysis)
4. Kaiser Permanente Lawsuit

(0:21:07) Ms. Yraceburu gave a report on behalf of Mr. Herrema. A discussion ensued.

**B. ENGINEER**

1. GLMC Update
2. Long Term Planning Activities
3. Mitigation Plan for the Temporary Loss of Hydraulic Control
4. Annual Streamflow Monitoring Report for Water Rights Permit 21225
5. Watermaster Model Application and Required Demonstrations
6. Annual Plumes Status Report

(0:32:02) Mr. Malone gave a report on items 1 and 6, Mr. Rapp gave a report on item 2 and 4, and Mr. Tellez Foster on item 3. A discussion ensued.

**C. GENERAL MANAGER**

1. Court Tour of Chino Basin
2. OBMPU CEQA Process
3. Fiscal Year 2023/24 Assessment Package
4. Other

(1:05:16) Mr. Kavounas gave an overview of the Chino Basin Tour with Judge Ochoa and stated the recording and transcripts are available on Watermaster website. Mr. Kavounas introduced Mr. Tellez Foster to give a report on item 2. On item 3, Mr. Kavounas reminded everyone of the upcoming Fiscal Year 2023/24 Assessment Package workshops. A discussion ensued.

**IV. POOL DISCUSSION**

1. Chairman's Update
2. Pool Member Comments

(1:19:40) Chair Feenstra announced the new process for invoices indicating that Ms. Favela Quintero will cut checks to be reviewed by Ms. Nelson, with oversight by Watermaster's accounting consultant, Mr. Scott Nelsen of Eide Bailly.

**V. OTHER BUSINESS**

None

**IV. CONFIDENTIAL SESSION - POSSIBLE ACTION**

A Confidential Session may be held during the Pool Committee meeting for the purpose of discussion and possible action.

The Pool convened into confidential session at 3:02 p.m. to discuss the following:

1. Court of Appeal Matters
2. Judge Tour
3. Strategic Planning

Confidential session concluded at 3:39 p.m. with no reportable action.

**ADJOURNMENT**

The meeting was adjourned at 3:39 p.m. as shown in Attachment 3 below.

Secretary: \_\_\_\_\_

Approved: \_\_\_\_\_

Attachments:

1. 20231012 Roll Call Vote Outcome for Agenda – Additions/Reorder
2. 20231012 Roll Call Vote Outcome for Consent Calendar
3. 20231012 Email from Pool Counsel adjourning the meeting.

<b>20231012 Roll Call Vote Outcome</b>
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Member	Alternate	Agenda - Additions/Reorder
Gino Filippi for LaBrucherie, Jr., Ron		Yes
Pierson, Jeff, Vice-Chair*		Yes
deBoom, Nathan*		Yes
DeHaan, Henry*		Yes
Huitsing, John*		Yes
Geoffrey Vanden Heuvel for Pietersma, Ron*		Yes
Llamas, Ruben*		Yes
Raughley, Steven		Yes
Awan, Tariq*		Yes
Diana Frederick for Kazandjian, Leon*		Yes
Medrano, Jimmy*		Yes
Feenstra, Bob - Chair		Yes
	<b>OUTCOME:</b>	<b>Passed Unanimously by those present</b>

\*Participated via Zoom

<b>20231012 Roll Call Vote Outcome</b>
--

Member	Alternate	Consent Calendar
Gino Filippi for LaBrucherie, Jr., Ron		Yes
Pierson, Jeff, Vice-Chair*		Yes
deBoom, Nathan*		Yes
DeHaan, Henry*		Yes
Huitsing, John*		Yes
Geoffrey Vanden Heuvel for Pietersma, Ron*		Yes
Llamas, Ruben*		Yes
Raughley, Steven		Yes
Awan, Tariq*		Yes
Diana Frederick for Kazandjian, Leon*		Yes
Medrano, Jimmy*		Yes
Feenstra, Bob - Chair		Yes
	<b>OUTCOME:</b>	<b>Passed Unanimously by those present</b>

\*Participated via Zoom

**From:** [Tracy Egoscue](#)  
**To:** [Alexandria Moore](#)  
**Subject:** Ag Pool Closed Session  
**Date:** Thursday, October 12, 2023 3:40:36 PM

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The Confidential Session for the Ag Pool ended at 3:39pm with no reportable action.

Thank you.

Tracy J. Egoscue (she/her/hers)  
Egoscue Law Group, Inc.  
562.988.5978 office  
562.981.4866 cell  
[tracy@egoscuelaw.com](mailto:tracy@egoscuelaw.com)  
[www.egoscuelaw.com](http://www.egoscuelaw.com)

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# CHINO BASIN WATERMASTER

9641 San Bernardino Road, Rancho Cucamonga, CA 91730  
Tel: 909.484.3888 Fax: 909.484.3890 www.cbwm.org

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PETER KAVOUNAS, P.E.  
General Manager

## STAFF REPORT

DATE: November 2023  
TO: Watermaster Committees and Board  
SUBJECT: Monthly Financial Reports (For the reporting period ended September 30, 2023)  
(Consent Calendar Item I.B.)

### SUMMARY

Issue: Record of Monthly Financial Reports for the reporting period ended September 30, 2023)  
[Normal Course of Business]

Recommendation: Receive and file Monthly Financials Reports for the reporting period ended September 30, 2023) as presented.

Financial Impact: None.

### Future Consideration

**Appropriative Pool – November 9, 2023:** Receive and File  
**Non-Agricultural Pool – November 9, 2023:** Receive and File  
**Agricultural Pool – November 9, 2023:** Receive and File  
**Advisory Committee – November 16, 2023:** Receive and File  
**Watermaster Board – November 16, 2023:** Receive and File

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### ACTIONS:

**Appropriative Pool – November 9, 2023:**  
**Non-Agricultural Pool – November 9, 2023:**  
**Agricultural Pool – November 9, 2023:**  
**Advisory Committee – November 16, 2023:**  
**Watermaster Board – November 16, 2023:**

*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

A monthly reporting packet is provided to keep all members apprised of Watermaster revenues, expenditures, and other financial activity. Monthly reports include the following:

1. Cash Disbursements – Summarized report of all payments made during the reporting month.
2. Credit Card Expense Detail – Detail report of all credit card activity during the reporting month.
3. Combining Schedule of Revenues, Expenses & Changes in Net Assets – Detail report of all revenue and expense activity for the fiscal YTD, summarized by pool category.
4. Treasurer’s Report – Summary of Watermaster investments holdings and anticipated earnings as of month end.
5. Budget to Actual Report – Detail report of actual revenue and expense activity, shown for reporting month and YTD, comparatively to the adopted budget.
6. Monthly Variance Report & Supplemental Schedules – Supporting schedule providing explanation for major budget variances. Also provides several additional tables detailing pool fund balance, salaries expense, legal expense, and engineering expense.

## DISCUSSION

Detailed explanation of major variances and other additional information can be found on the “Monthly Variance Report & Supplemental Schedules.”

Watermaster staff is happy to provide additional explanation or respond to any questions on these reports.

## ATTACHMENTS

1. Monthly Financial Reports (September 30, 2023)





## Chino Basin Watermaster

### Cash Disbursements

### September 2023

Date	Number	Vendor Name	Description	Amount
09/06/2023	24301	ACWA JOINT POWERS INSURANCE AUTHORITY	0700257	\$ 529.97
09/06/2023	24302	EIDE BAILLY LLP	EI01549824	2,536.75
09/06/2023	24303	EMPOWER LAB	2874	500.00
09/06/2023	24304	READY REFRESH	0023230253	107.03
09/06/2023	24305	STANDARD INSURANCE CO.	Policy # 00-649299-0009	996.57
09/06/2023	24306	UNION 76	7076-2245-3035-5049	194.34
09/06/2023	24307	UNITED HEALTHCARE	052583832657	1,085.51
09/06/2023	24308	USAFACT, INC.		114.27
09/06/2023	24309	VISION SERVICE PLAN	818618769	146.38
09/06/2023	ACH-9-06-23	CALPERS	CalPERS ACH payment 09.06.23	13,201.69
09/06/2023	ACH 9-15-23	ADP, LLC	ADP Tax Service for 08/05/23-639489531	282.85
09/06/2023	ACH 9-15-23	ADP, LLC	ADP Tax Service for 08/19/23-639489531	540.65
09/06/2023	ACH-9-06-23	HEALTH EQUITY	Health Equity Invoice	42.89
09/08/2023	24310	TOM DODSON & ASSOCIATES	CB271 23-7	19,072.30
09/08/2023	24311	WEST YOST		174,498.75
09/12/2023	24312	ACWA JOINT POWERS INSURANCE AUTHORITY	0700528	494.03
09/12/2023	24313	APPLIED COMPUTER TECHNOLOGIES	35827	4,250.00
09/12/2023	24314	C.J. BROWN & COMPANY, CPAs	August 2023 Services	6,440.00
09/12/2023	24315	CALIFORNIA BANK & TRUST	Account ending 6198	5,257.49
09/12/2023	24316	FIRST LEGAL NETWORK LLC	40078188	187.62
09/12/2023	24317	JURADO, ALONSO	Reimbursement - Judge Tour Dry-Run Van rental	290.57
09/12/2023	24318	LAW OFFICE OF ALLEN W. HUBSCH	Invoice 139	3,410.00
09/12/2023	24319	R&D PEST SERVICES	348242	100.00
09/12/2023	24320	SKILLPATH SEMINARS	8138308	698.00
09/12/2023	24321	STATE COMPENSATION INSURANCE FUND		4,202.37
09/12/2023	24322	STERICYCLE, INC.	Acct: 1000667601	2,855.32
09/12/2023	24323	TALENT ADVISERS, LLC	6013	3,000.00
09/12/2023	24324	TELLEZ-FOSTER, EDGAR	Reimbursement - CA Water Summit / Judge Tour Dry-Run	174.73
09/12/2023	24325	VANGUARD CLEANING SYSTEMS		1,355.00
09/12/2023	24326	VC3, INC.		8,157.59
09/12/2023	ACH-9-12-23	HEALTH EQUITY	Health Equity Invoice	70.00
09/14/2023	24327	EGOSCUE LAW GROUP, INC.	8467	13,450.00
09/15/2023	24328	BOWCOCK, ROBERT		750.00
09/15/2023	24329	BROWNSTEIN HYATT FARBER SCHRECK		130,232.23
09/15/2023	24330	BURRTEC WASTE INDUSTRIES, INC.	Customer 136525395	160.73
09/15/2023	24331	CORELOGIC INFORMATION SOLUTIONS	Invoice 82187173	125.00
09/15/2023	24332	CURATALO, JAMES		1,000.00
09/15/2023	24333	ELIE, STEVEN		250.00
09/15/2023	24334	FILIPPI, GINO		375.00
09/15/2023	24335	GEYE, BRIAN		1,000.00
09/15/2023	24336	KUHN, BOB		750.00
09/15/2023	24337	PIERSON, JEFFREY		750.00
09/15/2023	24338	SPECTRUM ENTERPRISE	6053	1,106.73
09/15/2023	24339	VERIZON WIRELESS	Acct: 470810953-00002	325.35
09/19/2023	ACH-9-19-23	HEALTH EQUITY	Health Equity Invoice	55.92
09/22/2023	ACH-9-22-23	HEALTH EQUITY	Health Equity Invoice	107.75
09/26/2023	24340	APTUS COURT REPORTING		895.00
09/26/2023	24341	BLUERIDGE SOFTWARE, INC.	Invoice 11034	629.82
09/26/2023	24342	CUCAMONGA VALLEY WATER DISTRICT		15,235.30
09/26/2023	24343	EMPOWER LAB	Invoice 2905	3,000.00
09/26/2023	24344	FRONTIER COMMUNICATIONS	909-484-3890-050914-5	228.50
09/26/2023	24345	GREAT AMERICA LEASING CORP.	Inv. 34887808	1,794.74
09/26/2023	24346	LEGAL SHIELD	111802	161.40
09/26/2023	24347	PIERSON, JEFFREY		2,250.00
09/26/2023	24348	PITNEY BOWES GLOBAL FINANCIAL SERVICES	8000-9090-0016-8851	561.13
09/26/2023	24349	PITNEY BOWES GLOBAL FINANCIAL SVCS.	Inv. 3106278821	37.92
09/26/2023	24350	PRINTING RESOURCES	Invoice 68446	32.06
09/26/2023	24351	READY REFRESH	0023230253	\$ 43.08



# Chino Basin Watermaster

## Cash Disbursements

### September 2023

Date	Number	Vendor Name	Description	Amount
09/26/2023	24352	SOUTHERN CALIFORNIA EDISON	6023	\$ 115.33
09/26/2023	24353	SPECTRUM ENTERPRISE	6053	1,106.73
09/26/2023	24354	STANDARD INSURANCE CO.	Policy # 00-649299-0009	762.72
09/26/2023	24355	VC3, INC.	Invoice. 159596	1,413.75
09/26/2023	24356	VERIZON WIRELESS	Acct: 642073270-00002	38.01
09/26/2023	ACH-9-26-23	HEALTH EQUITY	Health Equity Invoice	958.36
09/29/2023	24357	ALEXANDRIA MOORE	Reimbursement for Admin lunch with CVWD & IEUA	117.39
09/29/2023	24358	OFFICE & ERGONOMIC SOLUTIONS, INC.	Proposal #4355 Deposit Payment	1,509.21
09/29/2023	24359	TOM DODSON & ASSOCIATES	CB271 23-8	10,035.00
<b>Total for Month \$</b>				<b>446,156.83</b>



# Chino Basin Watermaster

## Credit Card Expense Detail

### September 2023

Date	Number	Vendor Name	Description	Amount
09/01/2023	24315	<b>CALIFORNIA BANK &amp; TRUST</b>		
		6031.7 · Other Office Supplies	Misc. Office Supplies	(251.60)
		6111 · Membership Dues	Amazon Membership	(189.44)
		6054 · Computer Software	Visio Plan 2	(14.74)
		6141 · Meeting Expenses	Water Quality Meeting - Jersey Mike's	(46.75)
		6031.7 · Other Office Supplies	Misc. Office Supplies	(15.84)
		6031.7 · Other Office Supplies	Misc. Office Supplies	(487.43)
		6031.7 · Other Office Supplies	Misc. Office Supplies	(26.45)
		6111 · Membership Dues	Adobe membership	(235.60)
		6112 · Subscriptions/Publications	Yearly Fee - Doodle	(81.91)
		6112 · Subscriptions/Publications	Doodle transaction fee	(2.46)
		6141 · Meeting Expenses	Meeting - Coco's Bakery A/P	(45.00)
		6141 · Meeting Expenses	Meeting -Coco's Bakery	(45.28)
		6312 · Meeting Expenses	Meeting - S. Elie, P. Kavounas	(23.05)
		6141 · Meeting Expenses	Meeting - J. Bosler, P. Kavounas	(28.45)
		6141 · Meeting Expenses	Meeting - OPS	(124.89)
		6173 · Airfare/Mileage	Data Conference Airfare - ETF	(430.15)
		6191 · Conferences - General	CA Data Water Summit Conference Hotel - F. Yoo	(566.11)
		6111 · Membership Dues	SHRM - membership A. Nelson	(239.65)
		6061.2 · Bamboo HR Consultant	BambooHR	(219.35)
		6141 · Meeting Expenses	Payroll Lunch Meeting	(58.44)
		6031.7 · Other Office Supplies	Retirement meeting	(51.07)
		6154 · Uniforms	Lands End- Jordan Garcia uniform	(126.15)
		6031.7 · Other Office Supplies	Misc. Office Supplies	(126.89)
		6312 · Meeting Expenses	CA Groundwater Coalition Board Meeting	(73.60)
		6031.7 · Other Office Supplies	Retirement gift	(238.64)
		6031.7 · Other Office Supplies	Misc. Office Supplies	(360.57)
		6031.7 · Other Office Supplies	Misc. Office Supplies	(298.16)
		6031.7 · Other Office Supplies	Misc. Office Supplies	(9.47)
		6031.7 · Other Office Supplies	Misc. Office Supplies	(702.65)
		6312 · Meeting Expenses	Board Orientation Meeting	(22.18)
		6031.7 · Other Office Supplies	Misc. Office Supplies	(12.96)
		6031.7 · Other Office Supplies	Misc. Office Supplies	(12.69)
		6031.7 · Other Office Supplies	Misc. Office Supplies	(28.99)
		6141 · Meeting Expenses	Retirement meeting	(60.88)
				<u>(5,257.49)</u>
<b>Total for Month \$</b>				<b>(5,257.49)</b>



# Chino Basin Watermaster

## Combining Schedule of Revenues, Expenses & Changes in Net Assets

### For the Period of July 1, 2023 through September 30, 2023

	TOTAL			POOL ADMINISTRATION & SPECIAL PROJECTS			GROUND WATER REPLENISH.	GRAND TOTALS	ADOPTED BUDGET 2023-2024
	JUDGMENT ADMIN.	OPTIMUM BASIN MGMT.	JUDGMENT ADMIN & OBMP	AP POOL	OAP POOL	ONAP POOL			
<b>Administrative Revenues:</b>									
Administrative Assessments	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 9,314,915
Interest Revenue	-	50,548	50,548	209	7,093	302	9,004	67,157	312,500
Mutual Agency Project Revenue	186,412	-	186,412	-	-	-	-	186,412	186,412
Miscellaneous Income	-	-	-	-	-	-	-	-	-
<b>Total Administrative Revenues</b>	<b>186,412</b>	<b>50,548</b>	<b>236,960</b>	<b>209</b>	<b>7,093</b>	<b>302</b>	<b>9,004</b>	<b>253,569</b>	<b>9,813,827</b>
<b>Administrative &amp; Project Expenditures:</b>									
Watermaster Administration	912,675	-	912,675	-	-	-	-	912,675	2,993,430
Watermaster Board-Advisory Committee	49,174	-	49,174	-	-	-	-	49,174	366,923
Optimum Basin Mgmt Administration	-	247,203	247,203	-	-	-	-	247,203	1,215,309
OBMP Project Costs	-	482,280	482,280	-	-	-	-	482,280	5,409,723
Pool Legal Services	-	-	-	-	16,750	5,352	-	22,102	98,642
Pool Meeting Compensation	-	-	-	-	4,125	1,125	-	5,250	12,820
Pool Special Projects	-	-	-	-	-	-	-	-	10,994
Pool Administration	-	-	-	-	-	-	-	-	329,067
Debt Service	-	-	-	-	-	-	-	-	1,665,475
Agricultural Expense Transfer <sup>1</sup>	-	-	-	20,875	(20,875)	-	-	-	-
<b>Total Administrative Expenses</b>	<b>961,849</b>	<b>729,482</b>	<b>1,691,331</b>	<b>20,875</b>	<b>-</b>	<b>6,477</b>	<b>-</b>	<b>1,718,683</b>	<b>12,102,382</b>
<b>Net Ordinary Income</b>	<b>(775,437)</b>	<b>(678,934)</b>	<b>(1,454,371)</b>	<b>(20,666)</b>	<b>7,093</b>	<b>(6,175)</b>	<b>9,004</b>	<b>(1,465,114)</b>	<b>(2,288,555)</b>
<b>Other Income/(Expense)</b>									
Replenishment Water Assessments	-	-	-	-	-	-	-	-	-
RTS Charges from IEUA	-	-	-	-	-	-	-	-	-
Refund-Basin O&M Expenses	-	-	-	-	-	-	-	-	-
Refund-Recharge Debt Service	-	-	-	-	-	-	-	-	-
<b>Net Other Income/(Expense)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Net Transfers To/(From) Reserves</b>	<b>\$ (775,437)</b>	<b>\$ (678,934)</b>	<b>\$ (1,454,371)</b>	<b>\$ (20,666)</b>	<b>\$ 7,093</b>	<b>\$ (6,175)</b>	<b>\$ 9,004</b>	<b>\$ (1,465,114)</b>	<b>\$ (2,288,555)</b>
Net Assets, July 1, 2023			9,768,099	41,205	1,343,226	57,841	1,715,286	12,925,657	
<b>Net Assets, End of Period</b>			<b>8,313,728</b>	<b>20,539</b>	<b>1,350,319</b>	<b>51,666</b>	<b>1,724,290</b>	<b>11,460,543</b>	
Ag Pool Assessments Outstanding <sup>2</sup>					(731,123)				
Ag Pool Fund Balance				<b>\$</b>	<b>619,196</b>				

<sup>1</sup> Fund balance transfer as agreed to in the Peace Agreement.

<sup>2</sup> Outstanding balance of Agricultural Pool Special Assessments



# Chino Basin Watermaster Treasurer's Report September 2023

	Type	Monthly Yield	Cost	Market	% Total
<b>Cash &amp; Investments</b>					
Local Agency Investment Fund (LAIF) *	Investment	3.53%	\$ 7,484,062	\$ 7,381,588	61.6%
CA CLASS Prime Fund **	Investment	5.48%	4,043,981	4,043,559	33.7%
Bank of America	Checking		563,422	563,422	4.7%
Bank of America	Payroll		-	-	0.0%
<b>Total Cash &amp; Investments</b>			<b>\$ 12,091,465</b>	<b>\$ 11,988,569</b>	<b>100.0%</b>

\* The LAIF Market Value factor is updated quarterly in September, December, March, and June.

\*\* The CLASS Prime Fund Net Asset Value factor is updated monthly.

**Certification**

*I certify that (1) all investment actions executed since the last report have been made in full compliance with Chino Basin Watermaster's Investment Policy, and (2) Funds on hand are sufficient to meet all foreseen and planned administrative and project expenditures for the next six months.*

**Anna Nelson, Director of Administration**

**Prepared By:**

Scott Nelsen, CGFM (Eide Bailly CPAs)



# Chino Basin Watermaster

## Budget to Actual

### For the Period July 1, 2023 to September 30, 2023

		September 2024	YTD Actual	FY 24 Adopted Budget	\$ Over / (Under) Budget	% of Budget
<b>1</b>	<b>Administration Revenue</b>					
2	Local Agency Subsidies	\$ -	\$ 186,412	\$ 186,412	\$ -	100%
3	Admin Assessments-Appropriative Pool	-	-	8,886,165	(8,886,165)	0%
4	Admin Assessments-Non-Ag Pool	-	-	428,750	(428,750)	0%
5	Admin Assessments-Agricultural Pool	-	-	-	-	N/A
<b>6</b>	<b>Total Administration Revenue</b>	<b>-</b>	<b>186,412</b>	<b>9,501,327</b>	<b>(9,314,915)</b>	<b>2%</b>
<b>7</b>	<b>Other Revenue</b>					
8	Appropriative Pool-Replenishment	-	-	-	-	N/A
9	Non-Ag Pool-Replenishment	-	-	-	-	N/A
10	Interest Income	20,747	67,157	312,500	(245,343)	21%
11	Miscellaneous Income	-	-	-	-	N/A
<b>12</b>	<b>Total Other Revenue</b>	<b>20,747</b>	<b>67,157</b>	<b>312,500</b>	<b>(245,343)</b>	<b>21%</b>
<b>13</b>	<b>Total Revenue</b>	<b>20,747</b>	<b>253,569</b>	<b>9,813,827</b>	<b>(9,560,258)</b>	<b>3%</b>
<b>14</b>	<b>Judgment Administration Expense</b>					
15	Judgment Administration	59,368	99,823	721,698	(621,875)	14%
16	Admin. Salary/Benefit Costs	210,278	475,863	1,413,610	(937,747)	34%
17	Office Building Expense	17,998	57,635	208,510	(150,875)	28%
18	Office Supplies & Equip.	5,531	16,222	49,438	(33,216)	33%
19	Postage & Printing Costs	3,289	6,564	33,806	(27,242)	19%
20	Information Services	16,680	35,169	199,818	(164,649)	18%
21	Contract Services	9,388	17,311	60,200	(42,889)	29%
22	Watermaster Legal Services	85,534	166,127	565,964	(399,837)	29%
23	Insurance	-	46,256	50,468	(4,212)	92%
24	Dues and Subscriptions	763	17,133	40,027	(22,894)	43%
25	Watermaster Administrative Expenses	3,390	4,162	7,550	(3,388)	55%
26	Field Supplies	128	320	3,200	(2,880)	10%
27	Travel & Transportation	3,038	6,933	29,570	(22,637)	23%
28	Training, Conferences, Seminars	4,934	6,084	50,400	(44,316)	12%
29	Advisory Committee Expenses	8,449	13,835	105,823	(91,988)	13%
30	Watermaster Board Expenses	31,660	35,339	261,100	(225,761)	14%
31	ONAP - WM & Administration	3,401	4,173	108,194	(104,021)	4%
32	OAP - WM & Administration	6,021	7,454	108,700	(101,246)	7%
33	Appropriative Pool- WM & Administration	7,540	12,596	112,173	(99,577)	11%
34	Allocated G&A Expenditures	(31,270)	(67,151)	(440,829)	373,678	15%
<b>35</b>	<b>Total Judgment Administration Expense</b>	<b>446,119</b>	<b>961,849</b>	<b>3,689,420</b>	<b>(2,727,570)</b>	<b>26%</b>
<b>36</b>	<b>Optimum Basin Management Plan (OBMP)</b>					
37	Optimum Basin Management Plan	130,829	247,203	1,215,309	(968,107)	20%
38	Groundwater Level Monitoring	39,992	76,647	459,625	(382,978)	17%
39	Program Element (PE)2- Comp Recharge	24,345	58,390	1,672,577	(1,614,186)	3%
40	PE3&5-Water Supply/Desalte	850	1,484	105,677	(104,193)	1%
41	PE4- Management Plan	33,240	54,124	817,643	(763,519)	7%
42	PE6&7-CoopEfforts/SaltMgmt	63,843	99,115	1,117,623	(1,018,509)	9%
43	PE8&9-StorageMgmt/Conj Use	64,469	125,369	795,750	(670,381)	16%
44	Recharge Improvements	-	-	1,665,475	(1,665,475)	0%
45	Administration Expenses Allocated-OBMP	18,500	35,449	222,160	(186,711)	16%
46	Administration Expenses Allocated-PE 1-9	12,770	31,702	218,669	(186,967)	14%
<b>47</b>	<b>Total OBMP Expense</b>	<b>388,837</b>	<b>729,482</b>	<b>8,290,508</b>	<b>(7,561,025)</b>	<b>9%</b>
<b>48</b>	<b>Pool Administration</b>					
49	Appropriative Pool-Legal Services	-	-	-	-	N/A
50	OAP Legal & Technical Services	13,450	16,750	41,676	(24,926)	40%
51	OAP Meeting Compensation	2,625	4,125	11,945	(7,820)	35%
52	OAP Expense - Special Projects	-	-	10,994	(10,994)	0%
53	ONAP - Legal Services	3,410	5,352	56,966	(51,614)	9%
53	ONAP - Meeting Compensation	1,125	1,125	875	250	129%
<b>54</b>	<b>Total Pool Administration</b>	<b>20,610</b>	<b>27,352</b>	<b>122,455</b>	<b>(95,103)</b>	<b>22%</b>
<b>56</b>	<b>Other Expense</b>					
57	Groundwater Replenishment	-	-	-	-	N/A
58	Refund-Recharge Debt-Approp.	-	-	-	-	N/A
<b>59</b>	<b>Total Other Expense</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>N/A</b>
<b>60</b>	<b>Total Expenses</b>	<b>855,566</b>	<b>1,718,683</b>	<b>12,102,382</b>	<b>(10,383,699)</b>	<b>14%</b>
<b>61</b>	<b>Increase / (Decrease) to Reserves</b>	<b>\$ (834,819)</b>	<b>\$ (1,465,114)</b>	<b>\$ (2,288,555)</b>	<b>\$ 823,441</b>	



## Chino Basin Watermaster

### Monthly Variance Report & Supplemental Schedules For the period July 1, 2023 to September 30, 2023

## Budget to Actual

The Budget to Actual report summarizes the operating and non-operating revenues and expenses of Chino Basin Watermaster for the fiscal year-to-date (YTD). Columns are included for current monthly and YTD activity shown comparatively to the FY 24 adopted budget. The final two columns indicate the amount over or under budget, and the YTD percentage of total budget used. As of September 30<sup>th</sup>, the target budget percentage is generally 25%.

## Revenues

**Lines 1-6 Administration Revenue** – Includes local agency subsidies and administrative assessment for the appropriate, agricultural and non-agricultural pools. Below is a summary of notable account variances at month end:

- Line 2 Local Agency Subsidies is at 100% of budget due to annual administrative assessment received from Metropolitan Water District.
- Lines 3-5 Administrative Assessments for the three pools have no activity YTD due to timing of annual assessments. Assessments for all pools are prepared in November of each year.

**Lines 7-12 Other Revenue** – Includes pool replenishment assessments, interest income and other miscellaneous income.

## Expenses

**Lines 14-35 Judgment Administration Expense** – Includes Watermaster general administrative expenses, contract services, insurance, office and other administrative expenses. Below is a summary of notable account variances at month end:

- Line 23 Insurance includes general liability insurance, directors and officers liability, municipalities coverage, environmental pollution liability and other various insurance policies. YTD is at 92% of budget due to timing of annual renewals for the directors' and officers' policy and municipalities coverage.
- Line 24 Dues and Subscriptions is at 43% of budget due to timing of annual dues for ACWA and CA Groundwater Coalition.

**Lines 36-47 Optimum Basin Management Plan (OBMP) Expense** – Includes legal, engineering, groundwater level monitoring, allocated administrative expenses, and other expenses.

**Lines 48-54 Pool Administration Expenses** – Includes expense activity relating to pool specific fund balances. These include legal services for each pool, Ag pool meeting compensation, and Ag pool special projects.

**Lines 56-59 Other Expense** – Includes groundwater replenishment, and various refunds as appropriate. YTD there has been no activity.



## Chino Basin Watermaster

### Monthly Variance Report & Supplemental Schedules

#### For the period July 1, 2023 to September 30, 2023

### Pool Services Fund Accounting

Each Pool has a fund account created to pay their own legal service invoices. The legal services invoices are funded and paid using the fund accounts (8467 for the Overlying Agricultural Pool (OAP), 8567 for the Overlying Non-Agricultural Pool (ONAP), and 8367 for the Appropriate Pool (AP)). Along with the legal services fund account for the OAP (8467), the OAP also has two other fund accounts for Ag Pool Meeting Attendance expenses (8470), and Special Projects expenses (8471). The ONAP also have a meeting compensation fund account (8511) Additionally, the OAP has a reserve fund that is held by Watermaster and spent at the direction of the OAP. These fund accounts are replenished at the direction of each Pool, and the legal service invoices are approved by the Pool leadership and when paid by Watermaster, are deducted from the existing fund account balances. If the fund account for any pool reaches zero, no further payments can be paid from the fund and a replenishment action must be initiated by the pool.

The following tables detail the fund balance accounts as of August 31, 2023 (continued next page):

<b>Fund Balance For Non-Agricultural Pool Account 8567 - Legal Services</b>		<b>Fund Balance For Appropriative Pool Account 8367 - Legal Services</b>																	
Beginning Balance July 1, 2023:	\$ 56,965.90	Beginning Balance July 1, 2023:	\$ (12,415.36)																
Additions:		Additions:																	
Interest Earnings	302.16	Interest Earnings	209.49																
Pool Invoices issued	-	Outstanding invoice payments received	-																
Subtotal Additions:	302.16	Subtotal Additions:	209.49																
Reductions:		Reductions:																	
Invoices paid July 2023 - September 2023	(5,352.00)	Invoices paid July 2023 - September 2023	-																
Subtotal Reductions:	(5,352.00)	Subtotal Reductions:	-																
<b>Available Fund Balance as of August 31, 2023</b>	<b>\$ 51,916.06</b>	<b>Available Fund Balance as of August 31, 2023</b>	<b>\$ (12,205.87) *</b>																
<table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;"><b>Fund Balance For Non-Agricultural Pool Account 8511 - Meeting Compensation</b></th> <th style="text-align: right;"></th> </tr> </thead> <tbody> <tr> <td>Beginning Balance July 1, 2020:</td> <td style="text-align: right;">\$ 875.00</td> </tr> <tr> <td>Additions:</td> <td></td> </tr> <tr> <td>Subtotal Additions:</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-</td> </tr> <tr> <td>Reductions:</td> <td></td> </tr> <tr> <td>Compensation paid July 2023 - September 2023</td> <td style="text-align: right;">(1,125.00)</td> </tr> <tr> <td>Subtotal Reductions:</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">(1,125.00)</td> </tr> <tr> <td><b>Available Fund Balance as of August 31, 2023</b></td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 3px double black;"><b>\$ (250.00)</b></td> </tr> </tbody> </table>				<b>Fund Balance For Non-Agricultural Pool Account 8511 - Meeting Compensation</b>		Beginning Balance July 1, 2020:	\$ 875.00	Additions:		Subtotal Additions:	-	Reductions:		Compensation paid July 2023 - September 2023	(1,125.00)	Subtotal Reductions:	(1,125.00)	<b>Available Fund Balance as of August 31, 2023</b>	<b>\$ (250.00)</b>
<b>Fund Balance For Non-Agricultural Pool Account 8511 - Meeting Compensation</b>																			
Beginning Balance July 1, 2020:	\$ 875.00																		
Additions:																			
Subtotal Additions:	-																		
Reductions:																			
Compensation paid July 2023 - September 2023	(1,125.00)																		
Subtotal Reductions:	(1,125.00)																		
<b>Available Fund Balance as of August 31, 2023</b>	<b>\$ (250.00)</b>																		

\*Negative due to accrued portion of legal services for June 2023





## Chino Basin Watermaster Monthly Variance Report & Supplemental Schedules For the period July 1, 2023 to September 30, 2023

### Pool Services Fund Accounting – Cont.

**Fund Balance for Agricultural Pool  
Account 8467 - Legal Services**

Beginning Balance July 1, 2023:	\$ 41,675.63
Additions:	
Ag Pool Legal invoices issued FY23/24	-
Total Additions:	<u>-</u>
Reductions:	
Invoices paid July 2023 - September 2023	<u>(16,750.00)</u>
Subtotal Reductions:	<u>(16,750.00)</u>
<b>Available Fund Balance as of August 31, 2023</b>	<b><u>\$ 24,925.63</u></b>

**Agricultural Pool Reserve Funds  
As shown on the Combining Schedules**

Beginning Balance July 1, 2023:	\$ 612,103.32
Additions:	
YTD Interest earned on Ag Pool Funds FY 24	7,093.10
Transfer of Funds from AP to Special Fund for Legal Service Invoices	<u>16,750.00</u>
Total Additions:	<u>23,843.10</u>
Reductions:	
Invoices paid July 2023 - September 2023	<u>(16,750.00)</u>
Total Reductions	<u>(16,750.00)</u>
<b>Agricultural Pool Reserve Funds Balance as of Aug. 31, 2023:</b>	<b><u>\$ 619,196.42</u></b>

**Fund Balance For Agricultural Pool  
Account 8470 - Meeting Compensation**

Beginning Balance July 1, 2023:	\$ 950.98
Additions:	
FY 2023/24 Budget - Not yet invoiced	-
Budget Transfers <sup>1</sup>	<u>10,993.67</u>
Subtotal Additions:	<u>10,993.67</u>
Reductions:	
Compensation paid July 2023 - September 2023	<u>(4,125.00)</u>
Subtotal Reductions:	<u>(4,125.00)</u>
<b>Available Fund Balance as of August 31, 2023</b>	<b><u>\$ 7,819.65</u></b>

**Fund Balance For Agricultural Pool  
Account 8471 - Special Projects**

Beginning Balance July 1, 2023:	\$ 10,993.67
Additions:	
FY 2023/24 Budget - Not yet invoiced	-
Subtotal Additions:	<u>-</u>
Reductions:	
Invoices paid July 2023 - September 2023	-
Budget Transfers <sup>1</sup>	<u>(10,993.67)</u>
Subtotal Reductions:	<u>(10,993.67)</u>
<b>Available Fund Balance as of August 31, 2023</b>	<b><u>\$ -</u></b>

<sup>1</sup>Per action taken at September pool committee meeting.

<sup>1</sup>Per action taken at September pool committee meeting.



## Chino Basin Watermaster

### Monthly Variance Report & Supplemental Schedules

#### For the period July 1, 2023 to September 30, 2023

### Watermaster Salary Expenses

The following table details the Year-To-Date (YTD) Actual Watermaster burdened salary costs compared to the FY 24 adopted budget. The “\$ Over Budget” and the “% of Budget” columns are a comparison of the YTD actual to the annual budget. As of September 30th, the target budget percentage is generally 25%.

	Year to Date Actual	FY 23-24 Budget	\$ Over / (Under) Budget	% of Budget
<b>WM Salary Expense</b>				
5901.1 · Judgment Admin - Doc. Review	12,888	82,794	(69,906)	15.6%
5901.3 · Judgment Admin - Field Work	2,314	7,760	(5,446)	29.8%
5901.5 · Judgment Admin - General	18,920	60,129	(41,209)	31.5%
5901.7 · Judgment Admin - Meeting	1,870	2,633	(763)	71.0%
5901.9 · Judgment Admin - Reporting	-	31,033	(31,033)	0.0%
5910 · Judgment Admin - Court Coord./Attendance	7,550	19,098	(11,548)	39.5%
5911 · Judgment Admin - Exhibit G	-	2,370	(2,370)	0.0%
5921 · Judgment Admin - Production Monitoring	2,892	11,322	(8,430)	25.5%
5931 · Judgment Admin - Recharge Applications	-	4,634	(4,634)	0.0%
5941 · Judgment Admin - Reporting	-	1,316	(1,316)	0.0%
5951 · Judgment Admin - Rules & Regs	-	12,726	(12,726)	0.0%
5961 · Judgment Admin - Safe Yield	612	26,330	(25,718)	2.3%
5971 · Judgment Admin - Storage Agreements	-	4,739	(4,739)	0.0%
5981 · Judgment Admin - Water Accounting/Datab	34,213	109,793	(75,580)	31.2%
5991 · Judgment Admin - Water Transactions	979	8,688	(7,709)	11.3%
6011.1 · WM Staff Salaries - Overtime	-	-	-	0.0%
6011.4 · 457(f) NQDC Plan	7,074	55,467	(48,393)	12.8%
6011.10 · Admin - Accounting	75,480	367,685	(292,205)	20.5%
6011.15 · Admin - Building Admin	1,399	18,359	(16,960)	7.6%
6011.20 · Admin - Conference/Seminars	7,407	57,083	(49,676)	13.0%
6011.25 · Admin - Document Review	531	6,846	(6,315)	7.8%
6011.50 · Admin - General	141,302	569,850	(428,548)	24.8%
6011.60 · Admin - HR	33,474	43,489	(10,015)	77.0%
6011.70 · Admin - IT	14,391	53,975	(39,584)	26.7%
6011.80 · Admin - Meeting	12,862	90,440	(77,578)	14.2%
6011.90 · Admin - Team Building	2,008	41,304	(39,296)	4.9%
6011.95 · Admin - Training (Give/Receive)	5,469	34,312	(28,843)	15.9%
6017 · Temporary Services	-	24,000	(24,000)	0.0%
6201 · Advisory Committee	11,956	55,149	(43,193)	21.7%
6301 · Watermaster Board	15,858	61,818	(45,960)	25.7%
8301 · Appropriative Pool	7,144	53,761	(46,617)	13.3%
8401 · Agricultural Pool	3,305	51,549	(48,244)	6.4%
8501 · Non-Agricultural Pool	1,806	50,443	(48,637)	3.6%
6901.1 · OBMP - Document Review	22,876	89,136	(66,260)	25.7%
6901.3 · OBMP - Field Work	257	7,003	(6,746)	3.7%
6901.5 · OBMP - General	16,283	124,049	(107,766)	13.1%
6901.7 · OBMP - Meeting	9,414	57,589	(48,175)	16.3%
6901.9 · OBMP - Reporting	3,226	2,370	856	136.1%
7104.1 · PE1 - Monitoring Program	31,198	171,515	(140,317)	18.2%
7201 · PE2 - Comprehensive Recharge	11,625	57,925	(46,300)	20.1%
7301 · PE3&5 - Water Supply/Desalter	-	4,791	(4,791)	0.0%
7301.1 · PE5 - Reg. Supply Water Prgm.	-	2,633	(2,633)	0.0%
7401 · PE4 - MZ1 Subsidence Mgmt. Plan	27	13,055	(13,028)	0.2%
7501 · PE6 - Coop. Programs/Salt Mgmt.	1,990	8,027	(6,037)	24.8%
7501.1 · PE 7 - Salt Nutrient Mgmt. Plan	459	6,582	(6,123)	7.0%
7601 · PE8&9 - Storage Mgmt./Recovery	1,377	11,217	(9,840)	12.3%
<b>Subtotal WM Staff Costs</b>	<b>522,434</b>	<b>2,576,787</b>	<b>(2,054,353)</b>	<b>20%</b>
60184.1 · Administrative Leave	-	6,799	(6,799)	0.0%
60185 · Vacation	70,736	119,130	(48,394)	59.4%
60185.1 · Comp Time	1,194	-	1,194	100.0%
60186 · Sick Leave	4,396	83,123	(78,727)	5.3%
60187 · Holidays	-	-	-	0.0%
<b>Subtotal WM Paid Leaves</b>	<b>76,326</b>	<b>209,052</b>	<b>(132,726)</b>	<b>37%</b>
<b>Total WM Salary Costs</b>	<b>598,760</b>	<b>2,785,839</b>	<b>(2,187,079)</b>	<b>21.5%</b>



## Chino Basin Watermaster

### Monthly Variance Report & Supplemental Schedules

#### For the period July 1, 2023 to September 30, 2023

## Engineering

The following table details the Year-To-Date (YTD) Actual Engineering costs compared to the FY 24 adopted budget. The “\$ Over Budget” and the “% of Budget” columns are a comparison of the YTD actual to the annual budget. As of September 30th, the target budget percentage is generally 25%.

	Year to Date Actual	FY 23-24 Budget	\$ Over / (Under) Budget	% of Budget
<b>Engineering Services Costs</b>				
5901.8 · Judgment Admin - Meetings-Engineering Services	\$ -	\$ 45,097	\$ (45,097)	0.0%
5906.1 · Judgment Admin - Watermaster Model Update	-	41,235	(41,235)	0.0%
5906.71 · Judgment Admin - Data Requests-CBWM Staff	8,413	126,204	(117,792)	6.7%
5906.72 · Judgment Admin - Data Requests-Non-CBWM Staff	146	42,832	(42,686)	0.3%
5925 · Judgment Admin - Ag Production & Estimation	7,165	34,376	(27,212)	20.8%
5935 · Judgment Admin - Mat'l Physical Injury Requests	929	36,072	(35,143)	2.6%
5945 · Judgment Admin - WM Annual Report Preparation	932	15,416	(14,484)	6.0%
5965 · Judgment Admin - Support Data Collection & Mgmt Process	-	36,336	(36,336)	0.0%
6206 · Advisory Committee Meetings-WY Staff	1,414	23,466	(22,052)	6.0%
6306 · Watermaster Board Meetings-WY Staff	3,494	23,466	(19,972)	14.9%
8306 · Appropriate Pool Meetings-WY Staff	4,468	23,467	(18,999)	19.0%
8406 · Agricultural Pool Meetings-WY Staff	3,166	23,466	(20,300)	13.5%
8506 · Non-Agricultural Pool Meetings-WY Staff	1,384	23,466	(22,082)	5.9%
6901.8 · OBMP - Meetings-WY Staff	11,143	45,096	(33,953)	24.7%
6901.95 · OBMP - Reporting-WY Staff	13,008	57,316	(44,308)	22.7%
6906 · OBMP Engineering Services - Other	11,740	46,992	(35,252)	25.0%
6906.26 · 2020 OBMP Update	1,791	24,016	(22,225)	7.5%
7104.3 · Grdwtr Level-Engineering	43,833	256,445	(212,612)	17.1%
7104.8 · Grdwtr Level-Contracted Services	-	10,000	(10,000)	0.0%
7104.9 · Grdwtr Level-Capital Equipment	-	9,915	(9,915)	0.0%
7202 · PE2-Comp Recharge-Engineering Services	1,642	29,084	(27,443)	5.6%
7202.2 · PE2-Comp Recharge-Engineering Services	12,849	202,362	(189,513)	6.3%
7208 · SB88 Specs-Compliance-50% IEUA	-	54,012	(54,012)	0.0%
7210 · OBMP - 2023 RMPU	32,275	94,328	(62,054)	34.2%
7220 · Integrated Model Mtg./Tech. Review-50% IEUA	-	24,618	(24,618)	0.0%
7302 · PE3&5-PBHSP Monitoring Program	850	69,121	(68,271)	1.2%
7303 · PE3&5-Engineering - Other	635	15,632	(14,998)	4.1%
7306 · PE3&5-Engineering - Outside Professionals	-	6,500	(6,500)	0.0%
7402 · PE4-Engineering	17,196	262,544	(245,348)	6.6%
7402.10 · PE4-Northwest MZ1 Area Project	26,487	271,703	(245,217)	9.7%
7403 · PE4-Eng. Services-Contracted Services-InSar	10,365	175,000	(164,635)	5.9%
7406 · PE4-Engineering Services-Outside Professionals	-	76,552	(76,552)	0.0%
7408 · PE4-Engineering Services-Network Equipment	50	14,081	(14,031)	0.4%
7502 · PE6&7-Engineering	73,232	384,163	(310,931)	19.1%
7505 · PE6&7-Laboratory Services	6,510	49,164	(42,654)	13.2%
7508 · HC Mitigation Plan-50% IEUA (TO #6)	938	10,703	(9,765)	8.8%
7510 · PE6&7-IEUA Salinity Mgmt. Plan	651	34,631	(33,980)	1.9%
7511 · PE6&7-SAWBMP Task Force-50% IEUA	8,875	24,610	(15,735)	36.1%
7517 · Surface Water Monitoring Plan-Chino Creek - 50% IEUA	-	69,821	(69,821)	0.0%
7520 · Preparation of Water Quality Mgmt. Plan	1,326	157,692	(156,366)	0.8%
7610 · PE8&9-Support 2020 Mgmt. Plan	3,773	69,306	(65,533)	5.4%
7614 · PE8&9-Support Imp. Safe Yield Court Order	120,219	663,747	(543,528)	18.1%
7620 · OBMP - Evaluation of Extreme Future Planning Scenarios	-	51,130	(51,130)	0.0%
<b>Total Engineering Services Costs</b>	<b>\$ 430,895</b>	<b>\$ 3,755,182</b>	<b>\$ (3,324,287)</b>	<b>11.5%</b>

\* West Yost and Subcontractor Engineering Budget of \$2,884,956 plus Carryover Funds from FY 2022/23 of \$870,226



## Chino Basin Watermaster

### Monthly Variance Report & Supplemental Schedules

#### For the period July 1, 2023 to September 30, 2023

### Legal

The following table details the YTD Brownstein Hyatt Farber Schreck (BHFS) expenses costs compared to the FY 24 adopted budget. The “\$ Over Budget” and the “% of Budget” columns are a comparison of the YTD actual to the annual budget. As of September 30th, the target budget percentage is generally 25%.

	Year to Date Actual	FY 23-24 Budget	\$ Over / (Under) Budget	% of Budget
<b>6070 · Watermaster Legal Services</b>				
6071 · BHFS Legal - Court Coordination	\$ 98,367	\$ 171,260	\$ (72,893)	57.4%
6072 · BHFS Legal - Rules & Regulations	-	92,900	(92,900)	0.0%
6073 · BHFS Legal - Personnel Matters	34,310	10,820	23,490	317.1%
6074 · BHFS Legal - Interagency Issues	-	43,704	(43,704)	0.0%
6077 · BHFS Legal - Party Status Maintenance	1,205	13,730	(12,525)	8.8%
6078 · BHFS Legal - Miscellaneous (Note 1)	24,954	233,550	(208,596)	10.7%
<b>Total 6070 · Watermaster Legal Services</b>	<b>158,836</b>	<b>565,964</b>	<b>(407,128)</b>	<b>28.1%</b>
6275 · BHFS Legal - Advisory Committee	466	26,708	(26,242)	1.7%
6375 · BHFS Legal - Board Meeting	11,200	85,272	(74,072)	13.1%
6375.1 · BHFS Legal - Board Workshop(s)	-	18,499	(18,499)	0.0%
8375 · BHFS Legal - Appropriative Pool	983	33,385	(32,402)	2.9%
8475 · BHFS Legal - Agricultural Pool	983	33,385	(32,402)	2.9%
8575 · BHFS Legal - Non-Ag Pool	983	33,385	(32,402)	2.9%
<b>Total BHFS Legal Services</b>	<b>14,616</b>	<b>230,634</b>	<b>(216,018)</b>	<b>6.3%</b>
<b>6907.3 · WM Legal Counsel</b>				
6907.31 · Archibald South Plume	-	12,085	(12,085)	0.0%
6907.32 · Chino Airport Plume	-	12,085	(12,085)	0.0%
6907.33 · Desalter/Hydraulic Control	-	37,200	(37,200)	0.0%
6907.34 · Santa Ana River Water Rights	-	20,595	(20,595)	0.0%
6907.36 · Santa Ana River Habitat	-	30,090	(30,090)	0.0%
6907.38 · Reg. Water Quality Cntrl Board	259	30,090	(29,831)	0.9%
6907.39 · Recharge Master Plan	16,813	30,495	(13,682)	55.1%
6907.40 · Storage Agreements	-	16,960	(16,960)	0.0%
6907.41 · Prado Basin Habitat Sustainability	-	9,900	(9,900)	0.0%
6907.44 · SGMA Compliance	-	9,900	(9,900)	0.0%
6907.45 · OBMP Update	66,152	172,880	(106,728)	38.3%
6907.47 · 2020 Safe Yield Reset	3,905	33,920	(30,015)	11.5%
6907.48 · Ely Basin Investigation	-	126,040	(126,040)	0.0%
6907.90 · WM Legal Counsel - Unanticipated	-	37,395	(37,395)	0.0%
<b>Total 6907 · WM Legal Counsel</b>	<b>87,129</b>	<b>579,635</b>	<b>(492,506)</b>	<b>15.0%</b>
<b>Total Brownstein, Hyatt, Farber, Schreck Costs</b>	<b>\$ 260,580</b>	<b>\$ 1,376,233</b>	<b>\$ (1,115,653)</b>	<b>18.9%</b>



## Chino Basin Watermaster

### Monthly Variance Report & Supplemental Schedules

#### For the period July 1, 2023 to September 30, 2023

### Optimum Basin Management Plan (OBMP)

The following table details the Year-To-Date (YTD) Actual OBMP costs compared to the FY 24 adopted budget. The “\$ Over Budget” and the “% of Budget” columns are a comparison of the YTD actual to the annual budget. As of September 30th, the target budget percentage is generally 25%.

	Year to Date Actual	FY 23-24 Budget	\$ Over / (Under) Budget	% of Budget
<b>6900 · Optimum Basin Mgmt Plan</b>				
6901.1 · OBMP - Document Review-WM Staff	\$ 22,876	\$ 89,136	\$ (66,260)	25.7%
6901.3 · OBMP - Field Work-WM Staff	257	7,003	(6,746)	3.7%
6901.5 · OBMP - General-WM Staff	16,283	124,049	(107,766)	13.1%
6901.7 · OBMP - Meeting-WM Staff	9,414	57,589	(48,175)	16.3%
6901.8 · OBMP - Meeting-West Yost	11,143	45,096	(33,953)	24.7%
6901.9 · OBMP - Reporting-WM Staff	3,226	2,370	856	136.1%
6901.95 · OBMP - Reporting-West Yost	13,008	57,316	(44,308)	22.7%
<b>Total 6901 · OBMP WM and West Yost Staff</b>	<b>76,207</b>	<b>382,559</b>	<b>(306,352)</b>	<b>19.9%</b>
<b>6903 · OBMP - SAWPA</b>				
6903 · OBMP - SAWPA Group	24,071	24,071	0	100.0%
<b>Total 6903 · OBMP - SAWPA</b>	<b>24,071</b>	<b>24,071</b>	<b>0</b>	<b>100.0%</b>
<b>6906 · OBMP Engineering Services</b>				
6906.1 · OBMP - Watermaster Model Update	17,158	41,235	(24,077)	41.6%
6906.15 · Integrated Model Mtgs. - IEUA Costs	-	-	-	0.0%
6906.21 · State of the Basin Report	-	-	-	0.0%
6906.26 · 2020 OBMP Update	1,791	24,016	(22,225)	7.5%
6906.71 · OBMP - Data Requests - CBWM Staff	-	-	-	0.0%
6906.72 · OBMP - Data Requests - Non CBWM	-	-	-	0.0%
6906 · OBMP Engineering Services - Other	11,740	46,992	(35,252)	25.0%
<b>Total 6906 · OBMP Engineering Services</b>	<b>30,688</b>	<b>112,243</b>	<b>(81,555)</b>	<b>27.3%</b>
<b>6907 · OBMP Legal Fees</b>				
6907.31 · Archibald South Plume	-	12,085	(12,085)	0.0%
6907.32 · Chino Airport Plume	-	12,085	(12,085)	0.0%
6907.33 · Desalter/Hydraulic Control	-	37,200	(37,200)	0.0%
6907.34 · Santa Ana River Water Rights	-	20,595	(20,595)	0.0%
6907.36 · Santa Ana River Habitat	-	30,090	(30,090)	0.0%
6907.38 · Reg. Water Quality Cntrl Board	259	30,090	(29,831)	0.9%
6907.39 · Recharge Master Plan	16,813	30,495	(13,682)	55.1%
6907.40 · Storage Agreements	-	16,960	(16,960)	0.0%
6907.41 · Prado Basin Habitat Sustainability	-	9,900	(9,900)	0.0%
6907.44 · SGMA Compliance	-	9,900	(9,900)	0.0%
6907.45 · OBMP Update	66,152	172,880	(106,728)	38.3%
6907.47 · 2020 Safe Yield Reset	3,905	33,920	(30,015)	11.5%
6907.48 · Ely Basin Investigation	-	126,040	(126,040)	0.0%
6907.90 · WM Legal Counsel - Unanticipated	-	37,395	(37,395)	0.0%
<b>Total 6907 · OBMP Legal Fees</b>	<b>87,129</b>	<b>579,635</b>	<b>(492,506)</b>	<b>15.0%</b>
<b>6908 · OBMP Updates</b>				
6908.1 · 2020 OBMP Update-Dodson & Assoc.	29,107	107,578	(78,470)	27.1%
<b>Total 6908 · OBMP Updates</b>	<b>29,107</b>	<b>107,578</b>	<b>(78,470)</b>	<b>27.1%</b>
<b>6909 · OBMP Other Expenses</b>				
6909.1 · OBMP Meetings	-	1,500	(1,500)	0.0%
6909.3 · Other OBMP Expenses	-	2,724	(2,724)	0.0%
6909.6 · OBMP Expenses - Miscellaneous	-	5,000	(5,000)	0.0%
<b>Total 6909 · OBMP Other Expenses</b>	<b>-</b>	<b>9,224</b>	<b>(9,224)</b>	<b>0.0%</b>
<b>Total 6900 · Optimum Basin Mgmt Plan</b>	<b>\$ 247,203</b>	<b>\$ 1,215,309</b>	<b>\$ (968,107)</b>	<b>20.3%</b>



## Chino Basin Watermaster

### Monthly Variance Report & Supplemental Schedules

#### For the period July 1, 2023 to September 30, 2023

### Judgment Administration

The following table details the Year-To-Date (YTD) Actual Judgment Administration costs compared to the FY 24 adopted budget. The "\$ Over Budget" and the "% of Budget" columns are a comparison of the YTD actual to the annual budget. As of September 30th, the target budget percentage is generally 25%.

	Year to Date Actual	FY 23-24 Budget	\$ Over / (Under) Budget	% of Budget
<b>5901 · Admin-WM Staff</b>				
5901.1 · Admin-Doc. Review-WM Staff	\$ 12,888	\$ 82,794	\$ (69,906)	15.6%
5901.3 · Admin-Field Work-WM Staff	2,314	7,760	(5,446)	29.8%
5901.5 · Admin-General-WM Staff	18,920	60,129	(41,209)	31.5%
5901.7 · Admin-Meeting-WM Staff	1,870	2,633	(763)	71.0%
5901.8 · Admin-Meeting - West Yost	-	45,097	(45,097)	0.0%
5901.9 · Admin-Reporting-WM Staff	-	31,033	(31,033)	0.0%
<b>Total 5901 · Admin-WM Staff</b>	<b>35,992</b>	<b>229,446</b>	<b>(193,454)</b>	<b>15.7%</b>
<b>5900 · Judgment Admin Other Expenses</b>				
5906.71 · Admin-Data Req-CBWM Staff	8,413	126,204	(117,792)	6.7%
5906.72 · Admin-Data Req-Non CBWM Staff	146	42,832	(42,686)	0.3%
5910 · Court Coordination/Attend-WM	7,550	19,098	(11,548)	39.5%
5911 · Exhibit G-WM Staff	-	2,370	(2,370)	0.0%
5921 · Production Monitoring-WM Staff	2,892	11,322	(8,430)	25.5%
5925 · Ag Prod & Estimation-West Yost	7,165	34,376	(27,212)	20.8%
5931 · Recharge Applications-WM Staff	-	4,634	(4,634)	0.0%
5935 · Admin-Mat'l Phy Inj Requests	929	36,072	(35,143)	2.6%
5941 · Reporting-WM Staff	-	1,316	(1,316)	0.0%
5945 · WM Annual Report Prep-West Yost	932	15,416	(14,484)	6.0%
5951 · Rules & Regs-WM Staff	-	12,726	(12,726)	0.0%
5961 · Safe Yield-WM Staff	612	26,330	(25,718)	2.3%
5965 · Support Data Collect-West Yost	-	36,336	(36,336)	0.0%
5971 · Storage Agreements-WM Staff	-	4,739	(4,739)	0.0%
5981 · Water Acct/Database-WM Staff	34,213	109,793	(75,580)	31.2%
5991 · Water Transactions-WM Staff	979	8,688	(7,709)	11.3%
<b>Total 5900 · Judgment Admin Other Expenses</b>	<b>63,830</b>	<b>492,252</b>	<b>(428,422)</b>	<b>13.0%</b>
<b>Total 5900 · Judgment Administration</b>	<b>\$ 99,823</b>	<b>\$ 721,698</b>	<b>\$ (621,875)</b>	<b>13.8%</b>



## Chino Basin Watermaster

### Monthly Variance Report & Supplemental Schedules For the period July 1, 2023 to September 30, 2023

#### “Carry Over” Funding:

During the month of July 2023, the “Carry Over” funding was calculated. The Total “Carry Over” funding amount of \$2,277,561.54 has been posted to the general ledger accounts. The total amount consisted of \$870,226.24 from Engineering Services, \$816,709.78 from Capital Improvement Projects, \$464,627.66 from OBMP Activities, \$111,461.18 from Pool Funding Accounts, and \$14,536.68 from Administration Services. More detailed information is provided in the table below.

**Carry Over Budget Detail - FY 23/24**

Description	Amount	Account	Fiscal Year	Type
Other Office Equipment - Boardroom Upgrades	\$ 10,037.93	6038	FY 2020/21	ADMIN
Board Workshop Expenses - Misc.	4,498.75	6375.2	FY 2021/22	ADMIN
Meter Installation - New Meter Installation	175,400.00	7540	FY 2018/19	OBMP
Meter Installation - Calibration and Testing	181,650.00	7545	FY 2018/19	OBMP
2022 OBMP Update - Dodson & Asso.	107,577.66	6908.1	FY 2022/23	OBMP
Watermaster Model Update	34,206.75	5906.1	FY 2022/23	ENG
Groundwater Level Monitoring Program	2,700.00	7104.3	FY 2022/23	ENG
PE2 - Comprehensive Recharge - Eng. Services	27,943.64	7202.2	FY 2020/21	ENG
PE2 - Comprehensive Recharge - Eng. Services	18,441.85	7202.2	FY 2021/22	ENG
PE2 - Comprehensive Recharge - Eng. Services	72,788.26	7202.2	FY 2022/23	ENG
SB88-Specs-Ensure Compliance-50% IEUA	54,012.38	7208	FY 2020/21	ENG
OBMP - 2023 RMPU	60,000.00	7210	FY 2022/23	ENG
Integrated Model - Meetings - 50% IEUA Costs	24,617.63	7220	FY 2021/22	ENG
PBHSP - Monitoring, Data Analysis, Reporting	21,000.00	7302	FY 2022/23	ENG
OBMP - Engineering Services	65,208.75	7402	FY 2022/23	ENG
PE4 - Northwest MZ-1 Area Project	23,805.91	7402.1	FY 2021/22	ENG
PE4 - Northwest MZ-1 Area Project	126,194.09	7402.1	FY 2022/23	ENG
PE4/MZ-1: InSAR - Outside Pro	85,000.00	7403	FY 2022/23	ENG
Ground Level Monitoring - Capital Equipment	5,000.00	7408	FY 2022/23	ENG
PE6-7: Coop Efforts/Salt Management:	40,000.00	7502	FY 2022/23	ENG
Groundwater Quality Monitoring Program	16,194.00	7505	FY 2022/23	ENG
Hydraulic Control Mitigation Plan Update-50% IEUA	9,687.25	7508	FY 2021/22	ENG
Hydraulic Control Mitigation Plan Update-50% IEUA	1,016.00	7508	FY 2022/23	ENG
IEUA - Update Recycle Water Permit - Salinity	19,752.23	7510	FY 2021/22	ENG
PE8&9 - Support Imp. 2020 Storage Mgmt. Plan	42,657.50	7610	FY 2020/21	ENG
Support Implementation of the Safe Yield Court Order:	120,000.00	7614	FY 2022/23	ENG
Upper Santa Ana River HCP (TO #7)	15,062.88	7690.7	FY 2014/15	PROJ
Upper Santa Ana River HCP (TO #7)	5,000.00	7690.7	FY 2015/16	PROJ
Lower Day Basin RMPU (TO #2)	238,646.90	7690.8	FY 2016/17	PROJ
Jurupa Basin Berm & Trash Boom	358,000.00	7690.23	FY 2022/23	PROJ
Funds on Hold for Projects/Refund	200,000.00	7690.9	FY 2017/18	PROJ
Agricultural Pool - Legal Services	41,675.63	8467	FY 2022/23	AP
Agricultural Pool - Mtg. Attendance Compensation	950.98	8470	FY 2022/23	OAP
Agricultural Pool - Special Project Funding	10,993.67	8471	FY 2021/22	OAP
Non-Agricultural Pool - Meeting Compensation	875.00	8511	FY 2022/23	ONAP
Non-Agricultural Pool - Legal Services	56,965.90	8567	FY 2022/23	ONAP
<b>Balance at 7/31/23</b>	<b>\$ 2,277,561.54</b>			



# CHINO BASIN WATERMASTER

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**PETER KAVOUNAS, P.E.**  
General Manager

## STAFF REPORT

DATE: November 09, 2023  
TO: AP/ONAP/OAP Committee Members  
SUBJECT: 2022/23 Annual Report of the Ground-Level Monitoring Program  
(Consent Calendar Item I.C.)

### SUMMARY:

Issue: Watermaster is required annually to file a Ground-Level Monitoring report with the Court. The 2022/23 Annual Report has been drafted and reviewed by the Ground-Level Monitoring Committee. [Discretionary Function]

Recommendation: Recommend to the Advisory Committee to recommend to the Watermaster Board to approve the 2022/23 Annual Report of the Ground-Level Monitoring Program (GLMP), and direct staff to file a copy with the Court.

Financial Impact: Approval of the report does not result in additional expenses. All the recommendations in the 2022/23 Annual Report for the ongoing monitoring program are included in the approved FY 2023/24 amended budget.

### Future Consideration

**Appropriative Pool – November 09, 2023:** Advice and Assistance  
**Non-Agricultural Pool – November 09, 2023:** Advice and Assistance  
**Agricultural Pool – November 09, 2023:** Advice and Assistance  
**Advisory Committee – November 16, 2023:** Advice and Assistance  
**Watermaster Board – November 16, 2023:** Approve and file with the Court

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### ACTIONS:

**Appropriative Pool – November 09, 2023:**  
**Non-Agricultural Pool – November 09, 2023:**  
**Agricultural Pool – November 09, 2023:**  
**Advisory Committee – November 16, 2023:**  
**Watermaster Board – November 16, 2023:**

*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

In 1999, the OBMP Phase I Report identified pumping-induced drawdown and resultant aquifer-system compaction as the most likely cause of land subsidence and ground fissuring that had been observed in Management Zone 1 (MZ-1). Program Element 4 of the OBMP, “Develop and Implement a Comprehensive Groundwater Management Plan for Management Zone 1,” called for the development and implementation of a long-term Subsidence Management Plan to minimize or abate the occurrence of subsidence and ground fissuring.

From 2001 to 2005, Watermaster developed, coordinated, and conducted a comprehensive investigation under the guidance of the MZ-1 Technical Committee (now called the Ground-Level Monitoring Committee or GLMC) to understand the causes of the subsidence and fissuring in the southwestern portion of MZ-1. The investigation provided enough information for Watermaster to develop Guidance Criteria for the producers in the investigation area that, if followed, would minimize the potential for subsidence and fissuring during the completion of the Subsidence Management Plan. The Guidance Criteria formed the basis for the Subsidence Management Plan, which was developed by the GLMC and approved by Watermaster in October 2007. The Court Order on November 15, 2007 approved the Subsidence Management Plan and ordered its implementation. The Subsidence Management Plan was updated in 2015 to include a recommendation to develop a Subsidence Management Plan specific to the northwestern portion of the Chino Basin where gradual and persistent subsidence is an ongoing concern.

The Subsidence Management Plan states that Watermaster will produce an annual report, which includes the results of ongoing monitoring efforts, interpretations of the data, recommendations for future monitoring efforts, and recommendations for adjustments to the Subsidence Management Plan, if any. The Court’s 2007 Order directed Watermaster to file the annual reports with the Court.

## DISCUSSION

The final 2022/23 Annual Report of the GLMP (Attachment 1) includes results and interpretations for data that were collected during FY 2022/23 and includes recommendations for Watermaster’s Ground-Level Monitoring Program for FY 2023/24.

The GLMC met on March 2, 2023 to review and discuss the recent monitoring results and to develop a scope of work and budget for FY 2023/24. Subsequently, an overview of the monitoring results and the proposed scope of work and budget for FY 2023/24 were presented to the Pool Committees in April 2023 and at Watermaster’s budget workshops.

The GLMC was provided with the draft annual report on September 22, 2023 for review and comment. The GLMC met on October 4, 2023 to review and discuss the draft annual report with Watermaster Staff and Engineer. The GLMC submitted comments during the comment window which were addressed in the final report attached.

## ATTACHMENTS

1. 2022/23 Annual Report of the Ground-Level Monitoring Program  
Click on this [link](#) to access the report.

# 2022/23 Annual Report for the Ground-Level Monitoring Program

PREPARED FOR

Ground-Level Monitoring Committee



PREPARED BY



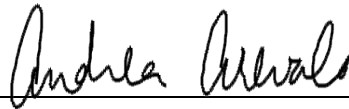
# 2022/23 Annual Report for the Ground-Level Monitoring Program

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Prepared for

## Ground-Level Monitoring Committee

Project No. 941-80-23-25



Prepared By: Andrea Arevalo

November 2, 2023


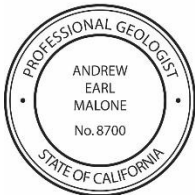
Date



Prepared by: Lauren Salberg

November 2, 2023

Date



QA/QC Review: Andy Malone, PG

November 2, 2023

Date

# Table of Contents

<b>1.0 Introduction</b>	<b>1-1</b>
1.1 Background	1-1
1.1.1 Subsidence and Fissuring in the Chino Basin	1-1
1.1.2 The Optimum Basin Management Program	1-1
1.1.3 Interim Management Plan and the MZ-1 Summary Report	1-2
1.1.4 MZ-1 Subsidence Management Plan	1-5
1.1.5 2015 Chino Basin Subsidence Management Plan	1-6
1.1.6 Annual Report of the Ground-Level Monitoring Committee	1-7
1.2 Report Organization	1-7
<b>2.0 Ground-Level Monitoring Program</b>	<b>2-1</b>
2.1 Ground-Level Monitoring Program	2-1
2.1.1 Setup and Maintenance of the Monitoring Facilities Network	2-1
2.1.2 Monitoring Activities	2-2
2.1.2.1 Monitoring of Pumping, Recharge, and Piezometric Levels	2-2
2.1.2.2 Monitoring Vertical Aquifer-System Deformation	2-2
2.1.2.3 Monitoring Vertical Ground Motion	2-2
2.1.2.4 Monitoring of Horizontal Ground Motion	2-4
2.2 Land-Subsidence Investigations	2-4
2.2.1 Subsidence Management Plan for Northwest MZ-1	2-4
2.2.2 Northeast Area Subsidence Investigation	2-7
<b>3.0 Results and Interpretations</b>	<b>3-1</b>
3.1 Managed Area	3-1
3.1.1 History of Stress and Strain in the Aquifer-System	3-1
3.1.2 Recent Stress and Strain in the Aquifer-System	3-1
3.1.2.1 Groundwater Pumping and Hydraulic Heads	3-2
3.1.2.2 Aquifer-System Deformation	3-3
3.2 Southeast Area	3-4
3.3 Other Areas of Subsidence Concern	3-4
<b>4.0 Conclusions and Recommendations</b>	<b>4-1</b>
4.1 Conclusions and Recommendations	4-1
4.2 Recommended Scope and Budget for Fiscal Year 2022/23	4-2
4.3 Changes to the Subsidence Management Plan	4-2
<b>5.0 Glossary</b>	<b>5-1</b>
<b>6.0 References</b>	<b>6-1</b>

# Table of Contents

## LIST OF TABLES

Table 1-1. Managed Wells Screened in the Deep Aquifer and Subject to the Guidance Criteria <sup>(a)</sup> .....	1-4
Table 2-1. Benchmark Monuments Surveyed in Ground-Level Survey Areas .....	2-4
Table 2-2. Horizontal Benchmark Survey .....	2-4
Table 3-1. Groundwater Pumping in the Managed Area – <i>FY 2012 through 2023</i> .....	3-5

## LIST OF FIGURES

Figure 1-1. Historical Land Surface Deformation in Management Zone 1: 1987-1999 .....	1-8
Figure 1-2. MZ-1 Managed Area and the Managed Wells .....	1-9
Figure 2-1. Pumping and Recharge Facilities – Western Chino Basin: 2022/23 .....	2-8
Figure 2-2. Ground-Level Monitoring Network – Western Chino Basin .....	2-9
Figure 3-1. History of Land Subsidence in the Managed Area .....	3-6
Figure 3-2. Stress and Strain within the Managed Area .....	3-7
Figure 3-3. Stress Strain Diagram – Ayala Park Extensometer .....	3-8
Figure 3-4. Stress and Strain within the Southeast Area .....	3-9

## LIST OF APPENDICES

Appendix A: Recommended Scope of Work and Budget of the Ground-Level Monitoring Committee for Fiscal Year 2023/24	
Appendix B: Responses to GLMC Comments	

# Table of Contents

## LIST OF ACRONYMS, ABBREVIATIONS, AND INITIALISMS

af	Acre-feet
Ayala Park	Rubin S. Ayala Park
Ayala Park Extensometer	Extensometer at Ayala Park
BMA	Baseline Management Alternative
CCX	Chino Creek Extensometer Facility
DHX	Daniels Horizontal Extensometer
EDM	Electronic distance measurement
ft	Feet
ft-amsl	Feet above mean sea level
ft-btoc	Feet below top of casing
ft-bgs	Feet below ground surface
ft/yr	Feet per year
FY	Fiscal Year
GLMC	Ground-Level Monitoring Committee
GLMP	Ground-Level Monitoring Program
IMP	Management Zone 1 Interim Monitoring Program
InSAR	Interferometric synthetic aperture radar
ISMA	Initial Subsidence Management Alternative
MVWD	Monte Vista Water District
MZ-1	Chino Basin Optimum Basin Management Plan Management Zone 1
MZ-1 Plan	Management Zone 1 Subsidence Management Plan
OBMP	Optimum Basin Management Plan
PA	Piezometer A (Ayala Park extensometer facility)
PC	Piezometer C (Ayala Park extensometer facility)
PFAS	Per – and polyfluoroalkyl substances
PX	Pomona Extensometer Facility
SAR	Synthetic Aperture Radar
SCADA	Supervisory Control and Data Acquisition
SMA-2	Second Subsidence-Management Alternative
Subsidence Management Plan	2015 Chino Basin Subsidence Management Plan
TCP	1,2,3-trichloropropane
USGS	United States Geological Survey
Watermaster	Chino Basin Watermaster
WEI	Wildermuth Environmental, Inc.
Work Plan	Work Plan to Develop a Subsidence Management Plan for the Northwest MZ-1

## 1.0 INTRODUCTION

This section describes:

- Background information on the history of land subsidence and ground fissuring in the Chino Basin.
- Information on the formation of the Ground-Level Monitoring Committee (GLMC) and its responsibilities.
- A description of the development and implementation of the Chino Basin Subsidence Management Plan (Subsidence Management Plan).
- The organization of this annual report.

## 1.1 Background

In general, land subsidence is the sinking or settlement of the Earth's surface due to the rearrangement of subsurface materials. In the United States, over 17,000 square miles in 45 states have experienced land subsidence (United States Geologic Survey [USGS], 1999). In many instances, land subsidence is accompanied by adverse impacts at the ground surface, such as sinkholes, earth fissures, encroachment of adjacent water bodies, modified drainage patterns, and others. In populated regions, these subsidence-related impacts can result in severe damage to man-made infrastructure and costly remediation measures. Over 80 percent of the documented cases of land subsidence in the United States have been caused by groundwater extractions from the underlying aquifer-system (USGS, 1999).

For purposes of clarification in this document, subsidence refers to the inelastic deformation (i.e., sinking) of the land surface. The term *inelastic* typically refers to the permanent, non-recoverable deformation of the land surface or the aquifer-system. The term *elastic* typically refers to fully reversible deformation of the land surface or the aquifer-system. A glossary of terms and definitions discussed in this report, as well as other terms related to basic hydrogeology and land subsidence is included in Section 5.0.

### 1.1.1 Subsidence and Fissuring in the Chino Basin

One of the earliest indications of land subsidence in the Chino Basin was the appearance of ground fissures within the City of Chino. These fissures appeared as early as 1973, but an accelerated occurrence of ground fissuring ensued after 1991 and resulted in damage to existing infrastructure. Figure 1-1 shows the locations of these fissures and the land subsidence that contemporaneously occurred in this area. Several scientific studies of the area attributed the fissuring phenomenon to differential land subsidence caused by pumping of the underlying aquifer-system and the consequent drainage and compaction of aquitard sediments (Fife et al., 1976; Kleinfelder, 1993, 1996; Geomatrix, 1994; GEOSCIENCE, 2002).

### 1.1.2 The Optimum Basin Management Program

In 1999, the *Optimum Basin Management Program Phase I Report* (OBMP Phase I Report) identified the pumping-induced decline of hydraulic heads and subsequent aquifer-system compaction as the most likely cause of the land subsidence and ground fissuring observed in the Chino Basin OBMP Management Zone 1 (MZ-1; Wildermuth Environmental Inc. [WEI], 1999). Program Element 4 of the OBMP Implementation Plan, *Develop and Implement a Comprehensive Groundwater Management Plan for Management Zone 1*, called for the development and implementation of an interim management plan for MZ-1 that would:



## 2022/23 Annual Report for the GLMP

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- Minimize subsidence and fissuring in the short-term
- Collect the information necessary to understand the extent, rate, and mechanisms of subsidence and fissuring
- Abate future subsidence and fissuring or reduce it to tolerable levels

The OBMP called for an aquifer-system and land subsidence investigation in the southwestern region of MZ-1 to support the development of a management plan for MZ-1 (items 2 and 3 above). This investigation was titled the *MZ-1 Interim Monitoring Program* (WEI, 2003) and is described below.

The OBMP Phase I Report also identified that land subsidence was occurring in other parts of the basin besides in the City of Chino. Program Element 1 of the OBMP Implementation Plan, *Develop and Implement a Comprehensive Monitoring Program*, called for the collection of basin-wide data to characterize land subsidence, including ground-level surveys and remote-sensing (specifically, interferometric synthetic aperture radar [InSAR]), and for the development of an ongoing monitoring program based on the analysis of the collected data.

### **1.1.3 Interim Management Plan and the MZ-1 Summary Report**

From 2001 to 2005, the Chino Basin Watermaster (Watermaster) developed, coordinated, and conducted the Interim Management Plan (IMP) under the guidance of the MZ-1 Technical Committee. The MZ-1 Technical Committee was comprised of representatives from all major MZ-1 producers and their technical consultants, including the Agricultural Pool; the Cities of Chino, Chino Hills, Ontario, Pomona, and Upland; the Monte Vista Water District (MVWD); the Golden State Water Company; and the California Institution for Men.

The IMP consisted of three main monitoring elements to analyze land subsidence: ground-level surveys, InSAR, and aquifer-system monitoring. The ground-level surveys and InSAR analyses were used to characterize vertical ground motion. Aquifer-system monitoring of hydraulic and mechanical changes within the aquifer system was used to characterize the causes of the ground motion.

The monitoring program was implemented in two phases: the Reconnaissance Phase and the Comprehensive Phase. The Reconnaissance Phase consisted of constructing 11 piezometers screened at various depths at Rubin S. Ayala Park (Ayala Park) in the City of Chino and installing pressure-transducers with integrated data loggers (transducers) in nearby pumping and monitoring wells to measure hydraulic head. Following installation of the monitoring network, several months of aquifer-system monitoring and testing were conducted. Testing included aquifer-system stress tests conducted at pumping wells in the area.

The Comprehensive Phase consisted of constructing a dual-borehole pipe extensometer at Ayala Park (Ayala Park Extensometer) near the area of historical fissuring. Figure 1-2 shows the location of the Ayala Park Extensometer. Following installation of the Ayala Park Extensometer, two aquifer-system stress tests were conducted followed by passive aquifer-system monitoring.

During implementation of the IMP, Watermaster's Engineer made the data available to the MZ-1 Technical Committee and prepared quarterly progress reports for the MZ-1 Technical Committee, the



Watermaster Pools and Board, and the Court.<sup>1</sup> The progress reports contained data and analyses from the IMP and summarized the MZ-1 Technical Committee meetings.

The main conclusions derived from the IMP were:

- Groundwater pumping from the deep and confined aquifer-system in the southwestern region of MZ-1 causes the greatest stress to the aquifer-system. In other words, pumping of the deep aquifer-system causes a hydraulic head decline that is much greater in magnitude and lateral extent than the hydraulic head decline caused by pumping of the shallow aquifer-system.
- Hydraulic head decline due to pumping from the deep aquifer-system can cause inelastic compaction of the aquifer-system sediments, which results in land subsidence. The initiation of inelastic compaction within the aquifer-system was identified during the investigation when hydraulic heads in the deep aquifer-system at the Ayala Park PA-7 piezometer fell below a depth of about 250 feet (ft).
- The state of aquifer-system deformation in southern MZ-1 was essentially elastic during the Reconnaissance Phase of the IMP. Very little inelastic compaction was occurring in this area, which contrasted with the recent past when about 2.2 ft of land subsidence occurred from about 1987 to 1995 and resulted in ground fissuring.
- During the development of the IMP, a previously unknown barrier to groundwater flow was identified, shown on Figures 1-1. The barrier was named the “Riley Barrier” after Francis S. Riley, a retired USGS geologist who first detected the barrier during the IMP. This barrier is located within the deep aquifer-system and is aligned with the historical zone of ground fissuring. Pumping from the deep aquifer-system was limited to the area west of the barrier, and the resulting hydraulic head decline did not propagate eastward across the barrier. Thus, compaction occurred within the deep aquifer-system on the west side of the barrier but not on the east side, which caused concentrated differential subsidence across the barrier and created the potential for ground fissuring.
- The InSAR and ground-level surveys indicated that subsidence in Central MZ-1 had occurred in the past and was continuing to occur. InSAR also suggested that the groundwater barrier (Riley Barrier) extends northward into Central MZ-1 as shown in Figure 1-1. These observations suggested that the conditions that very likely caused ground fissuring near Ayala Park in the 1990s were also present in Central MZ-1. However, there was not enough historical hydraulic head data in this area to confirm this relationship. The IMP recommended that, if subsidence continued or increased in Central MZ-1, the mechanisms causing land subsidence should be studied in more detail.

The IMP provided enough information for Watermaster to develop Guidance Criteria for the Parties that pump from the southwestern region of MZ-1, that if followed, would minimize the potential for subsidence and fissuring in the investigation area. The methods, results, and conclusions of the IMP, including the Guidance Criteria, were described in detail in the *MZ-1 Summary Report* (WEI, 2006).

The Guidance Criteria consisted of:

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<sup>1</sup> San Bernardino County Superior Court, which retains continuing jurisdiction over the Chino Basin Judgment.



## 2022/23 Annual Report for the GLMP

- A list of “Managed Wells” subject to the Guidance Criteria. Table 1-1 is a list of the Managed Wells that are subject to the Guidance Criteria. Figure 1-2 is a map that shows the locations of the Managed Wells. These wells have well screens that penetrate the deep aquifer-system.

**Table 1-1. Managed Wells Screened in the Deep Aquifer and Subject to the Guidance Criteria<sup>(a)</sup>**

Well Name	CBWM ID	Owner	2023 Status	Well Screen Interval(s) ft-bgs
CIM-11A <sup>(b)</sup>	3602461	California Institution for Men	Active <sup>(c)</sup>	174-187; 240-283; 405-465
C-7	3600461	City of Chino	Abandoned <sup>(d)</sup>	180-780
C-15	600670		Abandoned	270-400; 626-820
CH-1B	600487	City of Chino Hills	Inactive <sup>(e)</sup>	440-470; 490-610; 720-900; 940-1,180
CH-7C	600687		Abandoned	550-950
CH-7D	600498		Destroyed	320-400; 410-450; 490-810; 850-930
CH-15B	600488		Active	360-440; 480-900
CH-16	600489		Inactive	430-940
CH-17	600499		Inactive	300-460; 500-680
CH-19	600500		Inactive	300-460; 460-760; 800-1,000

(a) The MZ-1 Subsidence Management Plan identified the Managed Wells that are subject to the Guidance Criteria for the Managed Area that, if followed, would minimize the potential for subsidence and fissuring.

(b) The original casing was perforated from 135-148, 174-187, 240-283, 405-465, 484-512, and 518-540 feet below ground surface (ft-bgs). This casing collapsed below 471 ft-bgs in 2011. A liner was installed to 470 ft-bgs with a screen interval from 155 to 470 ft-bgs.

(c) Active = Well is currently being used for water supply.

(d) Abandoned = Unable to pump the well without major modifications.

(e) Inactive = Well can pump groundwater with little or no modifications.

- The spatial extent of the “Managed Area.” Figures 1-1 and 1-2 show the boundary of the Managed Area where the Guidance Criteria apply. Within the boundaries of the Managed Area, both existing (Table 1-1) and newly constructed wells are subject to being classified as Managed Wells. This area was delineated based on the observed and/or predicted effects of pumping on hydraulic heads and aquifer-system deformation. The Managed Well designations were based on the effects measured at the Ayala Park Extensometer during the IMP or well construction and borehole lithology.
- A piezometric “Guidance Level.” The Guidance Level is a specified depth to water, as measured in feet below the top of casing (ft-btoc) at the Ayala Park PA-7 piezometer. The initial Guidance Level was established as 245 ft-btoc. It was defined as the threshold hydraulic head at the onset of inelastic compaction of the aquifer-system as recorded by the extensometer minus five feet. The five-foot reduction was meant to be a safety factor to ensure that inelastic compaction does not occur. The Guidance Level can be updated by Watermaster based on the periodic review of monitoring data.
- Criteria for recommending pumping curtailment. If the hydraulic head in PA-7 falls below the Guidance Level, Watermaster recommends that the MZ-1 Parties curtail their pumping



## 2022/23 Annual Report for the GLMP

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- from designated Managed Wells as required to maintain hydraulic heads above the Guidance Level.
- Monitoring/reporting of hydraulic heads at PA-7. Watermaster was to provide the MZ-1 Parties with real-time hydraulic head data from PA-7.
  - Reporting of pumping operations at Managed Wells. The MZ-1 Parties were requested to maintain and provide Watermaster with accurate records of operations at the Managed Wells, including pumping rates and on-off dates and times. The MZ-1 Parties were requested to promptly notify Watermaster of all operational changes made to maintain the hydraulic head at PA-7 above the Guidance Level.
  - Request for ongoing monitoring at other monitoring wells. Watermaster recommended that the MZ-1 Parties allow it to continue to monitor hydraulic heads at the Managed Wells.
  - Process for adapting the Guidance Criteria. Watermaster and Watermaster's Engineer were to evaluate the data collected as part of the MZ-1 Monitoring Program (now called the Ground-Level Monitoring Program or GLMP) after each fiscal year and determine if modifications, additions, and/or deletions to the Guidance Criteria were necessary. Changes to the Guidance Criteria could include additions or deletions to the list of Managed Wells, re-delineation of the Managed Area, raising or lowering of the Guidance Level, or additions and/or deletions to the Guidance Criteria, including the need to have periods of hydraulic head recovery.
  - Acknowledgement of uncertainty. Watermaster cautioned that some subsidence and fissuring could occur in the future, even if the Guidance Criteria were followed. Watermaster made no warranties that faithful adherence to the Guidance Criteria would eliminate subsidence or fissuring.

### 1.1.4 MZ-1 Subsidence Management Plan

The Guidance Criteria formed the basis for the *MZ-1 Subsidence Management Plan* ([MZ-1 Plan]; WEI, 2007), which was developed by the MZ-1 Technical Committee and approved by the Watermaster Board in October 2007. In November 2007, the Court approved the MZ-1 Plan and ordered its implementation.

To minimize the potential for future subsidence and fissuring in the Managed Area, the MZ-1 Plan codified the Guidance Level and recommended that the MZ-1 Parties manage their groundwater pumping such that the hydraulic heads at PA-7 remain above the Guidance Level.

The MZ-1 Plan called for ongoing monitoring, data analysis, annual reporting, and adjustments to the MZ-1 Plan as warranted by the data. Implementation of the MZ-1 Plan began in 2008. The MZ-1 Plan called for the continued scope and frequency of monitoring implemented during the IMP within the Managed Area and expanded monitoring of the aquifer-system and land subsidence in other areas of the Chino Basin where the IMP indicated concern for future subsidence and ground fissuring. Figure 1-1 shows the location of these so-called Areas of Subsidence Concern: Central MZ-1, Northwest MZ-1, Northeast Area, and Southeast Area. The expanded monitoring efforts outside the Managed Area are consistent with the requirements of the OBMP Program Element 1 and its implementation plan contained in the Peace Agreement.<sup>2</sup>

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<sup>2</sup> Source: [http://www.cbwm.org/docs/legaldocs/Peace\\_Agreement.pdf](http://www.cbwm.org/docs/legaldocs/Peace_Agreement.pdf).



## 2022/23 Annual Report for the GLMP

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Potential future efforts listed in the MZ-1 Plan included: (i) more intensive monitoring of horizontal strain across the zone of historical ground fissuring to assist in developing management strategies related to fissuring; (ii) injection feasibility studies within the Managed Area; (iii) additional pumping tests to refine the Guidance Criteria; (iv) computer-simulation modeling of groundwater flow and subsidence; and (v) the development of alternative pumping plans for the MZ-1 Parties affected by the MZ-1 Plan. The MZ-1 Technical Committee (now called the Ground-Level Monitoring Committee or GLMC) discusses these potential future efforts, and if deemed prudent and necessary, they are recommended to Watermaster for implementation in future fiscal years.

### **1.1.5 2015 Chino Basin Subsidence Management Plan**

The MZ-1 Plan stated that if data from existing monitoring efforts in the Areas of Subsidence Concern indicate the potential for adverse impacts due to subsidence, Watermaster would revise it to avoid those adverse impacts. The 2014 Annual Report of the GLMC recommended that the MZ-1 Plan be updated to better describe Watermaster's land subsidence efforts and obligations, including areas outside of MZ-1. As such, the update included a name change to the 2015 Chino Basin Subsidence Management Plan ([Subsidence Management Plan]; WEI 2015a) and a recommendation to develop a subsidence management plan for Northwest MZ-1.

Watermaster had been monitoring vertical ground motion in Northwest MZ-1 via InSAR during the development of the MZ-1 Plan. Land subsidence in Northwest MZ-1 was first identified as a concern in 2006 in the MZ-1 Summary Report and again in 2007 in the MZ-1 Plan. Of particular concern, the subsidence across the San Jose Fault in Northwest MZ-1 has occurred in a pattern of concentrated differential subsidence—the same pattern of differential subsidence that occurred in the Managed Area during the time of ground fissuring. Ground fissuring is the main subsidence-related threat to infrastructure. The issue of differential subsidence, and the potential for ground fissuring in Northwest MZ-1, has been discussed at prior GLMC meetings, and the subsidence has been documented and described as a concern in Watermaster's State of the Basin Reports, the annual reports of the GLMC, and in the *Initial Hydrologic Conceptual Model and Monitoring and Testing Program for the Northwest MZ-1 Area* (WEI, 2017a). Watermaster increased monitoring efforts in Northwest MZ-1 beginning in Fiscal Year (FY) 2012/13 to include ground elevation surveys and electronic distance measurements (EDM) to monitor ground motion and the potential for fissuring.

In 2015, Watermaster's Engineer developed the *Work Plan to Develop a Subsidence Management Plan for the Northwest MZ-1 Area* ([Work Plan]; WEI 2015b). The Work Plan is characterized as an ongoing Watermaster effort and includes a description of a multi-year scope-of-work, a cost estimate, and an implementation schedule. The Work Plan was included in the Subsidence Management Plan as Appendix B. Implementation of the Work Plan began in July 2015.

The updated Subsidence Management Plan also addressed the need for hydraulic head "recovery periods" in the Managed Area by recommending that all deep aquifer-system pumping cease for a continuous six-month period between October 1 and March 31 of each year within the Managed Area. And, the Subsidence Management Plan recommends that every fifth year, all deep aquifer-system pumping cease for a continuous period until the hydraulic head at PA-7 reaches "full recovery" of 90 ft-btoc. These periodic cessations of pumping are intended to allow for sufficient hydraulic head recovery at PA-7 to recognize inelastic compaction, if any, at the Ayala Park Extensometer.



## 2022/23 Annual Report for the GLMP

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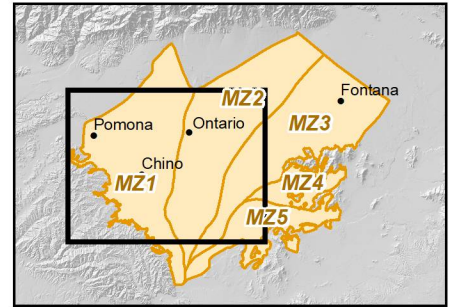
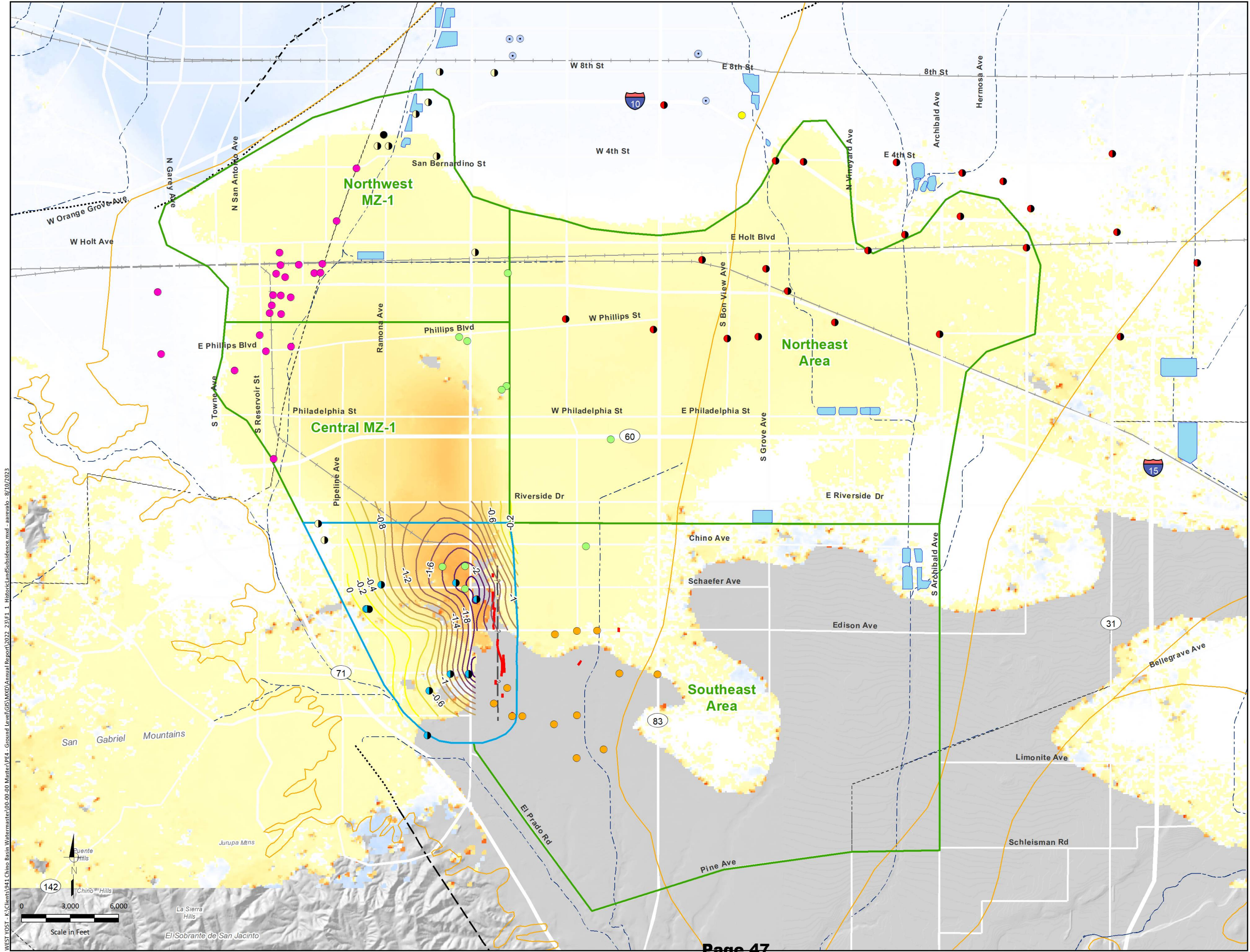
### *1.1.6 Annual Report of the Ground-Level Monitoring Committee*

Pursuant to the Subsidence Management Plan, Watermaster prepares an annual report containing the results of ongoing monitoring efforts, interpretations of the data, and recommended adjustments to the Subsidence Management Plan, if any. This Annual Report of the GLMC includes the results and interpretations for the data collected between March 2022 through March 2023, as well as recommendations for Watermaster’s GLMP for FY 2023/24.

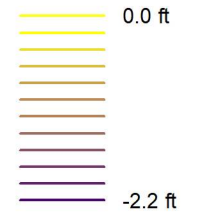
## 1.2 Report Organization

This report is organized into the following six sections:

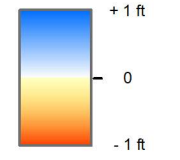
- **Section 1.0 – Introduction.** This section provides background information on the history of land subsidence and ground fissuring in Chino Basin, information on the formation of the GLMC and its responsibilities, and a description of the development and implementation of the Subsidence Management Plan, which calls for annual reporting.
- **Section 2.0 – Ground-Level Monitoring Program.** This section describes the monitoring and testing activities performed by Watermaster for its GLMP between March 2022 and March 2023.
- **Section 3.0 – Results and Interpretations.** This section discusses and interprets the monitoring data collected between March 2022 and March 2023, including basin stresses (groundwater pumping and recharge) and responses (changes in hydraulic heads, aquifer-system deformation, and ground motion).
- **Section 4.0 – Conclusions and Recommendations.** This section summarizes the main conclusions derived from the monitoring program between March 2022 and March 2023 and describes recommended activities for the GLMP for FY 2023/24.
- **Section 5.0 – Glossary.** This section is a glossary of the terms and definitions utilized within this report and in discussions at GLMC meetings.
- **Section 6.0 – References.** This section lists the publications and reports cited in this report.



Contours of Relative Change in Land Surface Elevation as Estimated by Leveling Surveys 1987 to 1999



Relative Change in Land Surface Elevation as Measured by InSAR Oct-1993 to Dec-1995



Grey box: InSAR absent or incoherent

Active Pumping Wells by Owner: 1987 to 1999

- CA Institution for Men
- City of Chino
- City of Chino Hills
- City of Ontario
- City of Pomona
- City of Upland
- Golden State WC
- Monte Vista WD
- San Antonio WC

Managed Areas

- Managed Area
- Areas of Subsidence Concern

Other Features

- Flood Control and Conservation Basins
- Fault (solid where accurately located; dashed where approximately located or inferred; dotted where concealed)

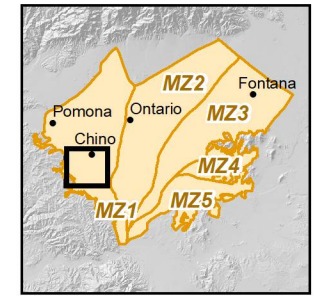
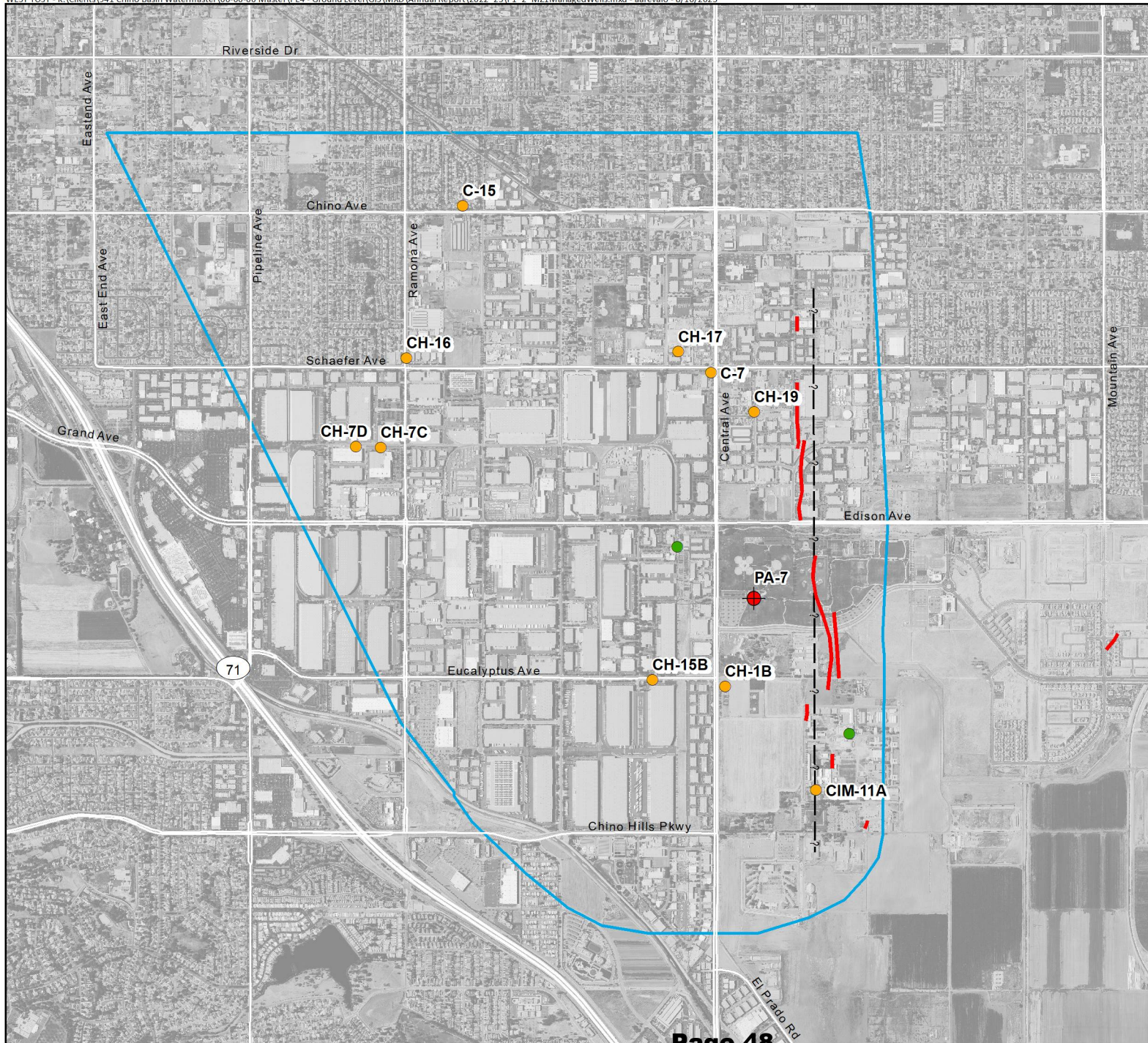


Figure 1-1

**Historical Land Surface Deformation in Management Zone 1: 1987-1999**

Chino Basin Watermaster  
Ground-Level Monitoring Committee  
2022/23 Annual Report

WEST YOST - K:\Clients\9411 Chino Basin Watermaster\00-00-00 Master\VEP - Ground Level\GIS\MXD\Annual Report\2022\_23\F1\_1\_HistoricalLandSubsidence.mxd - arevalo - 8/10/2023



- Managed Area
- Ayala Park Extensometer Facility
- Managed Well
- Other Production Well
- Ground Fissures
- ?- Groundwater Barrier (Riley Barrier) approximate location

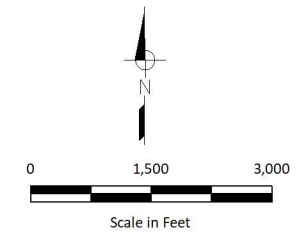


Figure 1-2

**MZ-1 Managed Area and the Managed Wells**

Chino Basin Watermaster  
Ground-Level Monitoring Committee  
2022/23 Annual Report

## 2.0 GROUND-LEVEL MONITORING PROGRAM

This section describes the activities performed by Watermaster for the GLMP between March 2022 and March 2023.

Figure 2-1 shows the groundwater pumping and recharge facilities in the western Chino Basin that impart pumping and recharge stresses to the aquifer-system. Figure 2-2 shows the locations of the monitoring facilities in Watermaster's ground-level monitoring network, including: wells equipped with a transducer; extensometers that measure vertical aquifer-system deformation; and benchmark monuments that are used to perform ground elevation and EDM surveys to measure vertical and horizontal deformation of the ground surface.

### 2.1 Ground-Level Monitoring Program

Watermaster conducts its GLMP in the Managed Area and other Areas of Subsidence Concern pursuant to the Subsidence Management Plan and the recommendations of the GLMC. The GLMP activities performed between March 2022 and March 2023 are described below.

#### 2.1.1 Setup and Maintenance of the Monitoring Facilities Network

The Chino Basin extensometer facilities are key monitoring facilities for the GLMP. They require regular and as needed maintenance and calibration to remain in good working order and to ensure the recording of accurate measurements. During the reporting period, the following activities were performed at the Chino Basin extensometer facilities:

- Performed routine monthly maintenance at the Ayala Park, Chino Creek, and Pomona Extensometer (PX) Facilities. Noteworthy activities performed during the reporting period included:
  - Replaced the 12 volt deep-cycle battery for both PX Facility vaults to ensure power to the datalogger and continuous data collection.
  - Replaced the sump pump in the PA vault at Ayala Park to ensure that infiltrating irrigation or storm waters that periodically flood the vault are evacuated.
  - Replaced corroded door at the Ayala Park Extensometer Facility.
  - Repaired two CR1000 dataloggers at the PC vault and Ayala Park Extensometer Facility.
  - Replaced two direct read cables and two transducers at the PC vault.
- The following activities were performed in attempts to improve the accuracy of extensometer data that is being collected at the PX Facility:
  - Installed a dial gauge to manually measure aquifer-system deformation at the PX facility.
  - Adjusted the counterweights and extensometer cable at PX2-3.
  - Updated the software code for the datalogger at the at the PX facility.



### 2.1.2 Monitoring Activities

Changes in hydraulic heads are caused by the stresses of groundwater pumping and recharge. Changes in hydraulic head is the mechanism behind aquifer-system deformation, which in turn causes vertical and horizontal ground motion. Because of this cause-and-effect relationship, the Watermaster monitors groundwater pumping, recharge, hydraulic heads, aquifer-system deformation, and vertical and horizontal ground motion across the western portion of the Chino Basin. All data collected as part of the GLMP are compiled, checked, and stored in Watermaster databases.

The following sub-sections describe Watermaster's monitoring activities between March 2022 and March 2023, as called for in the Subsidence Management Plan and in accordance with the Watermaster-approved scope of work for the GLMP.

#### 2.1.2.1 Monitoring of Pumping, Recharge, and Piezometric Levels

Watermaster staff collects and compiles groundwater pumping data on a quarterly basis from well owners in the Managed Area and Areas of Subsidence Concern. Figure 2-1 shows the well locations where groundwater was pumped between March 2022 and March 2023.

Watermaster staff collects data from the Inland Empire Utilities Agency on the volumes of imported water, stormwater, and recycled water that are artificially recharged at spreading basins, and the volumes of recycled water for direct use within the Chino Basin. Figure 2-1 shows the locations of the spreading basins.

The Watermaster Engineer collects hydraulic head data once every 15 minutes using transducers at 77 wells located within the Managed Area and the other Areas of Subsidence Concern. Figure 2-2 shows the locations of these wells. Watermaster staff and well owners also manually measure hydraulic heads at other wells in western Chino Basin, typically on a monthly time-step.

#### 2.1.2.2 Monitoring Vertical Aquifer-System Deformation

The Watermaster Engineer collects data on the vertical component of aquifer-system deformation at the Ayala Park, Chino Creek, and Pomona extensometer facilities once every 15 minutes. The Pomona Extensometer facility does not appear to be measuring and recording accurate data for aquifer-system deformation. Adjustments and testing of this monitoring facility are ongoing to improve the accuracy of the measurements.

#### 2.1.2.3 Monitoring Vertical Ground Motion

The Watermaster monitors vertical ground motion via ground-level surveys using InSAR and traditional leveling techniques.

For InSAR, the Watermaster has historically retained General Atomics (formerly Neva Ridge Technologies, Inc.) to acquire and post-process land-surface displacement data from the TerraSAR-X satellite operated by the German Aerospace Center. The width of the TerraSAR-X data frame covers the western half of the



## 2022/23 Annual Report for the GLMP

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Chino Basin only.<sup>3</sup> Typically each year, seven synthetic aperture radar (SAR) scenes are collected between March to March. The scenes are used to create 12 interferograms<sup>4</sup> to estimate short- and long-term vertical ground motion.<sup>5</sup>

This year, General Atomics informed the Watermaster Engineer that it is discontinuing its InSAR services, and as such, it declined to perform InSAR services for the GLMC for Fiscal Year 2022/23 and beyond.

The GLMC recommended that monitoring of ground motion via InSAR using TerraSAR X data is a critical component of the GLMP; therefore, Watermaster staff and West Yost developed a solution to continue the InSAR time series over the Chino Basin at the same high resolution and high accuracy:

- West Yost hires Sean Yarborough (the General Atomics staff that has performed InSAR monitoring for the Watermaster in the past) as a part-time employee to perform the InSAR services going forward.
- West Yost purchases and sets up all the necessary software and hardware to enable Mr. Yarborough to perform the work.
- West Yost purchases the raw SAR imagery directly from Airbus, the vendor that acquires the TerraSAR-X satellite data from the German Aerospace Center.

This solution is being implemented and is allowing the work to continue in the same high-quality fashion and will be more cost efficient in the long run. However, there have been significant start up efforts, such as establishing the relationships with the satellite vendor (German Space Agency), purchasing and configuring the necessary software/hardware, and collecting, importing, and checking all raw historical data from General Atomics.

Mr. Yarborough is currently preparing the InSAR deliverable for 2022-23; however, for the reasons stated above, the InSAR monitoring data cannot be prepared in time for inclusion in this annual report. Hence, many of the figures that are typically included in the annual report will be deferred to the subsequent annual report for FY 2023-24. That said, in early 2024, the Watermaster Engineer will share the InSAR monitoring results of vertical ground motion for 2022-23 with the GLMC.

For the ground-level surveys, Watermaster retained Guida Surveying, Inc. to conduct traditional leveling surveys at selected benchmark monuments in the western part of the Chino Basin. Table 2-2 below shows

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<sup>3</sup> All historical InSAR data that were collected and analyzed by Watermaster from 1993 to 2010 indicate that very little vertical ground motion occurred in the eastern half of the Chino Basin. In 2012, the GLMC decided to acquire and analyze InSAR only in the western portion of the Chino Basin as a cost-saving strategy.

<sup>4</sup> Two or more SAR scenes are used to generate grids of surface deformation (interferograms) over a given period. Typically, surfaces within a pixel will move up or down together as would be expected in recovery/subsidence scenarios. However, surfaces within the area of a pixel can move randomly and cause decorrelation in the radar signal. Examples of random motion within a pixel area are vegetation growing, urbanization, erosion of the ground surface, harvesting crops, plowing fields, and others. The magnitude of this decorrelation in the signal is measured mathematically and called incoherence. Based on the magnitude of decorrelation in an area, pixels will be rejected as “incoherent.”

<sup>5</sup> Several factors can influence the accuracy of ground motion results as estimated by InSAR, such as satellite orbital uncertainties and atmospheric interference. On average, accuracy of ground motion results as estimated by InSAR are +/- 0.02 ft.



## 2022/23 Annual Report for the GLMP

the date of the most recent benchmark monument survey within the ground-level survey area. The locations of the ground-level survey areas are shown in Figure 2-2.

Ground-Level Survey Area	Date of Most Recent Survey
Managed Area <sup>(a)</sup>	January 2018
Central Area <sup>(a)</sup>	January 2018
Northwest Area	June 2023
San Jose Fault Zone Area	June 2023
Southeast Area <sup>(a)</sup>	May 2022
Northeast Area <sup>(a)</sup>	April 2020

(a) The entire benchmark monument survey network for the ground-level survey area was not surveyed in 2023 based on the GLMC scope and budget recommendations for FY 2022/23.

### 2.1.2.4 Monitoring of Horizontal Ground Motion

Watermaster measures horizontal ground motion between benchmarks across areas that are susceptible to ground fissuring via EDMs. The date of the most recent horizontal benchmark survey within the ground-level survey area are shown in Table 2-3. Horizontal benchmark surveys were not performed in 2022-23.

Ground-Level Survey Area	Date of Most Recent Survey
Fissure Zone Area <sup>(a)</sup>	February 2018
San Jose Fault Zone Area <sup>(a)</sup>	May 2021

(a) EDMs across the Fissure Zone Area and San Jose Fault Zone Area were not conducted in 2022 based on GLMC scope and budget recommendations for FY 2021/22.

## 2.2 Land-Subsidence Investigations

The Watermaster performs land subsidence investigations pursuant to the Subsidence Management Plan and/or recommendations from the GLMC that are approved in the annual Watermaster budget. The goals of these investigations are to refine the Guidance Criteria or assist in the development of subsidence management plans to minimize or abate land subsidence and maximize the prudent extraction of groundwater.

This section describes the land subsidence investigations conducted between March 2022 and March 2023 that are called for in the Subsidence Management Plan.

### 2.2.1 Subsidence Management Plan for Northwest MZ-1

In 2015, the GLMC developed the final Work Plan to develop a subsidence-management plan for Northwest MZ-1, which describes a multi-year effort with cost estimates to execute the Work Plan. The



## 2022/23 Annual Report for the GLMP

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Work Plan was included in the Subsidence Management Plan as Appendix B.<sup>6</sup> The background and objectives of the Work Plan are described in Section 1.1.5. The Watermaster began implementation of the Work Plan in July 2015. The Work Plan has evolved over time as new data and information has been collected and evaluated by the GLMC. The following describes the Work Plan tasks and status of each task:

**Task 1. Describe Initial Hydrogeologic Conceptual Model and Monitoring and Testing Program** – A final report was submitted to the GLMC and Watermaster in December 2017 that summarized the current state of knowledge of the hydrogeology of Northwest MZ-1, the data gaps needed to be filled to fully describe the occurrence and mechanisms of aquifer-system deformation and the pre-consolidation stress, and a strategy to fill the data gaps.

**Task 2. Implement the Initial Monitoring and Testing Program** – The Watermaster’s Engineer worked with the Watermaster, MVWD, City of Pomona, and SCADA Integrations, Inc. to identify and equip a set of wells with supervisory control and data acquisition (SCADA) monitoring capabilities and/or transducers. Through several field visits and technical meetings with the well owners, a protocol was developed to install monitoring equipment and collect pumping and piezometric data. For the City of Pomona, nine wells were equipped with transducers. For MVWD, seven wells were equipped with transducers, two wells with sonar units, and two wells with air-line units. Hydraulic heads are recorded once every 15 minutes. Nine of the 11 MVWD wells were connected to the MVWD’s existing SCADA system. The hydraulic head data from these wells are currently being collected and analyzed as part of the Northwest MZ-1 monitoring and testing program. These data will be used in future efforts to recalibrate the Chino Valley Model (MODFLOW model of Chino Basin) and the 1D Models at PX and MVWD-28.

**Task 3. Develop and Evaluate the Baseline Management Alternative (BMA) and Task 4. Develop and Evaluate the Initial Subsidence-Management Alternative** – A final technical memorandum was submitted to the GLMC and Watermaster in December 2017 that described the construction, calibration, and use of a numerical one-dimensional aquifer-system compaction model (1D compaction model) at MVWD-28. The objective of this memo was also to explore the future occurrence of subsidence in Northwest MZ-1 under various basin-operation scenarios of groundwater pumping and artificial recharge and to identify potential subsidence mitigation strategies.

**Task 5. Design and Install the Pomona Extensometer (PX) Facility** – The Watermaster’s Engineer completed construction of two dual-nested piezometers located in Montvue Park, Pomona, CA in August 2019. Each PX piezometer was equipped with transducers and cable extensometers in June and July 2020 and has been collecting preliminary depth-specific hydraulic head and aquifer-system deformation since December 2020.

The piezometers at the PX facility are providing accurate, depth-specific head data. These data will be used in future efforts to verify or recalibrate the 1D Models at PX. Unfortunately, the extensometers at PX are not recording reasonably accurate data for vertical aquifer-system deformation. The Watermaster Engineer is uncertain of the precise causes for the malfunction at PX extensometers and is proceeding with a stepwise methodology to test and improve the monitoring devices. This methodology was shared with the GLMC at the December 13, 2022 GLMC meeting. The Watermaster Engineer will provide updates on progress to improve the PX measurements at all future GLMC meetings until the problems are resolved.

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<sup>6</sup> Source: <http://www.cbwm.org/pages/reports/engineering/>



## 2022/23 Annual Report for the GLMP

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**Task 6. Design and Conduct Aquifer-System Stress Tests (if necessary)** – The objective of this task is to perform controlled aquifer-system stress tests at pumping wells in Northwest MZ-1 and to monitor the depth-specific hydraulic head and aquifer-system deformation response at PX. This information, along with hydraulic head data collected as part of Task 2 will be used to help identify the subsidence mechanisms and the pre-consolidation stress(es) in Northwest MZ-1. The Watermaster Engineer has not yet identified specific questions that need to be answered with the controlled aquifer-system stress tests. It is recommended a period of “passive” data collection and assessment of the data over time to determine if a controlled aquifer-system stress test is recommended in the future.

**Task 7/8. Update the Hydrogeologic Conceptual Model/Construct and Calibrate Subsidence Modeling Tools** – The objectives of these tasks are: (i) to update the hydrogeologic conceptual model of Northwest MZ-1 based on new lithologic information from PX and an improved understanding of hydraulic head data across Northwest MZ-1; (ii) describe the subsidence mechanisms and the pre-consolidation head by aquifer-system layer in Northwest MZ-1; and (iii) develop modeling tools that can be used to explore the future occurrence of subsidence in Northwest MZ-1 under various basin-operation scenarios of groundwater production and artificial recharge and to identify potential subsidence mitigation strategies.

A new 1D compaction model was constructed and calibrated using the hydrogeologic information collected at the Pomona Extensometer. The 1D model at MVWD-28 was also updated and recalibrated using current information. This work was reviewed by the GLMC, and additional 1D model calibration refinements and sensitivity analyses were performed based on GLMC recommendations. In December 2022, the GLMC approved 1D model calibrations and deemed them sufficient for simulation of future land subsidence under prospective plans for pumping and recharge (see Task 9 below).

**Task 9. Refine and Evaluate Subsidence-Management Alternatives** – This task is beginning in FY 2023-24. The task will help answer the question: *What are potential methods to manage the land subsidence in Northwest MZ-1?*

The 1D compaction models at MVWD-28 and PX will be used to characterize the mechanical response of the aquifer-system to an initial Subsidence Management Alternative (SMA-1). The assumptions of the SMA-1, including the groundwater production and replenishment plans of the Chino Basin parties, will be described and reviewed by the GLMC before running the 1D Models. A draft technical memorandum will be prepared that summarizes the evaluation of the SMA-1, particularly, the ability of SMA-1 to raise and hold piezometric levels above the estimated pre-consolidation stresses. The draft memorandum may also include recommendations for (i) preliminary “guidance criteria” for subsidence management in Northwest MZ-1 and (ii) a subsequent Subsidence Management Alternative (SMA-2) if SMA-1 is not successful at raising and holding hydraulic heads above the estimated pre-consolidation stresses. A GLMC meeting will be held to review the model results and evaluation of the SMA-1, review any preliminary “guidance criteria” for subsidence management, review the recommended SMA-2, and to receive feedback on the draft technical memorandum.

After the recommended SMA-2 is reviewed by the GLMC, the Watermaster’s MODFLOW model will be updated to run SMA-2 and will be used to estimate the hydraulic head response to SMA-2 at the MVWD-28 and PX locations. The projected hydraulic heads generated from the MODFLOW model using SMA-2 will be extracted from the MODFLOW model results at the MVWD-28 and PX locations and will be used as input files for both 1D compaction models. The 1D compaction models will then be run to characterize the mechanical response of the aquifer-system to SMA-2 at both the MVWD-28 and PX locations.



## 2022/23 Annual Report for the GLMP

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A draft technical memorandum will be prepared that summarizes the evaluation of SMA-2, particularly, the ability of SMA-2 to raise and hold piezometric levels above the estimated pre-consolidation stresses. The draft technical memorandum may also include recommendations for: revised “guidance criteria” for subsidence management and (ii) a subsequent Subsidence-Management Alternative (SMA-3), if SMA-2 is not successful at raising and holding hydraulic heads above the estimated pre-consolidation stresses. The assumptions of the SMA-3, including the groundwater production and replenishment plans of the Chino Basin parties, will be described and reviewed by the GLMC. A GLMC meeting will be held to review the model results and evaluation of the SMA-2, review any revised “guidance criteria” for subsidence management, review the recommended SMA-3, and to receive feedback on the technical memorandum. This task is anticipated to be completed in FY 2024/25. If necessary and recommended by the GLMC, additional subsidence management alternative scenarios may be run.

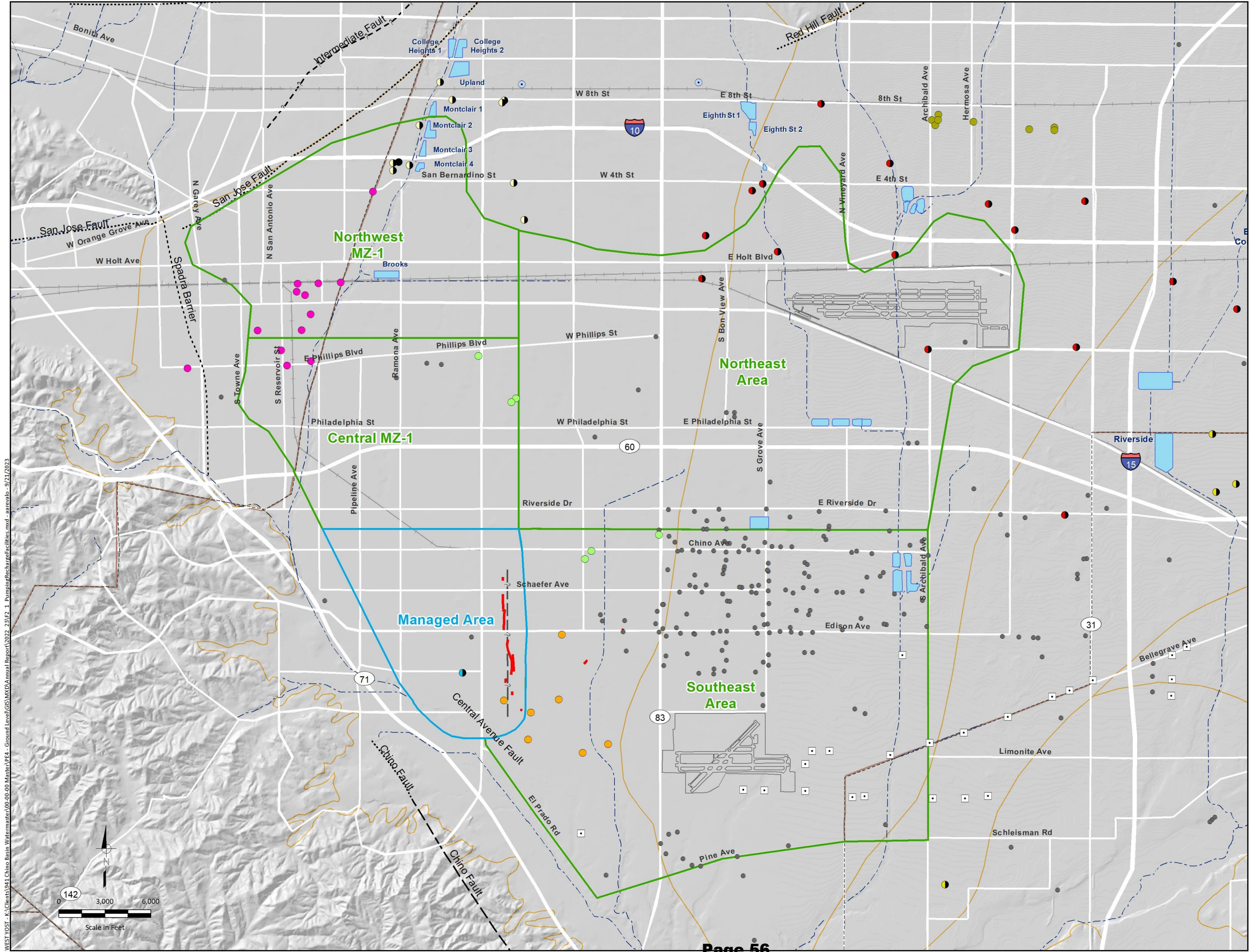
**Task 10. Update the Chino Basin Subsidence Management Plan** – The objective of this task is to incorporate a preferred subsidence-management alternative for Northwest MZ-1 into the Chino Basin Subsidence Management Plan. The updated Subsidence Management Plan will require review and input by the GLMC and the Watermaster Pools, Advisory Committee, and Board. The Watermaster will apprise the Court of revisions to the Subsidence Management Plan as part of its OBMP implementation status reporting. The updated Chino Basin Subsidence Management Plan is anticipated to be completed by the end of FY 2025/26.

### **2.2.2 Northeast Area Subsidence Investigation**

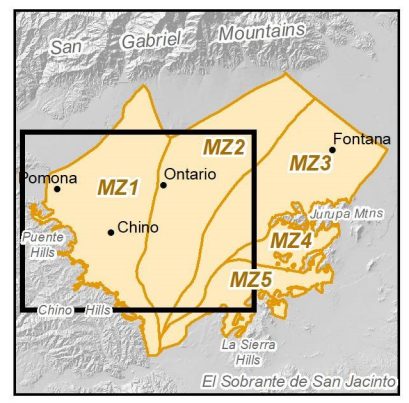
In the Northeast Area, the long- and short-term InSAR estimates indicate that persistent downward ground motion has occurred in a concentrated area in the vicinity of Whispering Lakes Golf Course, south of the Ontario Airport between Vineyard Avenue and Archibald Avenue. The western and eastern edges of this subsiding area exhibit steep subsidence gradients (i.e., differential subsidence”).

In FY 2021/22, the GLMC conducted a reconnaissance-level subsidence investigation of the Northeast Area focusing on the Whispering Lakes Subsidence Feature. This investigation included collection, review, and analysis of available borehole and lithologic data, pumping and recharge data, hydraulic head measurements, and InSAR estimates of vertical ground motion. Figures and charts were prepared for the *2021-22 Annual Report of the GLMC* to support the data analysis, interpretations, and recommendations for future investigations and monitoring.

In 2022-23, efforts were made to collect hydrogeologic data, but without success. Additional efforts to collect hydrogeologic data in this area are occurring in 2023-24.



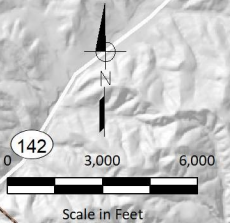
- Active Groundwater Pumping Wells**  
**April 1, 2022 to March 31, 2023**
- Private
  - California Institution for Men
  - Chino Basin Desalter Authority
  - City of Chino
  - City of Chino Hills
  - City of Ontario
  - City of Pomona
  - City of Upland
  - Cucamonga Valley Water District
  - Golden State Water Company
  - Jurupa Community Services District
  - Monte Vista Water District
- 
- Managed Area
  - ▭ Areas of Subsidence Concern
  - ▭ Flood Control and Conservation Basins

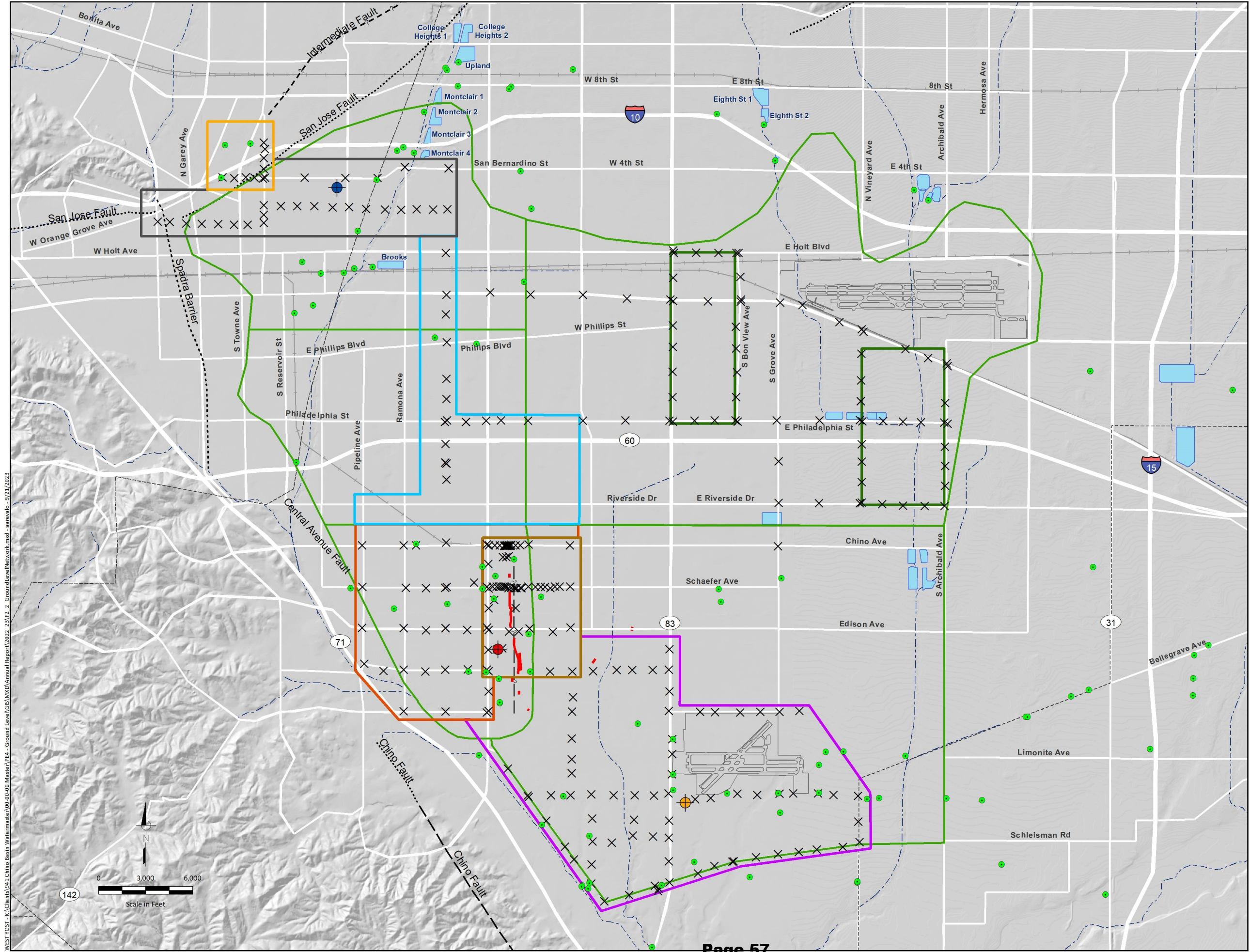


**Figure 2-1**  
**Pumping and Recharge Facilities**  
**Western Chino Basin: 2022/23**

Chino Basin Watermaster  
 Ground-Level Monitoring Committee  
 2022/23 Annual Report

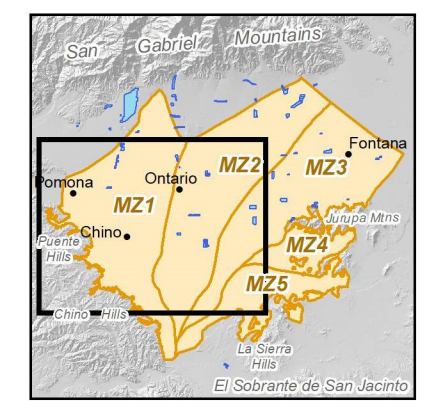
WEST YOST - K:\Clients\9411 Chino Basin Watermaster\00-00-00 Master\PEL - Ground Level\GIS\MXD\Annual Report\2022\_23\FZ 1 PumpingRechargeFacilities.mxd - areavale - 9/21/2023





- Ground-Level Monitoring Network Facilities**
- Ground-Level Survey Benchmark (Measured June 3, 2023)
  - Pomona Extensometer
  - Ayala Park Extensometer
  - Chino Creek Extensometer
  - All Program Transducer Wells
  - × Ground-Level Survey Benchmark
- 
- Ground-Level Survey Areas**
- Managed Area
  - Fissure Zone Area
  - Central Area
  - Northwest Area
  - San Jose Fault Zone Area
  - Northeast Area
  - Southeast Area

- Areas of Subsidence Concern
- Flood Control and Conservation Basins



**Figure 2-2**  
**Ground-Level Monitoring Network**  
**Western Chino Basin**  
 Chino Basin Watermaster  
 Ground-Level Monitoring Committee  
 2022/23 Annual Report

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### 3.0 RESULTS AND INTERPRETATIONS

This section describes the results and interpretations derived from the GLMP for the Managed Area and the other Areas of Subsidence Concern—particularly for the March 2022 to March 2023 reporting period. As described in Section 2, because of the lack of InSAR data caused by the vendor declining to perform InSAR services, some of the figures and analyses that are typically included in the annual report could not be prepared and will be deferred to the subsequent annual report for FY 2023-24. This annual report includes only the results and interpretations for data analyses that are not dependent upon InSAR.

#### 3.1 Managed Area

The Managed Area is the primary focus of the Subsidence Management Plan. The discussion below describes the results and interpretations of the monitoring program in the Managed Area and, where appropriate, relative to the Guidance Criteria in the Subsidence Management Plan.

##### 3.1.1 History of Stress and Strain in the Aquifer-System

Figure 3-1 illustrates the long-term history of groundwater pumping, hydraulic heads, and vertical ground motion in the Managed Area. Also shown is the volume of the direct use of recycled water in the Managed Area, which is an alternative water supply that can result in decreased groundwater pumping from the area. Recycled water is often used for irrigation purposes and can contribute to groundwater recharge to the shallow aquifer-system as well. General observations and interpretations from this chart are:

- Pumping from the shallow aquifer-system between the 1930s and about 1977 caused hydraulic heads to decline by about 150 ft. From 1978 to 1990, hydraulic heads recovered by about 50 ft.
- Pumping from the confined, deep aquifer-system during the 1990s caused the hydraulic heads to a decline, coinciding with high rates of land subsidence. About 2.5 ft of subsidence occurred from 1987 to 1999, and ground fissures opened within the City of Chino in the early 1990s.
- Since the early 2000s, groundwater pumping decreased, hydraulic heads in the deep aquifer-system recovered, and the rate of land subsidence declined significantly across the Managed Area. The decreases in groundwater pumping were mainly due to poor groundwater quality locally and the availability of alternative water supplies, such as recycled water and treated groundwater from the Chino Basin Desalter Authority.
- Since 2005, hydraulic heads at PA-7 have not declined below the Guidance Level, and very little inelastic compaction was recorded in the Managed Area. These observations demonstrate the effectiveness of the Subsidence Management Plan in the management of land subsidence in the Managed Area.

##### 3.1.2 Recent Stress and Strain in the Aquifer-System

This section discusses the last 11 years of groundwater pumping, changes in hydraulic heads, and vertical ground motion in the Managed Area under the Subsidence Management Plan.

## 2022/23 Annual Report for the GLMP

### 3.1.2.1 Groundwater Pumping and Hydraulic Heads

Table 3-1 summarizes groundwater pumping by well within the Managed Area for fiscal year 2012 through March 2023. Groundwater pumping in the Managed Area declined from about 5,680 acre-feet (af) in fiscal year 2012 to almost negligible volumes in 2023. A total of about 47 af of groundwater pumping occurred in the Managed Area from July 1, 2022 to March 31, 2023—54 percent of the groundwater pumping was from wells screened across the deep aquifer-system.

Figure 3-2 displays the hydraulic stresses and mechanical strains that have occurred within the shallow and deep aquifer-systems in the Managed Area over the period January 2011 through March 2023. The figure includes three time-series charts: quarterly groundwater pumping (hydraulic stress to the aquifer-systems); the resultant head changes (hydraulic responses to pumping); and aquifer-system deformation as measured at the Ayala Park Extensometers (mechanical strain that occurred within the aquifer-system sediments in response to the head changes). The following are observations and interpretations regarding pumping and head changes:

- From 2011 to 2018, there was a seasonal pattern of pumping in the Managed Area – increased pumping during the spring to fall and decreased pumping during the winter. Since 2018, very little pumping has occurred in the Managed Area.
- Hydraulic heads respond differently to the pumping stresses in the shallow and deep aquifer-systems. Pumping from the deep confined aquifer-system causes a hydraulic head decline that is much greater in magnitude than the hydraulic head decline caused by pumping from the shallow aquifer-system, despite that more groundwater pumping has occurred from the shallow aquifer-system.
- The hydraulic head at PA-7 (deep aquifer-system) has fluctuated from a low of approximately 190 ft-btoc in August 2013 to a high of about 55 ft-btoc in January and May 2021 and has not declined below the Guidance Level of 245 ft-btoc.
- The recovery of hydraulic heads in the deep aquifer-system to above 90 ft-btoc in December 2022 represented “full recovery” of hydraulic head at PA-7 as defined in the Subsidence Management Plan.
- Since the first instance of full recovery in 2011, the hydraulic head at PA-7 recovered to 90 ft-btoc or greater in 2012, 2016, 2018, 2019, and 2022 which complies with the recommendation in the Subsidence Management Plan for full recovery within the deep aquifer-system at least once every five years.<sup>7</sup>
- Since 2018, hydraulic heads at PA-10 and PA-7 have increased to relatively high levels as a result of very little to almost zero pumping from the shallow and deep aquifer-systems. On April 1, 2023, heads were at about 51 ft-btoc in PA-10 and about 62 ft-btoc in PA-7.

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<sup>7</sup> Page 2-2 in the Subsidence Management Plan, Section 2.1.1.3—Recovery Periods: “Every fifth year, Watermaster recommends that all deep aquifer-system pumping cease for a continuous period until water-level recovery reaches 90 ft-btoc at PA-7. The cessation of pumping is intended to allow for sufficient water level recovery at PA-7 to recognize inelastic compaction, if any, at the Ayala Park Extensometer and at other locations where groundwater-level and ground-level data are being collected.”

### 3.1.2.2 Aquifer-System Deformation

Figure 3-2 also includes a time-series chart of vertical deformation of the aquifer-system as measured at the Ayala Park Extensometers for the period January 2011 through March 2023. The following are observations and interpretations regarding aquifer-system deformation in response to the pumping and head changes:

- There has been seasonal compression and expansion of the aquifer-system in response to the seasonal decline and recovery of hydraulic heads, which indicates that the vertical deformation of the aquifer-system was mainly elastic during this period.
- However, between April 6, 2011 and May 3, 2018 (dates of full recovery at PA-7 to 90 ft-btoc), the Deep Extensometer recorded about 0.034 ft of aquifer-system compression, which indicates that this compression was largely permanent compaction that occurred within the depth interval of 30-1,400 ft-bgs.<sup>8</sup>
- From May 3, 2018 to November 28, 2019 (dates of full recovery at PA-7), there was very little pumping in the Managed Area, and the Deep Extensometer recorded about 0.035 ft of aquifer-system expansion, indicating that the entire thickness of the aquifer system (shallow and deep) was experiencing elastic expansion.
- From November 28, 2019 to December 15, 2022 (dates of full recovery at PA-7), the Deep Extensometer recorded insignificant changes, indicating that the vertical deformation of the deep aquifer-system was entirely elastic.

Figure 3-3 is a stress-strain diagram of hydraulic heads measured at PA-7 (stress) versus vertical deformation of the aquifer-system sediments as measured at the Deep Extensometer (strain). This diagram provides additional information on the nature of the aquifer-system deformation (i.e., elastic versus inelastic deformation). The hysteresis loops on this figure represent cycles of hydraulic head decline-recovery and the resultant compression-expansion of the aquifer-system sediments. The diagram can be interpreted to understand the timing and magnitude of the occurrence of inelastic compaction within the depth interval of the aquifer-system that is penetrated by the Deep Extensometer. Hydraulic head decline (drawdown) is shown as increasing from bottom to top on the y-axis, and aquifer-system compression (compaction) is shown as increasing from left to right on the x-axis. The following are observations and interpretations regarding aquifer-system deformation in response to the head changes:

- From May 3, 2006 to May 3, 2018 (dates of full recovery at PA-7), the hysteresis loops progressively shifted to the right on this chart, indicating that about 0.065 ft of inelastic compaction occurred during this time-period. The rate of inelastic compaction appeared to gradually decline over this 12-year period.
- From May 3, 2018 to November 28, 2019 (dates of full recovery at PA-7), the hydraulic heads at PA-7 fluctuated between 65-120 ft-btoc. These were shallower depths to groundwater compared to the earlier period, and the hysteresis loops shifted to the left, indicating that the vertical deformation of the aquifer-system was mainly elastic expansion of the aquifer-system sediments.

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<sup>8</sup> The analysis of full recovery and inelastic compaction at Ayala Park was included in the 2016 Annual Report (WEI, 2016).



## 2022/23 Annual Report for the GLMP

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- From November 28, 2019 to December 15, 2022 (dates of full recovery at PA-7), the hydraulic heads at PA-7 generally remained at or above 90 ft-btoc. By December 15, 2022, the hysteresis loops returned to virtually the same point as November 28, 2019, indicating that the vertical deformation of the aquifer-system was purely elastic.

### 3.2 Southeast Area

Historically, vertical ground motion has been measured across the Southeast Area via InSAR, traditional ground-level surveys, and the Chino Creek Extensometer Facility (CCX). As described in Section 2, InSAR results are not yet available for 2022-23 and ground-level surveys across the Southeast Area were not conducted in 2023. Hence, the interpretation of the monitoring program results in the Southeast Area are limited to data analysis from the CCX.

Figure 3-4 displays the time series of hydraulic heads and vertical aquifer-system deformation recorded at the CCX, which began collecting data in July 2012. Groundwater pumping began at the Chino Creek Well Field in 2014, but appears to have had little, if any, effect on hydraulic heads or aquifer-system deformation at the CCX through March 2022. In general, hydraulic heads at the CCX vary seasonally and have gradually increased since 2012, and a small amount of expansion of the aquifer-system has been measured by the CCX extensometers. In early 2023, hydraulic heads increased by more than 10 ft, probably in response to the wet winter of 2022-23 and a decrease in pumping, which caused additional expansion of the aquifer-system sediments as recorded by the CCX extensometers. These observations indicate that vertical deformation of the aquifer-system sediments at this location in the Southeast Area is mainly elastic expansion.

### 3.3 Other Areas of Subsidence Concern

Historically, vertical ground motion has been measured across Central MZ-1, Northwest MZ-1, and the Northeast Area via InSAR and traditional ground-level surveys. As described in Section 2, InSAR results are not yet available for 2022-23 and ground-level surveys across the Central MZ-1 and Northeast Area were not conducted in 2023. In addition, efforts were made in 2022-23 to collect hydrogeologic data to support the Northeast Area Subsidence Investigation, but without success. Hence, the interpretation of the monitoring program results in these other Areas of Subsidence Concern are deferred until the *2023-24 Annual Report of the GLMC*.

**Table 3-1. Groundwater Pumping in the Managed Area -- Fiscal Year 2012 through 2023**

Well Name	Aquifer Layer	Fiscal Year, af										Fiscal Year 2023, af				By Layer
		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Qtr 1	Qtr 2	Qtr 3	Qtr 4 <sup>(a)</sup>	
C-4	Shallow	524	0	0	0	0	0	0	0	0	0	0	0	0	-	
C-6		1049	594	0	0	0	0	0	0	0	0	0	0	0	-	
CH-1A		1137	909	738	861	649	637	369	0	0	0	0	0	0	-	
CH-7A		530	380	170	286	156	66	0	0	0	0	0	0	0	-	
CH-7B		712	264	200	616	261	232	350	0	0	0	0	0	0	-	
CIM-1		724	1,109	1,127	878	911	908	586	0	0	0	0	0	0	-	
XRef 8730 <sup>(b)</sup>		3	5	5	4	3	35	29	29	29	30	7	7	7	-	
<b>Sub-Totals</b>	<b>4,679</b>	<b>3,260</b>	<b>2,240</b>	<b>2,644</b>	<b>1,980</b>	<b>1,879</b>	<b>1,334</b>	<b>29</b>	<b>29</b>	<b>30</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>-</b>	<b>21</b>	
CH-17	Deep <sup>(c)</sup>	758	1,444	937	1,142	567	624	571	0	0	0	0	0	0	-	
CH-15B		0	28	105	0	0	0	0	0	0	0	0	25	0	-	
CIM-11A		243	239	195	92	94	222	0	0	3	3	0	0	1	-	
<b>Sub-Totals</b>	<b>1,001</b>	<b>1,711</b>	<b>1,237</b>	<b>1,234</b>	<b>662</b>	<b>846</b>	<b>571</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>25</b>	<b>1</b>	<b>-</b>	<b>26</b>	
<b>Totals</b>	<b>5,680</b>	<b>4,971</b>	<b>3,477</b>	<b>3,878</b>	<b>2,642</b>	<b>2,725</b>	<b>1,905</b>	<b>29</b>	<b>32</b>	<b>33</b>	<b>8</b>	<b>32</b>	<b>8</b>	<b>-</b>	<b>47</b>	

"C" = City of Chino

"CH" = City of Chino Hills

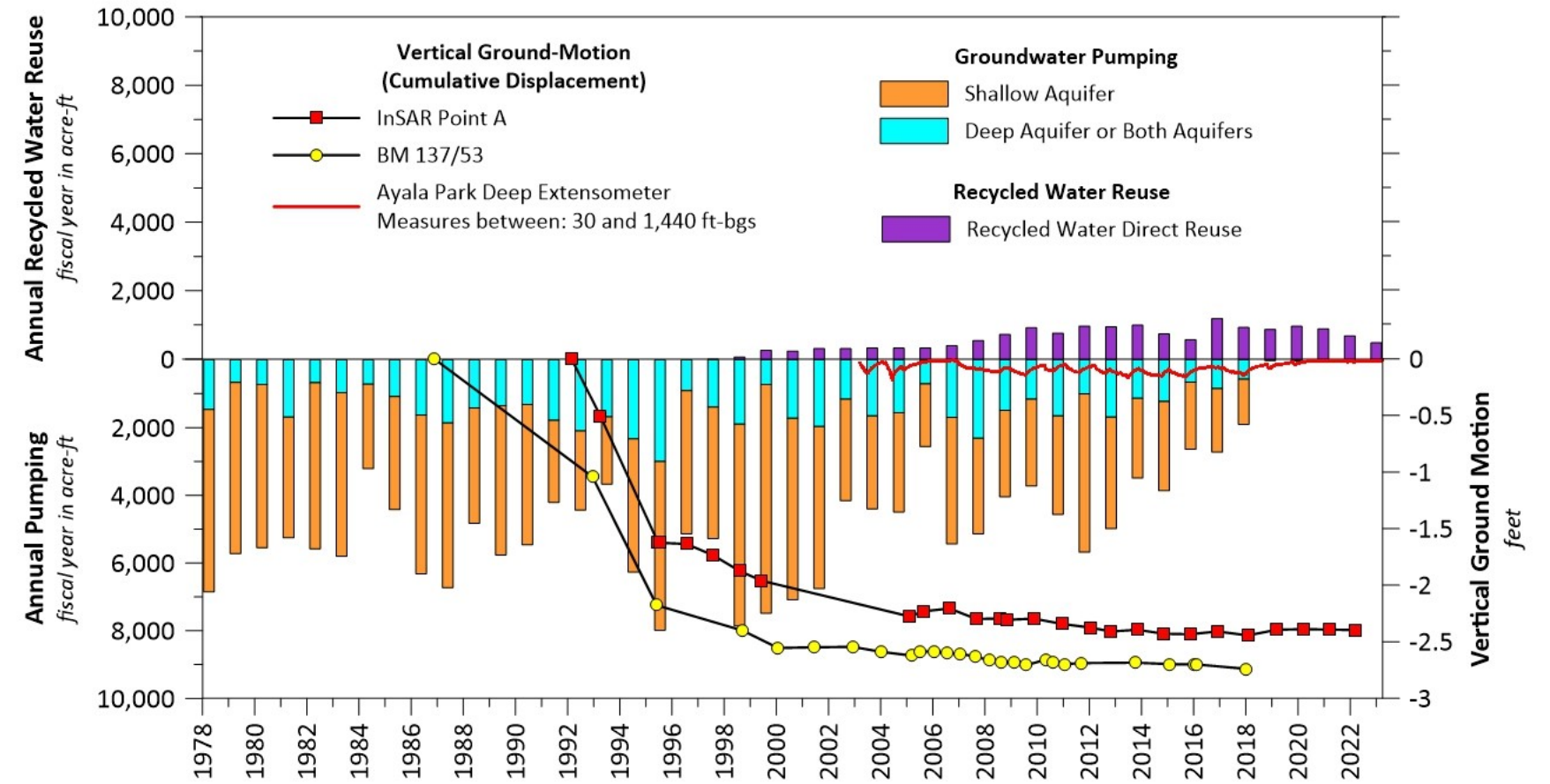
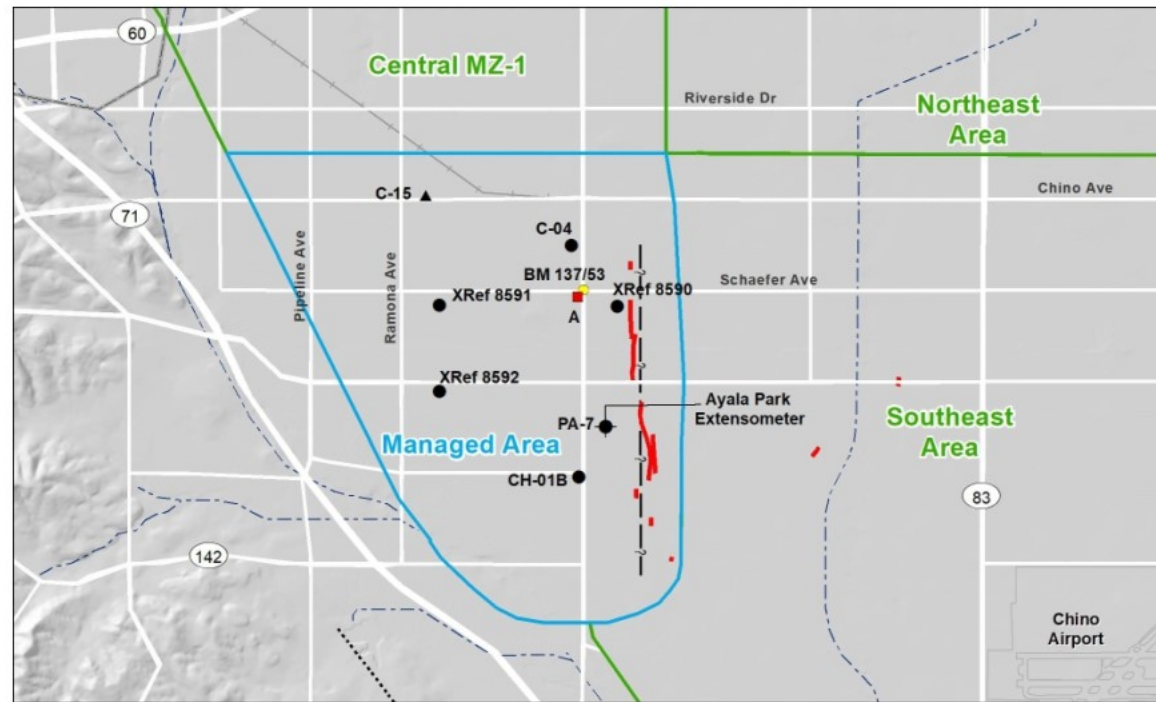
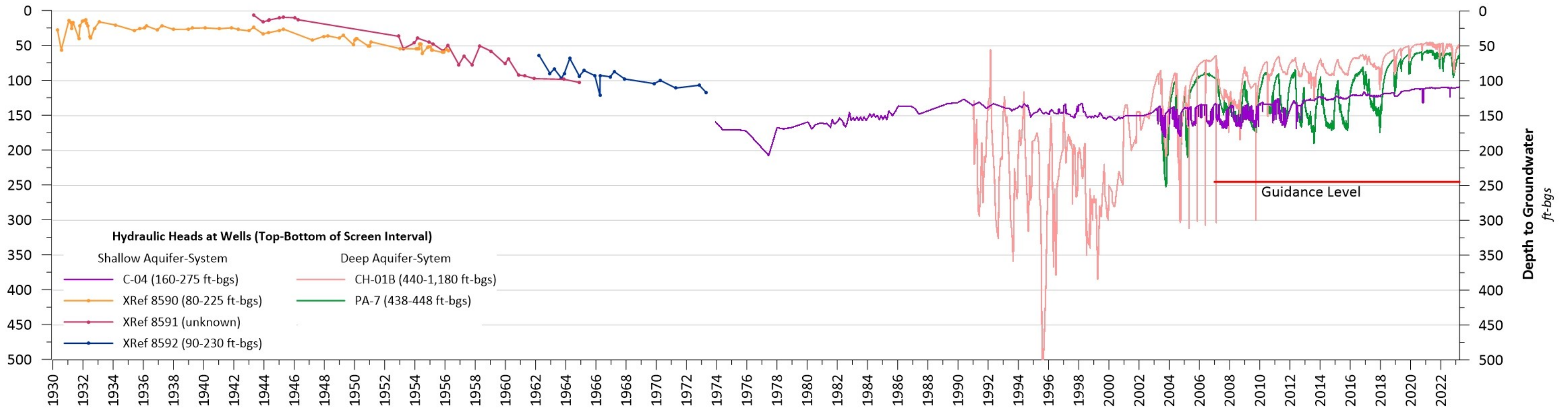
"CIM" = California Institution for Men

"XRef" = Private

(a) Data only available through March 2023.

(b) Well screen interval is unknown but assumed to be shallow based on typical well construction for other private wells in the vicinity.

(c) These wells have screen intervals that extend into the shallow-aquifer system, so a portion of the production comes from the shallow aquifer-system.



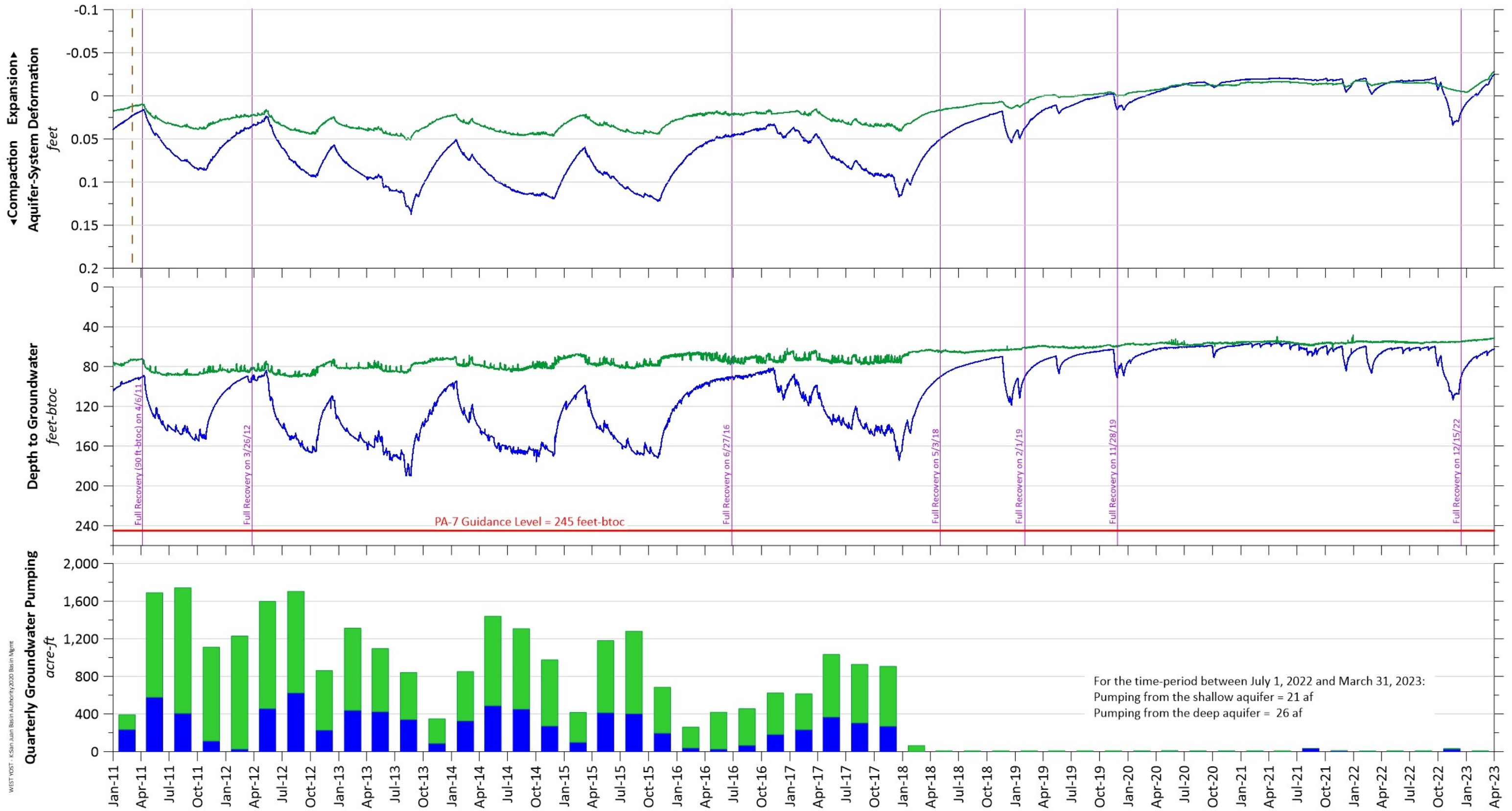
Recharge and pumping data through March 31, 2023

For the time-period between July 1, 2022 and March 31, 2023:  
 Pumping from the shallow aquifer = 53 af  
 Pumping from the deep aquifer = 2 af

Figure 3-1

**History of Land Subsidence  
in the Managed Area**

Ground-Level Monitoring Committee  
2022/23 Annual Report



WEST YOST - K-San Juan Basin Authority 2020 Basin Mgmt

**Aquifer-System Deformation at Ayala Park  
(Extensometer Depth Interval)**

- Shallow Extensometer (30-550 ft-bgs)
- Deep Extensometer

**Hydraulic Heads at Ayala Park  
(Screened Interval)**

- Shallow Piezometer PA-10 (213-233 ft-bgs)
- Deep Piezometer PA-7 (438-448 ft-bgs)

**Quarterly Groundwater Pumping  
(see Table 3-1 for groundwater pumping by well)**

- Shallow Aquifer
- Deep Aquifer

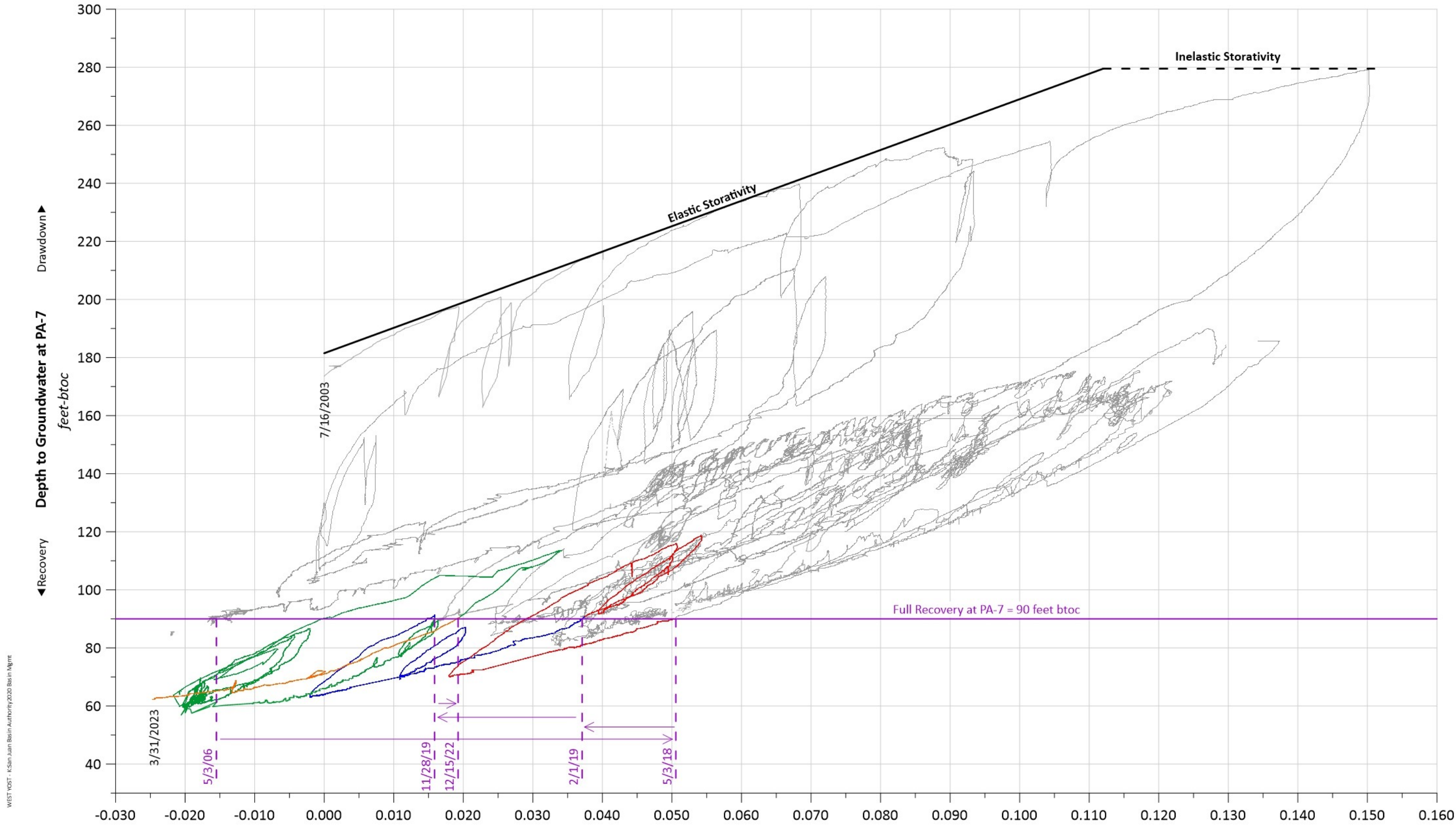
For the time-period between July 1, 2022 and March 31, 2023:  
 Pumping from the shallow aquifer = 21 af  
 Pumping from the deep aquifer = 26 af

Figure 3-2

**Stress and Strain  
within the Managed Area**

Ground-Level Monitoring Committee  
2022/23 Annual Report





WEST YOST - K-San Juan Basin Authority 2020 Basin Mgmt

- Stress - Strain Hysteresis Loops of Drawdown**
- Drawdown and recovery between 7/16/03 and 5/3/18
  - Drawdown and recovery between 5/3/18 to 2/1/19
  - Drawdown and recovery between 2/1/19 and 11/28/19
  - Drawdown and recovery between 11/28/19 and 12/15/22
  - Drawdown and recovery between 12/15/22 and 3/31/23

◀Expansion      **Aquifer-System Deformation at the Deep Extensometer**      ▶Compaction

*feet*

\*PA-7 well-screen interval: 438-448 ft-bgs  
 Depth interval of the Deep Extensometer: 30-1,400 feet-bgs

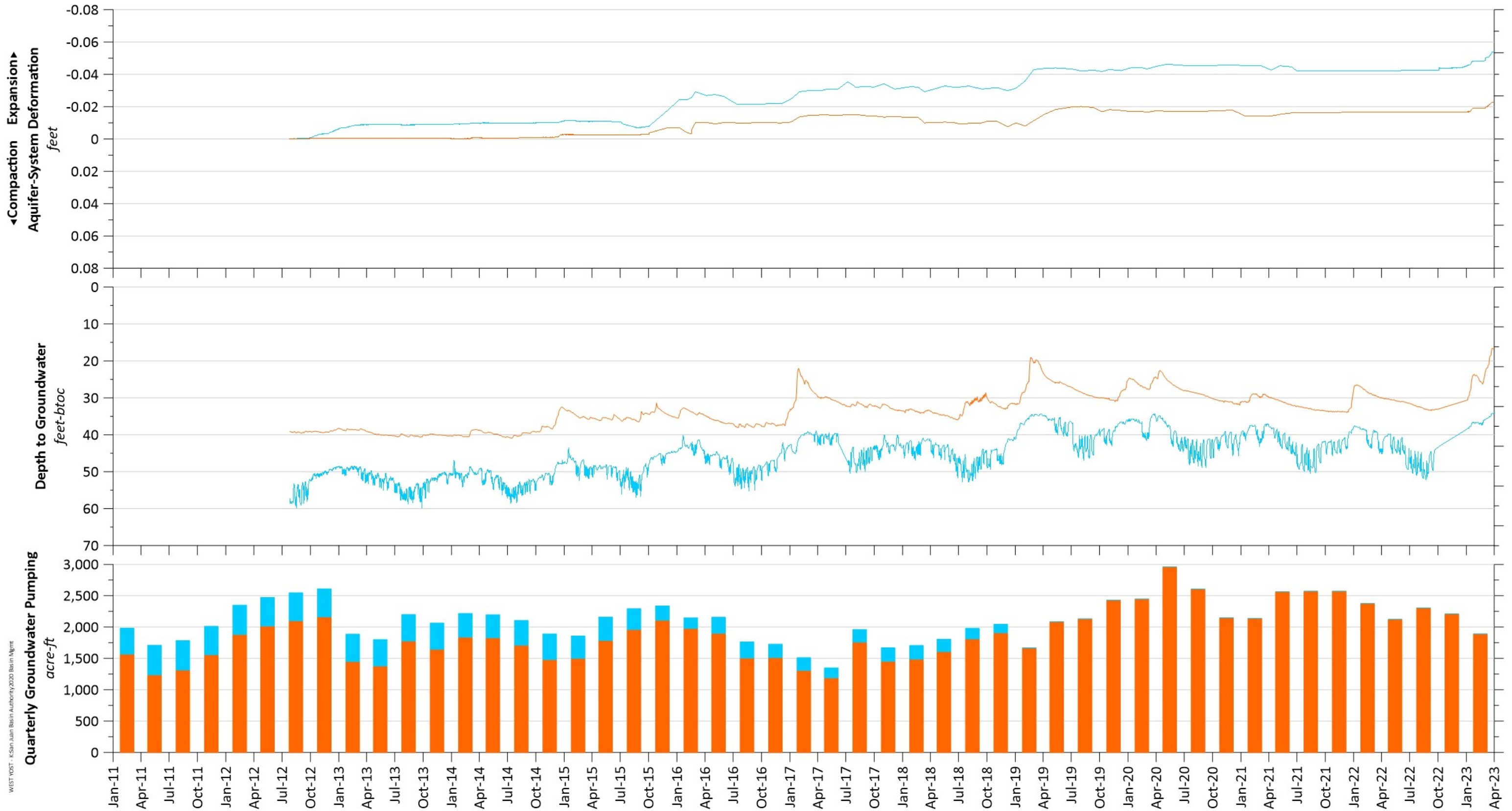
**Figure 3-3**

**Stress-Strain Diagram  
 Ayala Park Extensometer**

Ground-Level Monitoring Committee  
 2022/23 Annual Report







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**Aquifer-System Deformation  
(Extensometer Depth Interval)**

- CCX-1 with manuals
- CCX-2 (50-610 ft-bgs)
- - - Preliminary Data

**Hydraulic Heads  
(Screened Interval)**

- CCPA-1 (100-130 ft-bgs)
- CCPA-2 (235-295 ft-bgs)

**Quarterly Groundwater Pumping**

- Shallow Aquifer (CDA-5 to 11; 16, 17, 20 and 21)
- Deep Aquifer (CDA-1 to 4)

Between April 2022 and March 2023:  
There was no CDA pumping from the deep aquifer

**Figure 3-4**

**Stress and Strain  
within the Southeast Area**

Ground-Level Monitoring Committee  
2022/23 Annual Report



## 4.0 CONCLUSIONS AND RECOMMENDATIONS

### 4.1 Conclusions and Recommendations

The major conclusions and recommendations of this *2022/23 Annual Report of the GLMC* are:

- At the Ayala Park Extensometer in the Managed Area, hydraulic heads within the shallow and deep aquifer-systems are near their highest levels since the inception of the GLMP in 2003, and the Ayala Park Extensometers recorded elastic compression and expansion of the aquifer-system during the current reporting period of March 2022 to March 2023. The elevated hydraulic heads were due to the virtual cessation of pumping in the Managed Area since 2018. The reduced pumping is largely due to the presence of water-quality contaminants in groundwater that constrain its use as drinking water and the availability of alternative water supplies. Hydraulic heads in the deep aquifer-system remain well above the Guidance Level, and the Ayala Park Extensometers recorded very little, if any, inelastic compaction of the aquifer-system during the current reporting period.

**RECOMMENDATION:** Continue the GLMP in the Managed Area with no changes to the monitoring network or monitoring/reporting protocols.

- At the CCX in the Southeast Area, hydraulic heads within the shallow and deep aquifer-systems are near their highest levels since monitoring began at the CCX in 2012, and the CCX extensometers recorded elastic expansion of the aquifer-system during the current reporting period of March 2022 to March 2023. The recent increases in hydraulic heads were due to the wet winter of 2022-23 and a decrease in pumping in the Southeast Area.

**RECOMMENDATION:** Continue the GLMP in the Southeast Area with no changes to the monitoring network or monitoring/reporting protocols.

- Across most of the other Areas of Subsidence Concern, prior annual reports have noted long-term trends of gradual land subsidence since 1992, even during periods of stable or increasing heads. The long-term trends in land subsidence have been of particular concern in Northwest MZ-1, where subsidence occurs differentially across the San Jose Fault and differential subsidence poses a threat for ground fissuring. The long-term trends of land subsidence have been attributed to the delayed drainage and compaction of aquitards as they slowly equilibrate with lower heads in the aquifers that were caused by historical pumping. As described in Section 2, InSAR data were not available for this annual report, so interpretation of the GLMP results in these other Areas of Subsidence Concern are deferred until the *2023-24 Annual Report of the GLMC*.

**RECOMMENDATION:** The GLMC should continue implementation of the *Work Plan to Develop a Subsidence Management Plan for the Northwest MZ-1 Area* to develop management strategies to avoid future occurrences of subsidence. In FY 2023/24, this will include:

- Continuing aquifer-system monitoring and data analysis in Northwest MZ-1, including hydraulic head data and aquifer-system deformation data from the PX and hydraulic head data from Pomona and MVWD wells equipped with transducers. This includes efforts to improve the accuracy of the extensometer data being measured at the PX.
- Performing and evaluating 1D Model simulations of the potential future aquifer-system compaction (i.e., land subsidence) in Northwest MZ-1 at the PX and MVWD-28 locations. The 1D Model simulation results will be used to develop “Guidance Criteria” for

Northwest MZ-1 (e.g., recommended groundwater-level elevations) that will abate future subsidence in Northwest MZ-1 or reduce it to tolerable levels. The 1D Models should also be used to explore potential methods to achieve the Guidance Criteria, such as voluntary modification of pumping patterns; in-lieu recharge; wet-water recharge via spreading and/or injection; conducting Storage and Recover programs; or a combination of methods.

- The future scenarios for the 1D Model simulations could be developed during Watermaster’s upcoming groundwater modeling efforts associated with the *2025 Safe Yield Reevaluation* and the development of the *Storage and Recovery Master Plan*. The GLMC should participate in the scenario building exercises associated with these Watermaster efforts, so that the scenarios include various methods to achieve the Guidance Criteria. Then, the 1D Models should be used to evaluate the potential future subsidence in Northwest MZ-1 under these future scenarios, which could support the finalization of the Guidance Criteria and the *Subsidence Management Plan for Northwest MZ-1*.
- For the Northeast Area Subsidence Investigation, efforts were made in 2022-23 to collect hydrogeologic data as recommended in the *2021-22 Annual Report of the GLMC*, but without success. In addition, the InSAR data for 2022-23 are not yet available to confirm the ongoing occurrence of land subsidence in the vicinity of the Whispering Lakes Golf Course.  
**RECOMMENDATION:** Efforts should continue to collect land subsidence and hydrogeologic data in this area in 2023-24 to further identify the primary cause(s) of the differential subsidence at the Whispering Lakes Subsidence Feature. Data collection should include: InSAR data; well information and data at the nearby Philadelphia Wells; and historical land use data and practices in the vicinity of the Whispering Lakes Golf Course.

### 4.2 Recommended Scope and Budget for Fiscal Year 2022/23

A scope-of-work for the GLMP for FY 2023/24 was reviewed by the GLMC in April 2023 and approved by Watermaster on May 25, 2023. Appendix A is the technical memorandum prepared by the Watermaster Engineer, titled: *Recommended Scope and Budget of the Ground-Level Monitoring Committee for FY 2023/24*.

In March 2024, the Watermaster Engineer will present the preliminary results of the GLMP through 2023 and a recommended FY 2024/25 scope and budget to the GLMC for consideration and feedback.

### 4.3 Changes to the Subsidence Management Plan

The Subsidence Management Plan calls for ongoing monitoring, data analysis, annual reporting, and adjustments to the Plan, as warranted by the data. The Subsidence Management Plan states that if data from existing monitoring efforts in the Areas of Subsidence Concern indicate the potential for adverse impacts due to subsidence, Watermaster will revise the Subsidence Management Plan pursuant to the process outlined in Section 4 of the Subsidence Management Plan. The recommendations described above to continue implementation of the *Work Plan to Develop a Subsidence-Management Plan for the Northwest MZ-1 Area* are consistent with the requirements of the OBMP Program Elements 1 and 4 and its implementation plan contained in the Peace Agreement.

### 5.0 GLOSSARY

The following glossary contains the terms and definitions used in this report and generally in the discussions at GLMC meetings.

**Aquifer** – A saturated, permeable, geologic unit that can transmit significant quantities of groundwater under ordinary hydraulic gradients and is permeable enough to yield economic quantities of water to wells.

**Aquifer-system** – A heterogeneous body of interbedded permeable and poorly permeable geologic units that function as a water-yielding hydraulic unit at a regional scale. The aquifer-system may comprise one or more aquifers within which aquitards are interspersed. Confining units may separate the aquifers and impede the vertical exchange of groundwater between aquifers within the aquifer-system.

**Aquitard** – A saturated, but poorly permeable geologic unit that impedes groundwater movement and does not yield water freely to wells but may transmit appreciable water to and from adjacent aquifers and, where sufficiently thick, may constitute an important groundwater storage unit. A really, extensive aquitards may function regionally as confining units within aquifer-systems.

**Artesian** – An adjective referring to confined aquifers. Sometimes the term artesian is used to denote a portion of a confined aquifer where the altitudes of the potentiometric surface are above land surface (flowing wells and artesian wells are synonymous in this usage). But, more generally, the term indicates that the altitudes of the potentiometric surface are above the altitude of the base of the confining unit (artesian wells and flowing wells are not synonymous in this case).

**Compaction** – Compaction of the aquifer-system reflects the rearrangement of the mineral grain pore structure and largely non-recoverable reduction of the porosity under stresses greater than the pre-consolidation stress. Compaction, as used here, is synonymous with the term “virgin consolidation” used by soils engineers. The term refers to both the process and the measured change in thickness. As a practical matter, a very small amount (1 to 5 percent) of compaction is recoverable as a slight elastic rebound of the compacted material if stresses are reduced.

**Compression** – A reversible compression of sediments under increasing effective stress; it is recovered by an equal expansion when aquifer-system heads recover to their initial higher values.

**Consolidation** – In soil mechanics, consolidation is the adjustment of a saturated soil in response to increased load, involving the squeezing of water from the pores and a decrease in the void ratio or porosity of the soil. For the purposes of this report, the term “compaction” is used in preference to consolidation when referring to subsidence due to groundwater extraction.

**Confined Aquifer-system** – A system capped by a regional aquitard that strongly inhibits the vertical propagation of head changes to or from an overlying aquifer. The heads in a confined aquifer-system may be intermittently or consistently different than in the overlying aquifer.

**Deformation, Elastic** – A fully reversible deformation of a material. In this report, the term “elastic” typically refers to the reversible (recoverable) deformation of the aquifer-system sediments or the land surface.



## 2022/23 Annual Report for the GLMP

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**Deformation, Inelastic** – A non-reversible deformation of a material. In this report, the term “inelastic” typically refers to the permanent (non-recoverable) deformation of the aquifer-system sediments or the land surface.

**Differential Land Subsidence** – Markedly different magnitudes of subsidence over a short horizontal distance, which can be the cause of ground fissuring.

**Drawdown** – Decline in aquifer-system head typically due to pumping by a well.

**Expansion** – In this report, expansion refers to the expansion of sediments. A reversible expansion of sediments under decreasing effective stress.

**Extensometer** – A monitoring well housing a free-standing pipe or cable that can measure vertical deformation of the aquifer-system sediments between the bottom of the pipe and the land surface datum.

**Ground Fissures** – Elongated vertical cracks in the ground surface that can extend several tens of feet in depth.

**Hydraulic Conductivity** – A measure of the medium’s capacity to transmit a particular fluid. The volume of water at the existing kinematic viscosity that will move in a porous medium in unit time under a unit hydraulic gradient through a unit area. In contrast to permeability, it is a function of the properties of the liquid, as well as the porous medium.

**Hydraulic Gradient** – Change in head over a distance along a flow line within an aquifer-system.

**Hydraulic Head** – A measure of the potential for fluid flow. The height of the free surface of a body of water above a given subsurface point.

**InSAR (Synthetic Aperture Radar Interferometry)** – A remote-sensing method (radar data collected from satellites) that measures ground-surface displacement over time.

**Linear Potentiometer** – A highly sensitive electronic device that can generate continuous measurements of displacement between two objects. Used to measure movement of the land-surface datum with respect to the top of the extensometer measuring point.

**Nested Piezometer** – A single borehole containing more than one piezometer.

**Overburden** – The weight of overlying sediments, including their contained water.

**Piezometer** – A monitoring well that measures groundwater levels, or piezometric level, at a point, or in a very limited depth interval, within an aquifer-system.

**Piezometric (Potentiometric) Surface** – An imaginary surface representing the total head of groundwater within a confined aquifer-system, defined by the level to which the water will rise in wells or piezometers that are screened within the confined aquifer-system.

**Pore pressure** – Water pressure within the pore space of a saturated sediment.

**Rebound** – Elastic rising of the land surface.



## 2022/23 Annual Report for the GLMP

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**Stress, Effective** – The difference between the geostatic stress and fluid pressure at a given depth in a saturated deposit, representing the portion of the applied stress that becomes effective as intergranular stress.

**Stress, Pre-consolidation** – The maximum antecedent effective stress to which a deposit has been subjected and can withstand without undergoing additional permanent deformation. Stress changes in the range less than the pre-consolidation stress produce elastic deformations of small magnitude. In fine-grained materials, stress increases beyond the pre-consolidation stress produce much larger deformations that are principally inelastic (non-recoverable). Synonymous with “virgin stress.”

**Stress** – Stress (pressure) that is borne by and transmitted through the grain-to-grain contacts of a deposit, thus affecting its porosity and other physical properties. In one-dimensional compression, effective stress is the average grain-to-grain load per unit area in a plane normal to the applied stress. At any given depth, the effective stress is the weight (per unit area) of sediments and moisture above the water table plus the submerged weight (per unit area) of sediments between the water table and a specified depth plus or minus the seepage stress (hydrodynamic drag) produced by downward or upward components, respectively, of water movement through the saturated sediments above the specified depth. Effective stress may also be defined as the difference between the geostatic stress and fluid pressure at a given depth in a saturated deposit and represents the portion of the applied stress that becomes effective as intergranular stress.

**Subsidence** – Permanent or non-recoverable sinking or settlement of the land surface due to any of several processes.

**Transducer** – An electronic device that can measure piezometric levels by converting water pressure to a recordable electrical signal. Typically, the transducer is connected to a data logger, which records the measurements.

**Water Table** – The surface of a body of unconfined groundwater at which the pressure is equal to atmospheric pressure and is defined by the level to which the water will rise in wells or piezometers that are screened within the unconfined aquifer-system.



### 6.0 REFERENCES

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Recommended Scope and Budget for the  
Ground-Level Monitoring Program for FY 2023/24



## TECHNICAL MEMORANDUM

DATE: May 10, 2023 Project No.: 941-80-22-26

TO: Ground-Level Monitoring Committee

FROM: Andy Malone and Garrett Rapp

REVIEWED BY: Andy Malone

SUBJECT: Recommended Scope of Work and Budget of the Ground-Level Monitoring Committee for Fiscal Year 2023/24 **(FINAL)**

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### BACKGROUND AND PURPOSE

Pursuant to the Optimum Basin Management Program Implementation Plan and the Peace Agreement, the Chino Basin Watermaster (Watermaster) implements a Subsidence Management Plan (SMP) for the Chino Basin to minimize or stop the occurrence of land subsidence and ground fissuring. The Court approved the SMP and ordered its implementation in November 2007 (2007 SMP). The 2007 SMP was updated in 2015 (2015 SMP) and can be downloaded from the Watermaster [website](#). The SMP outlines a program of monitoring, data analysis, and annual reporting. A key element of the SMP is its adaptive nature—Watermaster can adjust the SMP as warranted by the data.

The Watermaster Engineer, with the guidance of the Ground-Level Monitoring Committee (GLMC), prepares annual reports which include the results of the monitoring program, interpretations of the data, recommendations for the Ground-Level Monitoring Program (GLMP) for the following fiscal year (FY), and recommendations for adjustments to the SMP, if any.

This Technical Memorandum (TM) describes the Watermaster Engineer’s recommended activities for the GLMP for FY 2023/24 in the form of a proposed scope of services and budget.

Members of the GLMC are asked to:

- Review this TM prior to March 2, 2023.
- Attend a meeting of the GLMC at 9:00 am on March 2, 2023 to discuss the proposed scope of services and budget for FY 2023/24.
- Submit comments and suggested revisions on the proposed scope of services and budget for FY 2023/24 to the Watermaster by March 24, 2023.
- Attend a meeting of the GLMC at 9:00 am on March 30, 2023 to discuss comments and revisions to the proposed scope of services and budget for FY 2023/24 (if necessary).

- Submit additional comments and suggested revisions on the proposed scope of services and budget for FY 2023/24 to the Watermaster by April 7, 2023.

The final scope of services and budget that is recommended by the GLMC will be included in the Watermaster’s FY 2023/24 budget. The final scope of services, budget, and schedule for FY 2023/24 will be included in Section 4 of the *2022/23 Annual Report of the GLMC*.

## **RECOMMENDED SCOPE OF SERVICES AND BUDGET – FY 2023/24**

A proposed scope of services for the GLMP for FY 2023/24 is shown in Table 1 as a line-item cost estimate. The proposed scope of services is summarized below.

### **Task 1. Setup and Maintenance of the Monitoring Network**

The Chino Basin extensometer facilities are key monitoring facilities for the GLMP. They require regular and as-needed maintenance and calibration to remain in good working order and to ensure the recording of accurate measurements.

#### ***Task 1.1. Maintain Extensometer Facilities***

This subtask includes performing monthly visits to the Ayala Park, Chino Creek, and Pomona extensometer (PX) facilities to ensure functionality and calibration of the monitoring equipment and data loggers. One additional staff member is required at the PX site due to safety concerns.

Non-routine efforts to be performed during FY 2023/24 under this subtask include:

- Monthly adjustments to the PX extensometers to improve the accuracy of the measurements of aquifer-system deformation.
- Repair of the top of the rusted casings at the Ayala Park piezometers.

#### ***Task 1.2. Annual Lease Fees for the Chino Creek Extensometer Site***

The County of San Bernardino (County) owns the land the Chino Creek extensometer facility is located on. As such, the Watermaster entered into a lease agreement with the County in 2012 and pays the County an annual rental payment of \$1,596.

### **Task 2. Aquifer-System Monitoring and Testing**

This task involves the collection and compilation of hydraulic head and aquifer-system deformation data from the Ayala Park, Chino Creek, and Pomona extensometer facilities.

#### ***Task 2.1. Conduct Quarterly Monitoring at Extensometer Facilities***

This subtask involves the routine quarterly collection and checking of data from the extensometer facilities. Quarterly data collection is necessary to ensure that the monitoring equipment is in good working order and to minimize the risk of losing data because of equipment malfunction. For this subtask, the complete extensometer and piezometer records from the Ayala Park, Chino Creek, and Pomona extensometer facilities will be loaded to HydroDaVE<sup>SM</sup> (Hydrologic Database and Visual Explanations) and checked.

**Table 1. Work Breakdown Structure and Cost Estimates for the Ground-Level Monitoring Program: FY 2023/24**

Task Description	Notes	Labor (days)		Other Direct Costs					Totals				
		Person Days	Total	Travel	New Equip.	Equip. Rental	Outside Pro	Misc.	Total	Totals by Task	Recommended Budget 2023/24	Approved Budget 2022/23	Net Change from 2022/23
											a	b	a - b
<b>Task 1. Setup and Maintenance of the Monitoring Network</b>			<b>\$39,821</b>						<b>\$7,968</b>	<b>\$47,789</b>	<b>\$47,789</b>	<b>\$35,470</b>	<b>\$12,319</b>
1.1	Maintain Extensometer Facilities												
1.1.1	Routine maintenance of Ayala Park, Chino Creek, and Pomona extensometer facilities		25	\$32,509	\$649	\$250	\$300		\$1,199	\$33,707	\$33,707	\$22,380	\$11,327
1.1.2	Replacement/repair of equipment at extensometer facilities		4	\$7,312	\$173	\$2,500		\$2,500	\$5,173	\$12,485	\$12,485	\$11,494	\$992
1.2	Annual Lease Fees for the Chino Creek extensometer facility		0	\$0					\$1,596	\$1,596	\$1,596	\$1,596	\$0
<b>Task 2. MZ-1: Aquifer-System Monitoring and Testing</b>			<b>\$30,552</b>						<b>\$904</b>	<b>\$31,456</b>	<b>\$31,456</b>	<b>\$30,687</b>	<b>\$768</b>
2.1	Conduct Quarterly Monitoring at Extensometers Facilities												
2.1.1	Download data from the Ayala Park Extensometer facility		2	\$2,640	\$332		\$60		\$392	\$3,032	\$3,032	\$3,059	-\$27
2.1.2	Download data from the Chino Creek Extensometer facility		2	\$2,640			\$60		\$60	\$2,700	\$2,700	\$2,778	-\$78
2.1.3	Download data from Pomona Extensometer facility		8	\$10,040	\$332		\$120		\$452	\$10,492	\$10,492	\$5,853	\$4,639
2.1.4	Process, check, and upload data to database		10	\$15,232					\$0	\$15,232	\$15,232	\$18,997	-\$3,765
<b>Task 3. Basin Wide Ground-Level Monitoring Program (InSAR)</b>			<b>\$6,560</b>						<b>\$90,000</b>	<b>\$96,560</b>	<b>\$96,560</b>	<b>\$90,472</b>	<b>\$6,088</b>
3.1	Acquire TerraSAR-X data and prepare interferograms for 2023/24		1	\$2,336				\$90,000	\$90,000	\$92,336	\$92,336	\$86,892	\$5,444
3.2	Check and review InSAR results		2.5	\$4,224					\$0	\$4,224	\$4,224	\$3,580	\$644
<b>Task 4. Perform Ground-Level Surveys</b>			<b>\$7,728</b>						<b>\$76,552</b>	<b>\$84,280</b>	<b>\$84,280</b>	<b>\$38,241</b>	<b>\$46,039</b>
4.1	Conduct Spring-2024 Elevation surveys in Northwest MZ-1		0.5	\$1,168				\$27,192	\$27,192	\$28,360	\$28,360	\$26,259	\$2,101
4.2	Conduct Spring-2024 Elevation Survey in the Northeast Area		0	\$0				\$50,820	\$0	\$0	\$0	\$0	\$0
4.3	Conduct Spring-2024 Elevation Survey in the Southeast Area		0	\$0				\$53,812	\$0	\$0	\$0	\$0	\$0
4.4	Conduct Spring-2024 Elevation and EDM Surveys in the Managed Area/Fissure Zone		0.5	\$1,168				\$30,080	\$30,080	\$31,248	\$31,248	\$0	\$31,248
4.5	Replace Destroyed Benchmarks (if needed)		0	\$0				\$19,280	\$19,280	\$19,280	\$19,280	\$5,650	\$13,630
4.6	Process, Check, and Update Database		3	\$5,392					\$0	\$5,392	\$5,392	\$6,332	-\$940
<b>Task 5. Data Analysis and Reporting</b>			<b>\$85,412</b>						<b>\$0</b>	<b>\$85,412</b>	<b>\$85,412</b>	<b>\$87,888</b>	<b>-\$2,476</b>
5.1	Prepare Draft 2022/23 Annual Report of the Ground-Level Monitoring Committee		20	\$36,136					\$0	\$36,136	\$36,136	\$34,124	\$2,012
5.2	Prepare Final 2022/23 Annual Report of the Ground-Level Monitoring Committee		8.5	\$15,732					\$0	\$15,732	\$15,732	\$19,993	-\$4,261
5.3	Compile and Analyze Data from the 2023/24 Ground-Level Monitoring Program		14	\$23,544					\$0	\$23,544	\$23,544	\$21,643	\$1,901
5.4	Continue Whispering Lakes Subsidence Investigation		0	\$10,000					\$0	\$10,000	\$10,000	\$12,129	-\$2,129
<b>Task 6. Develop a Subsidence-Management Plan for Northwest MZ-1</b>			<b>\$15,536</b>						<b>\$0</b>	<b>\$15,536</b>	<b>\$15,536</b>	<b>\$25,203</b>	<b>-\$9,667</b>
6.1	Aquifer-System Monitoring												
6.1.1	Collect pumping and piezometric level data from agencies every three months; check and upload data to HDX		8	\$10,560					\$0	\$10,560	\$10,560	\$12,995	-\$2,435
6.1.2	Prepare and analyze charts and data graphics of pumping and recharge (Northwest MZ-1), piezometric levels, and aquifer-system deformation from PX		3	\$4,976					\$0	\$4,976	\$4,976	\$12,208	-\$7,232
<b>Task 7. Construct and Calibrate Additional 1D Models Across Western Chino Basin</b>			<b>\$192,356</b>						<b>\$155</b>	<b>\$192,511</b>	<b>\$192,511</b>	<b>\$140,339</b>	<b>\$52,173</b>
7.1	Prepare a draft TM summarizing the background, objectives, and methods; distribute to the GLMC		6.5	\$12,760					\$0	\$12,760	\$12,760		
7.2	Prepare for and conduct a GLMC meeting to receive feedback and comments on the draft TM	a	2.5	\$5,032	\$78				\$78	\$5,110	\$5,110		
7.3	Verify and/or recalibrate the 1D Model at Ayala Park Extensometer location		12.5	\$22,736					\$0	\$22,736	\$22,736		
7.4	Construct two additional 1D Models in the Southeast Area and Northeast Area		35	\$62,368					\$0	\$62,368	\$62,368		
7.5	Calibrate new 1D Models to derive properties of aquifers/aquitards and estimate the pre-consolidation stress(es)		25	\$45,472					\$0	\$45,472	\$45,472	\$140,339	\$52,173
7.6	Prepare a draft TM summarizing the construction/calibration of additional 1D Models; distribute to the GLMC		20	\$37,024					\$0	\$37,024	\$37,024		
7.7	Prepare for and conduct a GLMC meeting to receive feedback and comments on the draft TM	a	2.5	\$5,032	\$78				\$78	\$5,110	\$5,110		
7.8	Incorporate the GLMC comments and prepare a final technical memorandum		1	\$1,932					\$0	\$1,932	\$1,932		
<b>Task 8. Meetings and Administration</b>			<b>\$58,866</b>						<b>\$362</b>	<b>\$59,228</b>	<b>\$59,228</b>	<b>\$54,559</b>	<b>\$4,669</b>
8.1	Prepare for and Conduct Four Meetings of the Ground-Level Monitoring Committee	a	18	\$32,352	\$284				\$284	\$32,636	\$32,636	\$29,986	\$2,651
8.2	Prepare for and Conduct One As-Requested Ad-Hoc Meeting	a	3	\$5,392	\$78				\$78	\$5,470	\$5,470	\$5,025	\$445
8.3	Perform Monthly Project Management		6	\$11,592					\$0	\$11,592	\$11,592	\$10,740	\$852
8.4	Prepare a Recommended Scope and Budget for the GLMC for FY 2023/24		5.25	\$9,530					\$0	\$9,530	\$9,530	\$8,808	\$722
<b>Totals</b>				<b>\$436,831</b>					<b>\$175,941</b>		<b>\$612,772</b>	<b>\$502,860</b>	<b>\$109,912</b>

Notes:  
a Assumes in-person meetings.

### Task 3. Basin-Wide Ground-Level Monitoring Program (InSAR)

This task involves the annual collection and analysis of Synthetic Aperture Radar (SAR) scenes to estimate the vertical ground motion across the western portion of Chino Basin from March 2023 to March 2024.

#### Task 3.1. Acquire TerraSAR-X SAR Data and Prepare Interferograms for 2023/24

In this subtask, five SAR scenes that will be acquired by the TerraSAR-X satellite from March 2023 to March 2024 are purchased from the German Aerospace Center. General Atomics (formerly Neva Ridge Technologies) will use the SAR scenes to prepare 12 interferograms that describe the incremental and cumulative vertical ground motion that occurred from March 2023 to March 2024 and since 2011. The associated costs to task, acquire, purchase, and process the InSAR data is as follows:

- Task TerraSAR-X for five SAR acquisitions for the western Chino Basin (\$13,000)
- Purchase TerraSAR-X data (\$18,000)
- Prepare InSAR results, including GeoTIFFs and GIS raster datasets (\$59,000)

#### Task 3.2. Check and Review InSAR Results

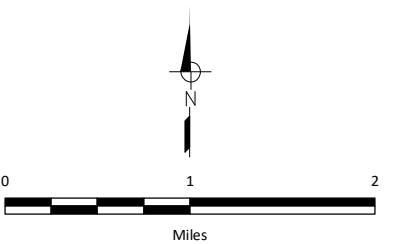
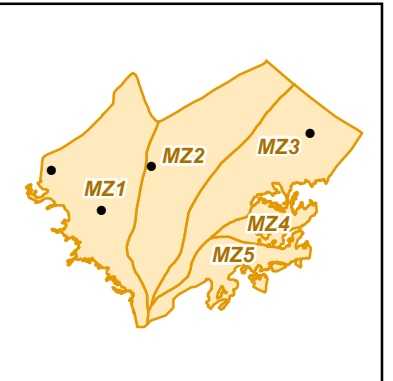
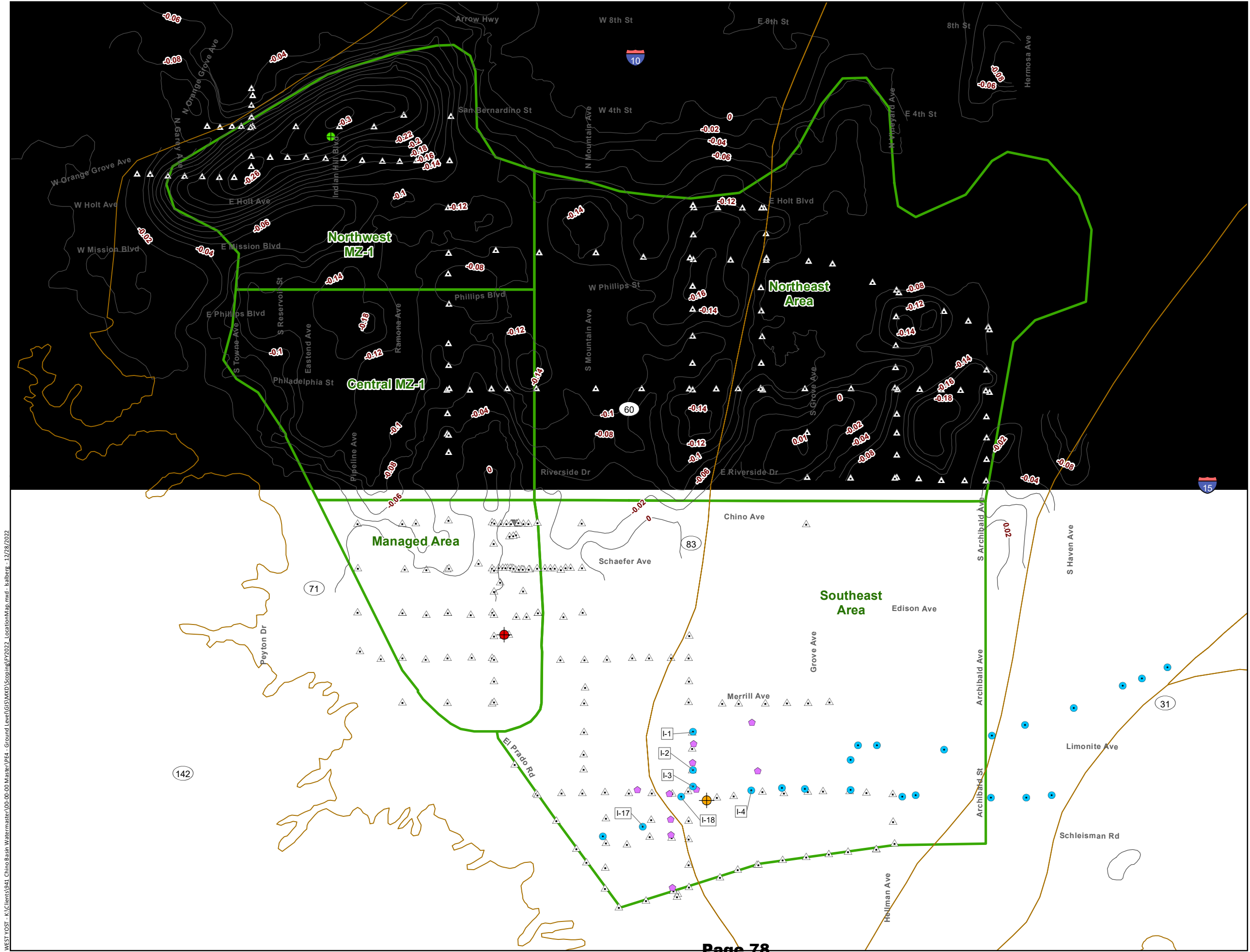
In this subtask, the Watermaster Engineer reviews the InSAR results with General Atomics, performs checks for reasonableness and accuracy of the InSAR estimates of vertical ground motion across the western Chino Basin, and uploads the InSAR results to the GIS database.

### Task 4. Perform Ground-Level Surveys

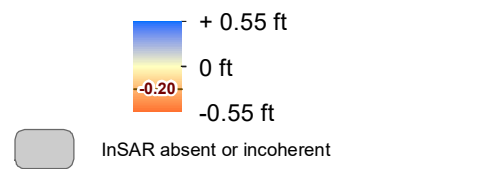
This task involves conducting elevation surveys at benchmark monuments across defined areas of western Chino Basin to estimate the vertical ground motion that occurred since the prior survey. Figure 1 shows the location of the benchmark monuments surveyed across the western Chino Basin. Electronic distance measurements (EDM surveys) are also performed periodically between monuments to estimate horizontal ground motion in areas where ground fissuring due to differential land subsidence is a concern. Table 2 documents the areas surveyed over the last six years as part of the GLMP.

Ground-Level Survey Area	Ground-Level Survey Completed (Y/N)?					
	2018	2019	2020	2021	2022	2023 <sup>(b)</sup>
Managed Area	Y	N	N	N	N	N
Fissure Zone Area <sup>(a)</sup>	Y	N	N	N	N	N
Central Area	N	N	N	N	N	N
Northwest Area	Y	Y	Y	Y	Y	Y
San Jose Fault Zone Area <sup>(a)</sup>	Y	Y	Y	Y	Y	N
Southeast Area	Y	N	N	N	Y	N
Northeast Area	Y	Y	Y	N	N	N

(a) Denotes EDM survey area (measurements of horizontal strain).  
 (b) The 2023 ground-level surveys are scheduled to begin in early March 2023.



Relative Change in Land Surface Altitude as Estimated by InSAR (March 2011 to March 2022)



- Areas of Subsidence Concern
- ⊕ Pomona Extensometer Facility
- ⊕ Chino Creek Extensometer Facility
- ⊕ Ayala Park Extensometer Facility
- Chino Desalter Authority Well
- SB County Proposed Extraction Well
- △ Ground-Level Survey Benchmark
- Ground Fissures
- - - Approximate Location of the Riley Barrier



Figure 1

Ground-Level Monitoring Program  
Fiscal Year 2022/23

Chino Basin Watermaster  
Ground-Level Monitoring Committee

The ground-level surveys recommended for FY 2023/24 include the following:

**Task 4.1. Conduct Spring-2024 Elevation surveys in Northwest MZ-1**

In this subtask, the surveyor conducts elevation and EDM surveys at the established benchmarks in Northwest MZ-1 in Spring 2024. The elevation survey will begin at the Pomona Extensometer Facility and includes benchmarks across Northwest MZ-1. The elevation survey will be referenced to a newly established elevation datum at the Pomona Extensometer.

*The vertical elevation survey is recommended in FY 2023/24 because of the recent subsidence that has occurred in Northwest MZ-1 and because the survey will support the development of a subsidence management plan in Northwest MZ-1. The EDM survey is **not** recommended to be performed across the San Jose fault zone because past surveys (2013-2021) have demonstrated that the horizontal strain measured between benchmark pairs appears to behave elastically. The EDM surveys should be conducted less frequently than annual (e.g., once every five years).*

**Task 4.4. Conduct Spring-2021 Elevation and EDM Surveys in the Managed Area/Fissure Zone Area**

In this subtask, the surveyor conducts elevation and EDM surveys at the established benchmarks in across the Managed Area in Spring 2024. These surveys are recommended because (i) the Managed Area is the primary focus of the Subsidence Management Plan and (ii) the last survey performed in this area was during spring 2018 which, by spring 2024, will be six years between surveys.

**Ground-Level Surveys Not Recommended for FY 2023/24**

Ground-level surveys are **not** recommended for FY 2023/24 in the other Areas of Subsidence Concern (i.e., Central, Southeast, and Northeast Areas). This recommendation is justified because:

- InSAR is proving to be an accurate, more efficient, higher-resolution method to monitor vertical ground motion across the western Chino Basin.
- Hydraulic heads and vertical ground motion in some of these areas are stable or increasing.

Ground-level surveys should be conducted in these areas less frequently than annual (e.g., once every five years).

**Task 4.5. Replace Destroyed Benchmarks (if needed)**

In this subtask, the surveyor replaces benchmark monuments that have been destroyed since the last survey, if any.

**Task 4.6. Process, Check, and Update Database**

In this subtask, the Watermaster Engineer receives and catalogs the survey results provided by the surveyor, prepares the data for display as a GIS layer, and performs checks against InSAR and extensometer data for reasonableness and accuracy.

## **Task 5. Data Analysis and Reporting**

### ***Task 5.1. Prepare Draft 2022/23 Annual Report of the Ground-Level Monitoring Committee***

Prepare the text, tables, and figures for a draft *2022/23 Annual Report of the GLMC* and submit the report to the GLMC by September 22, 2023 for review and comment.

### ***Task 5.2. Prepare Final 2022/23 Annual Report of the Ground-Level Monitoring Committee***

Update the text, tables, and figures based on the comments received from the GLMC and prepare a final *2022/23 Annual Report of the GLMC* by November 3, 2023. Responses to GLMC comments will be included as an appendix to the final report. The report will be included in the agenda packet for the November 2023 Watermaster meetings for approval.

### ***Task 5.3. Compile and Analyze Data from the 2023/24 Ground-Level Monitoring Program***

In this subtask, monitoring data generated from the GLMP during 2023/24 is checked, mapped, charted, and analyzed as the first step in the preparation of the subsequent annual report. Some of the maps, charts, and tables are shared with the GLMC at its meetings in early 2024 during the development of a recommended scope of services and budget for FY 2024/25.

### ***Task 5.4. Conduct Whispering Lakes Subsidence Investigation of the Northeast Area***

In the Northeast Area, the long-term and short-term InSAR estimates indicate that persistent downward ground motion has occurred in a concentrated area south of the Ontario International Airport between Vineyard Avenue and Archibald Avenue in the vicinity of Whispering Lakes Golf Course. The western edge of this subsiding area exhibits a steep subsidence gradient or “differential subsidence.”

In FY 2021/22, the Watermaster Engineer conducted a Reconnaissance-Level Investigation that included the review and analysis of readily-available borehole and lithologic data, historical air photos, pumping and recharge data, hydraulic head data, and InSAR estimates of vertical ground motion. Figures and charts were prepared and analyzed to derive interpretations and recommendations for future investigations and monitoring. The investigation and recommendations were included in the FY 2021/22 Annual Report of the GLMC. Plausible mechanisms for this subsidence feature include pumping-induced aquitard drainage and shallow soil consolidation associated with historical land uses. The investigation identified data gaps in available site-specific hydrogeologic data.

Potential next steps presented to the GLMC at its December 13, 2022 meeting included:

- Aquifer-system monitoring (e.g., collecting existing hydrogeologic data; installing transducers at wells in the study area; constructing an aquifer-system monitoring facility within the subsidence feature)
- Further investigation of the historical land use practices in the vicinity of the Whispering Lakes Golf Course (e.g., agricultural disturbance and augmentation of soils; historical sewage disposal and spreading of solids; golf course construction and maintenance activities)
- Perform field studies of shallow soil consolidation (i.e., develop a dataset of site-specific shallow soil compaction that could be compared to the rates of subsidence estimated by InSAR); and

The GLMC has recommended a stepwise, process-of-elimination approach to identify the subsidence mechanism(s). The GLMC approved a \$10,000 budget for FY 2022/23 to implement the recommendations derived from the Reconnaissance-Level Investigation. This budget is being used to collect and evaluate existing data (e.g., hydrogeologic data, well information, reports, historical land use data) and install transducers at nearby pumping wells. The results of these efforts will be documented in the GLMC Annual Report for 2022/23 along with recommendations for follow-on work.

The GLMC should consider dedicating contingency budget for FY 2023/24 (\$10,000) to continue the implementation of the recommendations derived Reconnaissance-Level Investigation and future recommendations based on results of work performed in 2022/23.

### **Task 6. Develop a Subsidence-Management Plan for Northwest MZ-1**

The 2007 SMP called for ongoing monitoring and data analysis of the Managed Area; including annual reporting and adjustments to the SMP, as warranted by the data. The 2007 SMP also called for expanded monitoring of the aquifer-system and land subsidence in other areas of subsidence and ground fissuring concern. Figure 1 shows the location of these so-called Areas of Subsidence Concern: Central MZ-1, Northwest MZ-1, Northeast Area, and Southeast Area. The expanded monitoring efforts outside of the Managed Area are consistent with the requirements of OBMP Program Element 1 and its implementation plan contained in the Peace Agreement.<sup>1</sup>

The 2007 SMP stated that if data from existing monitoring efforts in the Areas of Subsidence Concern indicate the potential for adverse impacts due to subsidence, the Watermaster would revise the SMP to avoid those adverse impacts. The 2014 Annual Report of the GLMC recommended that the 2007 SMP be updated to better describe the Watermaster’s land subsidence efforts and obligations, including areas outside of MZ-1. As such, the update included a name change to the 2015 Chino Basin Subsidence Management Plan (2015 SMP) and a recommendation to develop a subsidence management plan for Northwest MZ 1.

The Watermaster had been monitoring vertical ground motion in Northwest MZ-1 via InSAR during the development of the 2007 SMP. Land subsidence in Northwest MZ-1 was first identified as a concern in 2006 in the MZ-1 Summary Report and again in 2007 in the 2007 SMP. Of particular concern was the occurrence of concentrated differential subsidence across the San Jose Fault in Northwest MZ-1—the same pattern of differential subsidence that occurred in the Managed Area during the time of ground fissuring. Ground fissuring is the main subsidence-related threat to infrastructure. The issue of differential subsidence, and the potential for ground fissuring in Northwest MZ-1, has been discussed at prior GLMC meetings, and the subsidence has been documented and described as a concern in the Watermaster’s State of the Basin Reports, the annual reports of the GLMC, and in the *Initial Hydrologic Conceptual Model and Monitoring and Testing Program for the Northwest MZ-1 Area* (WEI, 2017). The Watermaster increased monitoring efforts in Northwest MZ-1 beginning in FY 2012/13 to include ground elevation surveys and electronic distance measurements (EDM) to monitor ground motion and the potential for fissuring.

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<sup>1</sup> [http://www.cbwm.org/docs/legaldocs/Peace\\_Agreement.pdf](http://www.cbwm.org/docs/legaldocs/Peace_Agreement.pdf).



In 2015, the Watermaster’s Engineer developed the *Work Plan to Develop a Subsidence Management Plan for the Northwest MZ-1 Area* (Work Plan; WEI 2015b).<sup>2</sup> The Work Plan is characterized as an ongoing Watermaster effort and includes a description of a multi-year scope-of-work, a cost estimate, and an implementation schedule. The Work Plan was included in the 2015 SMP as Appendix B. Implementation of the Work Plan began in July 2015. On an annual basis, the GLMC analyzes the data and information generated by the implementation of the Work Plan. The results and interpretations generated from the analysis are documented in the annual report of the GLMC and used to prepare recommendations for future activities.

### ***Progress to Implement Work Plan thru FY 2022/23***

The progress that has been made to implement the Work Plan (through FY 2022/23) is described below:

- An initial hydrogeologic conceptual model of the Northwest MZ-1 Area was developed, and a report was published in 2017.<sup>3</sup> This report described the hydrogeology of the area, speculated on the causes of the observed land subsidence, and included a recommended monitoring program.
- A preliminary one-dimensional (1D) compaction model, based on hydrogeologic information from the MVWD-28 well site, was constructed, calibrated, and used to explore the future occurrence of subsidence in Northwest MZ-1 under various basin-operation scenarios of groundwater production and artificial recharge and to identify potential subsidence mitigation strategies. A report<sup>4</sup> was published to document the results of the modeling and included a recommendation to construct the Pomona Extensometer.
- The initial monitoring program was implemented to closely track groundwater-levels, groundwater production, recharge, and ground motion across Northwest MZ-1. This monitoring program included the construction of the Pomona Extensometer to measure and record depth-specific heads and aquifer-system deformation. Implementation of the monitoring program is ongoing.
- A new 1D model was constructed and calibrated using the hydrogeologic information collected at the Pomona Extensometer. The 1D model at MVWD-28 was also updated and recalibrated using current information. The objectives of this exercise were to: (i) describe the subsidence mechanisms and the pre-consolidation head by aquifer-system layer in Northwest MZ-1 and (ii) develop modeling tools that can be used to explore the future occurrence of subsidence in Northwest MZ-1 under various basin-operation scenarios of groundwater production and artificial recharge and to identify potential subsidence mitigation strategies. This work was reviewed by the GLMC, and additional model calibration refinements and sensitivity analyses were performed based on GLMC recommendations. In December 2022, the GLMC approved 1D Model calibrations and deemed them sufficient for simulation of future land subsidence under prospective plans for pumping and recharge.

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<sup>2</sup> [Work Plan to Develop a Subsidence-Management Plan for Northwest MZ-1](#)

<sup>3</sup> [https://cbwm.synctool.com/shares/folder/PaauzoQapiZ/?folder\\_id=5150940](https://cbwm.synctool.com/shares/folder/PaauzoQapiZ/?folder_id=5150940)

<sup>4</sup> [https://cbwm.synctool.com/shares/folder/PaauzoQapiZ/?folder\\_id=5150942](https://cbwm.synctool.com/shares/folder/PaauzoQapiZ/?folder_id=5150942)

- In the first half of 2023, the GLMC is developing an initial “Subsidence Management Alternative” called SMA-1. SMA-1 is equivalent to the planning scenario that was simulated with the 2020 Chino Valley Model (CVM) to support the 2020 Safe Yield Recalculation (2020 SYR). The 2020 SYR was intended to represent and simulate the Parties’ projected pumping, recharge, and use of storage through 2050. The results of the 2020 SYR (projected hydraulic heads by CVM layer) will be used as input data for the 1D Model simulations to predict the potential future occurrence of subsidence through 2050. The GLMC will evaluate the predicted hydraulic heads versus the predicted compaction as simulated by the 1D Models, and then make the following determinations and/or recommendations:
  - a. Determine the “acceptableness” of the predicted land subsidence.
  - b. Recommend “subsidence management strategies” for Northwest MZ-1. These recommended strategies can be considered a preliminary or draft *Subsidence Management Plan for Northwest MZ-1*, and may come in the form of:
    - i. Recommended operating ranges for hydraulic heads by aquifer layer.
    - ii. Recommended groundwater management practices, such as pumping, recharge, the use of local storage, and/or the design of Storage and Recovery Programs.
  - c. Recommend the minimum recharge quantity of supplemental water in MZ-1.
  - d. Or, recommend additional work, such as developing additional SMAs, performing CVM and 1D Model simulations of the additional SMAs, and making revised determinations and/or recommendations based on the model results (*i.e.*, a. through c. above). Any additional SMAs must be approved by the GLMC before taking the next step to simulate the SMA with the CVM and the 1D Models.

Based on the expected progress through FY 2022/23, the following work is recommended for FY 2023/24 to develop the *Subsidence Management Plan for Northwest MZ-1*:

### ***Task 6.1. Aquifer-System Monitoring***

The established monitoring program of piezometric levels and pumping at wells in Northwest MZ-1 will continue through various techniques, including: (i) SCADA-based monitoring by the Monte Vista Water District; (ii) monitoring of piezometric levels via sonar<sup>5</sup>; (iii) monitoring of piezometric levels via pressure transducers at City of Pomona production wells; and (iv) manual measurements of piezometric levels. These data, along with data collected from the PX in Task 2.1, will improve the understanding of the hydrogeology in Northwest MZ-1, will be used to develop the *Subsidence Management Plan for Northwest MZ-1*, and in the future, will be used to adapt the Chino Basin Subsidence Management Plan, as appropriate.

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<sup>5</sup> The use of sonar technology to measure piezometric levels in wells in currently being used in Monte Vista Water District wells 28 and 31.

In this subtask, all data is collected, compiled, checked, and analyzed every three months. Charts and data graphics of pumping, piezometric levels, and aquifer-system deformation will be updated to support the data collection and analysis.

### **Task 6.5. Provide Advice in the Development of the 2025 SYR Scenarios**

The forthcoming 2025 SYR will involve the development of multiple projection scenarios of future hydrology, pumping, managed recharge, and use of managed storage in the Chino Basin. These projection scenarios will be simulated with an updated CVM. The CVM results will be evaluated for MPI and then used to evaluate the current Safe Yield of the Chino Basin. The GLMC should advise in the development of the 2025 SYR scenarios, so that the 1D Models can be used to simulate the land subsidence and support in the evaluation of:

- Potential subsidence-related MPI associated with the Safe Yield estimates.
- The minimum recharge quantity of supplemental water in MZ-1 as required by the Peace II Agreement.

Providing GLMC advice on the projection scenarios should be conducted in conjunction with the 2025 SYR and can be discussed at regularly scheduled GLMC meetings at no additional cost.<sup>6</sup> The model evaluations for MPI and for the minimum recharge quantity of supplemental water in MZ-1 would likely be conducted in FY 2024/25.

### **Task 7. Construct and Calibrate Additional 1D Models Across Western Chino Basin**

At the conclusion of FY 2022/23, the GLMC will have used the 1D Models at PX and MVWD-28 to develop recommended “subsidence management strategies” that can be considered the draft *Subsidence Management Plan for Northwest MZ-1*. In this task, additional 1D Models are constructed and calibrated across other Areas of Subsidence Concern in western Chino Basin, so that Watermaster can use all the 1D Models to:

- Evaluate for MPI during the 2025 SYR evaluation.
- Refine the draft *Subsidence Management Plan for Northwest MZ-1*.
- Evaluate for the minimum recharge quantity of supplemental water in MZ-1 as required by the Peace II Agreement.

This task will include the work to:

- Verify and/or recalibrate the 1D Model that was prepared by the GLMC in the Managed Area at the Ayala Park Extensometer.
- Construct and calibrate additional 1D Models in other Areas of Subsidence Concern, such as the Southeast Area around the Chino Desalter well fields and in the Northeast Area (City of Ontario).

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<sup>6</sup> This is because most of these discussions will be occurring in the 2025 SYR peer review process with the same technical consultants that participate on the GLMC.

The deliverables of this task will be the following:

- A draft TM will be prepared to describe the background/objectives of the task and the methods to complete the task. The methods will include a description of the proposed locations for the additional 1D Models and the methods to construct and calibrate the models. A GLMC meeting will be held to review the draft TM and receive GLMC feedback.
- A draft TM will be prepared that summarizes the validation, construction, and calibration of the additional 1D Models. A GLMC meeting will be held to review the draft TM, and a final TM will be prepared based on GLMC feedback.

## **Task 8. Meetings and Administration**

### ***Task 8.1. Prepare for and Conduct Four Meetings of the Ground-Level Monitoring Committee***

This subtask includes preparing for and conducting four meetings of the GLMC:

- July 2023 – Implementation of the GLMP for FY 2023/24
- September 2023 – Review the draft 2022/23 Annual Report of the Ground-Level Monitoring Committee
- Early March 2024 – Review the draft recommended scope and budget for FY 2024/25
- Late March 2024 – Review the final recommended scope and budget for FY 2024/25 (if needed)

### ***Task 8.2. Prepare for and Conduct One As-Requested Ad-Hoc Meeting***

This subtask includes preparing for and conducting one ad-hoc meeting of the GLMC, as requested by the GLMC or Watermaster staff.

### ***Task 8.3. Perform Monthly Project Management***

This subtask includes monthly project administration and management, including staffing, financial and schedule reporting to Watermaster and subcontractor coordination.

### ***Task 8.4. Prepare a Recommended Scope and Budget for the GLMC for FY 2024/25***

This subtask includes preparing a draft and final recommended scope of services and budget for FY 2024/25 for the GLMC to support the Watermaster’s budgeting process.

## Comments and Responses to Comments

The comments received from the GLMC as of March 31, 2023 on the “Recommended Scope of Services and Budget of the Ground-Level Monitoring Committee for Fiscal Year 2023/24 (Draft)” and the Watermaster Engineer’s response to comments are documented below.

### ***Comments from the City of Chino (Eric Fordham)***

#### **Comment 1 – Task 1. Setup and Maintenance of the Monitoring Network.**

Concur with recommended scope and budget.

#### **Response:**

n/a

#### **Comment 2 – Task 2. Aquifer System Monitoring and Testing.**

Concur with recommended scope and budget.

#### **Response:**

n/a

#### **Comment 3 – Task 3.1. Acquire TerraSAR-X SAR Data and Prepare Interferograms for 2023/24**

Has General Atomics agreed to continue providing their InSAR services and for how long? What would be the contingency and financial impact should they decide to discontinue their services mid-year?

#### **Response:**

General Atomics has decided to terminate its subcontractor agreement with the Watermaster and will no longer provide InSAR services. General Atomics is in the process of transmitting to the Watermaster Engineer all historical SAR data and intermediate/final work products that have been generated for the GLMC since 2011.

The Watermaster Engineer is exploring other options to continue the InSAR time series of estimates of vertical ground motion across the western portion of Chino Basin using the same TerraSAR-X data and data-processing methods. Once a proposal and cost estimate has been prepared, the Watermaster Engineer will bring the proposal to the GLMC for review and comment.

#### **Comment 4 – Task 4. Perform Ground-Level Surveys.**

We concur with the recommendations and time frames for conducting the ground-level surveys.

#### **Response:**

n/a

#### Comment 5 –Task 5.4. Conduct Whispering Lakes Subsidence Investigation and the Northeast Area.

Concur with the approach of using a process of elimination to assess potential mechanisms for the observed subsidence. The study efforts and budget should be balanced with the potential for MPI for this relatively limited area.

#### Response:

We agree with the comment. Any additional recommended work on this task will be included in the draft 2022-23 Annual Report of the GLMC for review and comment by the GLMC.

#### Comment 6 –Task 6.5. Construct and Calibrate Additional 1D Models Across Western Chino Basin

Prior to constructing additional 1D models, areas where additional land subsidence evaluation could potentially identify the need to mitigate or abate MPI should be screened as to the actual or perceived potential for land subsidence. The need for additional 1D compaction models may not be warranted.

#### Response:

The additional 1D Models would only be proposed within the “Areas of Subsidence Concern” across the western Chino Basin, which are areas defined in the Chino Basin Subsidence Management Plan. These are areas where subsidence is currently and persistently occurring, or the underlying geology makes these areas susceptible to aquifer-system compaction and permanent land subsidence.

To address this comment, a TM has been added to the scope of work to describe the background and objectives of the task and the methods to complete the task. The methods will include a description of the proposed locations for the additional 1D Models and the methods to construct and calibrate the models. A GLMC meeting will be held to review the draft TM and receive feedback from the GLMC before proceeding with the construction and calibration of the additional 1D Models.

#### Comment 7 – Meetings and Administration.

Concur with recommended scope and budget.

#### Response:

n/a

#### Comment 8 – Table 1

The table should identify any unspent or carry-over budget from the approved 2022/23 budget.

#### Response:

Currently, it is too early to predict unspent budget from FY 2022/23 that could be carried over to FY 2023/24.

### ***Comments from the State of California (Rick Rees)***

#### **Comment 1 – Task 6.5. Construct and Calibrate Additional 1D Models Across Western Chino Basin**

We suggest that that Subtask 6.5, “Construct and Calibrate Additional 1D Models Across Western Chino Basin,” be broken out as a separate full task because it is not a component of Task 6, “Develop a Subsidence Management Plan for Northwest MZ-1.”

#### **Response:**

A new Task 7 has been added to the text and Table 1 for the task: “Construct and Calibrate Additional 1D Models Across Western Chino Basin.”

Response to GLMC Comments





## **STATE OF CALIFORNIA/WSP USA (RICHARD REES, PG, CHG)**

### **Comment 1 – InSAR**

The absence of processed InSAR data in the 2022/2023 Annual Report affirms how valuable this information is for ground-level monitoring. We look forward to seeing the processed InSAR information from West Yost next year.

#### **Response:**

We agree, and we look forward to sharing the InSAR results for 2022/23 as soon as they are available.

### **Comment 2 – General Comment**

This comment is not related to the report but to the scope of future reports. It is our recollection that the GLMC has discussed obtaining ground level data in the eastern side of Chino Basin in the past. The committee has focused its monitoring on the western portions of the basin due to the finer grained sediments in this portion of the basin and the historical subsidence occurrence. However, as basin reoperation progresses and transfers result in more production from the east side of the basin, it seems prudent to check the eastern side of the basin for ground level changes periodically. We suggest that the committee consider adding this task to fiscal year 2024/2025 with an update every three or five years. The work could be done using InSAR data from the California Department of Water Resources or obtained separately and analyzed by Watermaster's Engineer.

#### **Response:**

We agree that the GLMC should discuss and consider this recommendation. The eastern portion of Chino Basin has experienced the greatest declines in head. The InSAR data available from the DWR could be used to perform the evaluation of vertical ground motion across the eastern portion of Chino Basin at relatively low cost to the Chino Basin parties.

## **MONTE VISTA WATER DISTRICT (JUSTIN SCOTT-COE)**

### **Comment 1 – General Comment**

“...as expressed by the District in prior correspondence and agreed to by Watermaster, the GLMC serves as a gathering of stakeholder representatives for the provision of advice to Watermaster. The GLMC has neither decision-making authority nor ability to generate or approve a report, adopt a budget, or take any other formal action. Therefore, this Report should be renamed to avoid its representation as the collective perspective of GLMC participants.

#### **Response:**

We agree with the comment on the role of the GLMC. The report has been retitled: *2022/23 Annual Report for the Ground-Level Monitoring Program*

### **Comment 2 – Section 1.1.5**

How much historical ground movement has been experienced in Central MZ-1? How much is estimated in Northwest MZ-1.

#### **Response:**

In Central MZ-1, approximately 1.8 ft of land subsidence has been measured by InSAR and ground-level surveys from 1987-2022. Most of this subsidence occurred in the late 1980s and early 1990s and was associated with the high rates of subsidence that was occurring within the Managed Area in the City of Chino. 1D compaction models have not been constructed and calibrated in Central MZ-1 to provide estimates of land subsidence that occurred prior to 1987.

In Northwest MZ-1, approximately 1.3 ft of land subsidence has been measured by InSAR from 1992-2022. The calibration of the 1D compaction models in Northwest MZ-1 estimated that a maximum of about 8 feet of land subsidence occurred prior to 1992 (i.e., 1930-1992).

### **Comment 3 – Section 2.2.1**

Why is the extensometer data for the Pomona location absent from the report?

#### **Response:**

As discussed and demonstrated at the December 13, 2022 GLMC meeting, the PX extensometers are not recording accurate data. For this reason, the PX data are not currently included in this year’s annual report.

The Watermaster Engineer is uncertain of the precise causes for the malfunction at PX and is proceeding with a stepwise methodology to test and improve the monitoring devices. This methodology was shared with the GLMC at the December 13, 2022 GLMC meeting. We will provide updates on progress to improve the PX measurements at all subsequent GLMC meetings.

### **Comment 4 – Section 2.2.1**



How was the lithologic data interpreted for the model? How was it logged in the field? For example, how was a sandy silt or sandy clay represented in the model?

**Response:**

There is very little discussion in this annual report on the construction of the 1D Models at PX and MVWD-28. The discussions on construction of the 1D Models are in the following report which is located on the Watermaster’s website:

[Construction and Calibration of One-Dimensional Compaction Models in the Northwest MZ-1 Area of the Chino Basin](#)

In summary, the borehole sediments from the PX borehole were logged in the field using the Unified Soil Classification System. If the predominant grain size of a sediment sample was sand and/or gravel, then the sediment sample was considered a “sand layer” in the 1D Model. If the predominant grain size of a sediment sample was clay and/or silt, then the sediment sample was considered a “clay layer” in the 1D Model. The borehole geophysical logs were used to verify the assignments of “sand” and “clay” layers in the 1D Models.

**Comment 5 – Section 2.2.2 – Northwest MZ-1 Efforts**

Additional description should be added here describing 2022/23 efforts, issues, and remedies for next fiscal year. Collecting monitoring data is critical to understanding issues in Northwest MZ-1 and comparing with modeling estimates.

**Response:**

Section 2.2.1 on Northwest MZ-1 efforts was revised and augmented to address this comment. Text was added to better describe: (i) the efforts to improve the measurement/recording of aquifer-system deformation at the PX extensometers and (ii) the 1D modeling efforts to develop recommendations for “guidance criteria” for subsidence management in Northwest MZ-1.

Monitoring of vertical ground motion in Northwest MZ-1 via InSAR, ground-level surveys, and GPS are described in Section 2.1. We agree that monitoring data are critical for “ground-truthing” the model projections and improving the models over time through periodic recalibrations.

**Comment 6 – Section 4.1**

The District continues to be concerned that, while the 1D model shows 7 to 9 feet of historical land subsidence, no physical evidence of fissuring or infrastructure damage has been observed in Northwest MZ-1. Monitoring efforts are critical to understanding the issue and ground-truthing any model estimates.

**Response:**

We agree that there have been no published reports of subsidence-related damage to surface infrastructure. However, there are published historical leveling surveys that support the 1D model estimates of historical subsidence at these magnitudes (see Figure 1 in this TM and the [Initial Hydrologic](#)

[Conceptual Model and Monitoring and Testing Program for the Northwest MZ-1 Area \[WEI, 2017\]](#)). In addition, 1D Models indicate that the historical subsidence occurred over multiple decades since the early 1900s. It is possible that damage occurred (e.g., fissuring, broken pipes, etc.) but was repaired and never attributed to the gradual process of land subsidence across Northwest MZ-1. As an example, the City of Pomona had to rehabilitate its only two wells that are located within the main area of subsidence in Northwest MZ-1 (Well 27 and Well 30). Video logs of those wells showed that the well casings were compressed, damaged, and required repair. The damage to the well casings could have been caused by the compaction of the aquifer system but was never directly attributed.

We agree that monitoring data are critical for “ground-truthing” the model projections and improving the models over time through periodic recalibrations.

#### **Comment 7 – Section 4.1 – Conceptual Model**

Based on the fissures in Central MZ-1, would it be expected that fissures should have been expressed? Is subsidence solely attributed to groundwater extraction? In what way might the San Jose Fault play on the sense of motion for the various blocks? As the San Jose Fault is characterized as left lateral strike slip fault with northern dip angle and slight normal component, how can we rule that out as contributing to small levels of ground level change over time?

#### **Response:**

**Fissuring.** See response to Comment 6 above regarding the potential occurrence of historical ground fissuring. In short, ground-surface extension and/or fissuring may have occurred to some degree in Northwest MZ-1 since the early 1900s but was repaired and never attributed to the gradual process of land subsidence.

**Tectonics.** Years ago, tectonic displacement of the ground surface was recognized by the GLMC as a potential cause of the observed ground motion across the western Chino Basin. As a result, the GLMC recommended to prepare a map of seismicity versus InSAR results of vertical ground motion. These maps have been prepared in every GLMC annual report over the last several years. The maps show no seismicity in the vicinity of the San Jose Fault that suggests a relationship between tectonics and the observed vertical ground motion. The map was not prepared for this year’s annual report because of the absence of InSAR data in this annual report, but the map will be included in next year’s annual report.

#### **Comment 8 – Section 4.1 – Extensometer Data**

It is unclear why issues with the extensometer data in Northwest MZ-1 are not explored more fully in the report. The District recommends that any ongoing issues as well as remediations and next steps should be included in this report, as the extensometers are part of the monitoring program and under normal circumstances would be included. To ultimately establish confidence in the subsidence monitoring data and conceptual model, the GLMC needs to understand what issues were present initially and how they were remedied. Monitoring data is critical to validating the conceptual model, 1-D model, and mechanisms of subsidence in Northwest MZ-1.

#### **Response:**

As discussed and demonstrated at the December 13, 2022 GLMC meeting, the PX extensometers are not recording accurate data. For this reason, the PX data is not currently included in this year’s annual report.

The Watermaster Engineer is uncertain of the precise causes for the malfunction at PX and is proceeding with a stepwise methodology to test and improve the monitoring devices. This methodology was shared with the GLMC at the December 13, 2022 GLMC meeting. We will provide updates on progress to improve the PX measurements at all subsequent GLMC meetings. Section 2.2.1 on Northwest MZ-1 efforts was revised and augmented to describe this process.

We agree that monitoring data are critical to improve conceptual understanding of the subsidence, to “ground-truth” the model projections, and to improve the models over time through periodic recalibrations. Also note that monitoring of vertical ground motion in Northwest MZ-1 also includes techniques such as InSAR, ground-level surveys, and GPS as described in Section 2.1.

#### **Comment 9 – Section 4.1 – Guidance Criteria**

Given the lack of monitoring data, the proposal of draft or preliminary Guidance Criteria in Northwest MZ-1 is premature. Finalization of Guidance Criteria absent monitoring data to confirm key questions regarding conceptual understanding of subsidence mechanisms is premature. The District recommends removing suggestion of finalization of Guidance Criteria on page 58. Without complete data and an understanding of what the extensometer data is showing, preliminary (or otherwise) guidance criteria should be postponed until a better understanding of the observed data is achieved. Recommendations should come from recent and most accurate verified data.

#### **Response:**

The 1D Models were constructed and calibrated with measure data, including: detailed descriptions of the underlying geologic formations, the time-history of depth-specific hydraulic heads, and the time-history of vertical ground motion as measured by InSAR and ground-level surveys in Northwest MZ-1. The GLMC recommended, and the Watermaster Engineer performed, extensive calibration exercises and sensitivity analyses for the 1D Models. We believe the 1D Models are sufficiently calibrated for use as projection tools to explore the potential future occurrence of aquifer-system compaction in Northwest MZ-1, and importantly, to use these projections to develop recommended “guidance criteria” for depth-specific hydraulic heads in Northwest MZ-1 to reduce or abate the future occurrence of subsidence. We intend to classify the “guidance criteria” as “preliminary” with the understanding that the 1D Models can be used in the future to explore groundwater-management methods to achieve the recommended hydraulic heads and then refine the “guidance criteria” if necessary. Additional data collected in the future (e.g., heads, ground motion, etc.) will be used to verify and/or improve the 1D Models.



# CHINO BASIN WATERMASTER

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PETER KAVOUNAS, P.E.  
General Manager

## STAFF REPORT

DATE: November 9, 2023  
TO: AP Committee Members  
SUBJECT: Calendar Year 2024 Appropriative Pool Committee Volume Vote  
(Consent Calendar Item I.D.)

### SUMMARY:

Issue: Volume Vote calculations for the new calendar year are performed annually and Parties are allocated a voting percentage.

Recommendation: Approve the Calendar Year 2024 Appropriative Pool Committee Volume Vote as presented, subject to Watermaster Board approval of the Fiscal Year 2023/24 Assessment Package at its November 16, 2023 meeting.

Financial Impact: None.

Future Consideration  
**Appropriative Pool – November 9, 2023:** Approval.

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ACTIONS:  
**Appropriative Pool – November 9, 2023:**

*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

Following the approval of the Assessment Package each year, Volume Vote calculations for the new calendar year are performed and Parties are allocated a voting percentage. The 2023/24 Assessment Package is scheduled for Watermaster Board approval on November 16, 2023, and thus the Appropriative Pool Committee's Calendar Year 2024 Volume Vote is predicated on that approval.

Pursuant to the Appropriative Pool Pooling Plan, the total voting power on the Pool Committee is 1,000 votes. Of these, 500 votes are allocated based on each Party's percentage of Operating Safe Yield. The remaining 500 votes are allocated proportionally based on production during the preceding year.

## DISCUSSION

Most Water Activity Reports have now been received, and the Volume Vote has been calculated. Once the Assessment Package is approved by the Board, the Volume Vote is then officialized for use during the coming calendar year.

The 2024 Appropriative Pool Committee Volume Vote allocation has been completed and is provided for review and use (Attachment 1). The current year (2023) Volume Vote is also attached for reference (Attachment 2).

## ATTACHMENTS

1. Calendar Year 2024 Appropriative Pool Committee Volume Vote
2. Current Year 2023 Appropriative Pool Committee Volume Vote



# Chino Basin Watermaster 2024 Appropriative Pool Volume Vote

Assessment Year 2023-2024 (Production Year 2022-2023)

	Assessable Production			Share of Safe Yield		TOTAL VOLUME VOTE	
	Acre-Ft	Percentage	Votes	Acre-Ft	Votes	Non-Minor	Minor
BlueTriton Brands, Inc.	276.6	0.414%	2.071	0.0	0.000		2.071
CalMat Co. (Appropriative)	0.0	0.000%	0.000	0.0	0.000		0.000
Chino Hills, City Of	2,176.9	3.259%	16.297	1,572.5	19.255	35.552	
Chino, City Of	3,112.5	4.660%	23.302	3,004.2	36.785	60.087	
Cucamonga Valley Water District	13,514.7	20.235%	101.176	2,695.5	33.005	134.181	
Fontana Union Water Company	0.0	0.000%	0.000	4,760.0	58.285	58.285	
Fontana Water Company	8,721.0	13.058%	65.289	0.8	0.010	65.299	
Fontana, City Of	0.0	0.000%	0.000	0.0	0.000		0.000
Golden State Water Company	921.7	1.380%	6.900	306.3	3.750		10.650
Jurupa Community Services District	7,157.8	10.717%	53.586	1,535.0	18.795	72.381	
Marygold Mutual Water Company	559.7	0.838%	4.190	488.0	5.975		10.165
Monte Vista Irrigation Company	0.0	0.000%	0.000	503.9	6.170		6.170
Monte Vista Water District	5,165.5	7.734%	38.671	3,592.2	43.985	82.656	
NCL Co, LLC	0.0	0.000%	0.000	0.0	0.000		0.000
Niagara Bottling, LLC	1,401.4	2.098%	10.492	0.0	0.000		10.492
Nicholson Family Trust	0.0	0.000%	0.000	2.9	0.035		0.035
Norco, City Of	0.0	0.000%	0.000	150.3	1.840		1.840
Ontario, City Of	12,566.1	18.815%	94.075	8,469.8	103.710	197.785	
Pomona, City Of	10,197.4	15.268%	76.341	8,352.2	102.270	178.611	
San Antonio Water Company	459.0	0.687%	3.436	1,122.1	13.740		17.176
San Bernardino, County of (Shooting Park)	17.6	0.026%	0.132	0.0	0.000		0.132
Santa Ana River Water Company	0.0	0.000%	0.000	969.0	11.865		11.865
Upland, City Of	540.0	0.809%	4.043	2,124.2	26.010	30.053	
West End Consolidated Water Co	0.0	0.000%	0.000	705.6	8.640		8.640
West Valley Water District	0.0	0.000%	0.000	479.8	5.875		5.875
<b>TOTAL</b>	<b>66,788.0</b>	<b>100.000%</b>	<b>500.000</b>	<b>40,834.0</b>	<b>500.000</b>	<b>914.889</b>	<b>85.111</b>
						<b>1,000.000</b>	





## Chino Basin Watermaster 2023 Appropriative Pool Volume Vote

Assessment Year 2022-2023 (Production Year 2021-2022)

	Assessable Production			Share of Safe Yield		TOTAL VOLUME VOTE	
	Acre-Ft	Percentage	Votes	Acre-Ft	Votes	Non-Minor	Minor
BlueTriton Brands, Inc.	251.6	0.334%	1.668	0.0	0.000		1.668
CalMat Co. (Appropriative)	0.0	0.000%	0.000	0.0	0.000		0.000
Chino Hills, City Of	2,628.9	3.487%	17.434	1,572.5	19.255	36.689	
Chino, City Of	3,059.9	4.058%	20.292	3,004.2	36.785	57.077	
Cucamonga Valley Water District	9,368.3	12.425%	62.125	2,695.5	33.005	95.130	
Fontana Union Water Company	0.0	0.000%	0.000	4,760.0	58.285	58.285	
Fontana Water Company	11,387.1	15.103%	75.513	0.8	0.010	75.523	
Fontana, City Of	0.0	0.000%	0.000	0.0	0.000		0.000
Golden State Water Company	1,066.1	1.414%	7.070	306.3	3.750		10.820
Jurupa Community Services District	11,601.7	15.387%	76.936	1,535.0	18.795	95.731	
Marygold Mutual Water Company	944.2	1.252%	6.261	488.0	5.975		12.236
Monte Vista Irrigation Company	0.0	0.000%	0.000	503.9	6.170		6.170
Monte Vista Water District	6,994.9	9.277%	46.387	3,592.2	43.985	90.372	
NCL Co, LLC	0.0	0.000%	0.000	0.0	0.000		0.000
Niagara Bottling, LLC	1,684.0	2.233%	11.167	0.0	0.000		11.167
Nicholson Family Trust	0.0	0.000%	0.000	2.9	0.035		0.035
Norco, City Of	0.0	0.000%	0.000	150.3	1.840		1.840
Ontario, City Of	14,390.0	19.085%	95.427	8,469.8	103.710	199.137	
Pomona, City Of	10,183.8	13.507%	67.533	8,352.2	102.270	169.803	
San Antonio Water Company	402.5	0.534%	2.669	1,122.1	13.740		16.409
San Bernardino, County of (Shooting Park)	19.8	0.026%	0.131	0.0	0.000		0.131
Santa Ana River Water Company	103.2	0.137%	0.684	969.0	11.865		12.549
Upland, City Of	1,312.4	1.741%	8.703	2,124.2	26.010	34.713	
West End Consolidated Water Co	0.0	0.000%	0.000	705.6	8.640		8.640
West Valley Water District	0.0	0.000%	0.000	479.8	5.875		5.875
<b>TOTAL</b>	<b>75,398.2</b>	<b>100.000%</b>	<b>500.000</b>	<b>40,834.0</b>	<b>500.000</b>	<b>912.459</b>	<b>87.541</b>
						<b>1,000.000</b>	



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PETER KAVOUNAS, P.E.  
General Manager

## STAFF REPORT

DATE: November 9, 2023

TO: ONAP Committee Members

SUBJECT: Calendar Year 2024 Overlying (Non-Agricultural) Pool Committee Volume Vote  
(Routine Business Item I.D.)

### SUMMARY:

Issue: Following the approval of the Assessment Package each year, Volume Vote calculations for the new Calendar Year are performed and Parties are allocated a voting percentage.

Recommendation: Receive and file the Calendar Year 2024 Overlying (Non-Agricultural) Pool Committee Volume Vote as presented, subject to Watermaster Board approval of the Fiscal Year 2023/24 Assessment Package at its November 16, 2023 meeting.

Financial Impact: None.

### Future Consideration

**Non-Agricultural Pool – November 9, 2023:** Receive and file.

---

### ACTIONS:

**Non-Agricultural Pool – November 9, 2023:**

*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 Overlying (Non-Agricultural) Pool Committee Volume Vote is updated, and Parties are allocated a voting percentage following the approval of the Assessment Package each year. The 2023/2024 Assessment Package is scheduled for Watermaster Board approval on November 16, 2023, and thus the Calendar Year 2024 Overlying (Non-Agricultural) Pool Committee Volume Vote is predicated on that approval.

The total voting power on the Pool Committee is 1,484 votes. Of these, 742 votes are to be allocated based on one vote for every ten acre-feet or fraction thereof of Safe Yield. The remaining 742 votes are allocated proportionally based on production during the preceding year.

## DISCUSSION

Occasionally due to water transfers, if each Party is given one vote for every ten acre-feet or fraction thereof of Safe Yield, the total for that portion of the Volume Vote is 743 rather than 742. The logical solution to address this is to reduce the 743 votes down to 742 votes on a pro-rata basis; this is the same methodology that has been used in recent years. Please note that this approach has a very minor effect on each Party's vote.

The 2024 Overlying (Non-Agricultural) Pool Committee Volume Vote allocation has been completed and is provided for review and use (Attachment 1). The current year (2023) Volume Vote is also attached for reference (Attachment 2).

## ATTACHMENTS

1. Calendar Year 2024 Overlying (Non-Agricultural) Pool Committee Volume Vote Basis
2. Current Year 2023 Overlying (Non-Agricultural) Pool Committee Vote Basis



# Chino Basin Watermaster 2024 Non-Ag Pool Volume Vote

Assessment Year 2023-2024 (Production Year 2022-2023)

	Assessable Production			Share of Safe Yield			TOTAL VOLUME VOTE
	Acre-Ft	Percentage	Votes	Acre- Ft	WV Realloc	Votes	
9W Halo Western OpCo L.P.	25.8	0.862%	6.396	18.8	0.0	2.000	8.396
ANG II (Multi) LLC	0.0	0.000%	0.000	0.0	0.0	0.000	0.000
California Speedway Corporation	274.2	9.154%	67.926	1,000.0	2.1	101.000	168.926
California Steel Industries, Inc.	1,057.5	35.310%	262.002	1,615.1	3.4	162.000	424.002
CalMat Co.	0.0	0.000%	0.000	0.0	0.0	0.000	0.000
CCG Ontario, LLC	0.0	0.000%	0.000	0.0	0.0	0.000	0.000
City of Ontario (Non-Ag)	1,151.3	38.442%	285.243	3,920.6	8.4	393.000	678.243
County of San Bernardino (Non-Ag)	75.5	2.520%	18.701	133.9	0.3	14.000	32.701
General Electric Company	0.0	0.000%	0.000	0.0	0.0	0.000	0.000
Hamner Park Associates, a California Limited Partnership	299.2	9.989%	74.116	464.2	1.0	47.000	121.116
Linde Inc.	0.0	0.000%	0.000	1.0	0.0	1.000	1.000
Monte Vista Water District (Non-Ag)	15.9	0.532%	3.944	50.0	0.1	6.000	9.944
Riboli Family and San Antonio Winery, Inc.	1.8	0.061%	0.455	0.0	0.0	0.000	0.455
Space Center Mira Loma, Inc.	93.7	3.129%	23.216	104.1	0.2	11.000	34.216
TAMCO	0.0	0.000%	0.000	42.6	0.1	5.000	5.000
West Venture Development Company	0.0	0.000%	0.000	0.0	0.0	0.000	0.000
<b>TOTAL</b>	<b>2,994.9</b>	<b>100.000%</b>	<b>742.000</b>	<b>7,350.3</b>	<b>15.7</b>	<b>742.000</b>	<b>1,484.000</b>



# Chino Basin Watermaster 2023 Non-Ag Pool Volume Vote

Assessment Year 2022-2023 (Production Year 2021-2022)

	Assessable Production			Share of Safe Yield			TOTAL VOLUME VOTE
	Acre-Ft	Percentage	Votes	Acre- Ft	WV Realloc	Votes	
9W Halo Western OpCo L.P.	27.3	0.905%	6.716	18.8	0.0	2.000	8.716
ANG II (Multi) LLC	0.0	0.000%	0.000	0.0	0.0	0.000	0.000
California Speedway Corporation	402.9	13.369%	99.201	1,000.0	2.1	101.000	200.201
California Steel Industries, Inc.	671.4	22.281%	165.323	1,615.1	3.4	162.000	327.323
CalMat Co.	0.0	0.000%	0.000	0.0	0.0	0.000	0.000
CCG Ontario, LLC	0.0	0.000%	0.000	0.0	0.0	0.000	0.000
City of Ontario (Non-Ag)	1,370.8	45.489%	337.530	3,920.6	8.4	393.000	730.530
County of San Bernardino (Non-Ag)	75.1	2.492%	18.488	133.9	0.3	14.000	32.488
General Electric Company	0.0	0.000%	0.000	0.0	0.0	0.000	0.000
Hamner Park Associates, a California Limited Partnership	336.9	11.179%	82.946	464.2	1.0	47.000	129.946
Linde Inc.	0.0	0.000%	0.000	1.0	0.0	1.000	1.000
Monte Vista Water District (Non-Ag)	17.6	0.584%	4.334	50.0	0.1	6.000	10.334
Riboli Family and San Antonio Winery, Inc.	15.7	0.522%	3.874	0.0	0.0	0.000	3.874
Space Center Mira Loma, Inc.	93.7	3.110%	23.074	104.1	0.2	11.000	34.074
TAMCO	2.1	0.069%	0.513	42.6	0.1	5.000	5.513
West Venture Development Company	0.0	0.000%	0.000	0.0	0.0	0.000	0.000
<b>TOTAL</b>	<b>3,013.4</b>	<b>100.000%</b>	<b>742.000</b>	<b>7,350.3</b>	<b>15.7</b>	<b>742.000</b>	<b>1,484.000</b>



# CHINO BASIN WATERMASTER

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PETER KAVOUNAS, P.E.  
General Manager

## STAFF REPORT

DATE: November 9, 2023  
TO: AP/ONAP/OAP Committee Members  
SUBJECT: Watermaster Reappointment (Business Item II.A.)

### SUMMARY:

Issue: The current Watermaster appointment expires February 10, 2024. To ensure that there is no lapse in Watermaster appointment, a motion needs to be filed with the Court recommending the appointment of Watermaster beyond that date. [Advisory Committee Approval Required]

Recommendation: Recommend future Watermaster appointment to the Advisory Committee.

Financial Impact: None

### Future Consideration

**Appropriative Pool – November 09, 2023:** Advice and assistance  
**Non-Agricultural Pool – November 09, 2023:** Advice and assistance  
**Agricultural Pool – November 09, 2023:** Advice and assistance  
**Advisory Committee – November 16, 2023:** Approval  
**Watermaster Board – November 16, 2023:** Adopt AC recommendation

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### ACTIONS:

**Appropriative Pool – November 09, 2023:**  
**Non-Agricultural Pool – November 09, 2023:**  
**Agricultural Pool – November 09, 2023:**  
**Advisory Committee – November 16, 2023:**  
**Watermaster Board – November 16, 2023:**

*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

Pursuant to the 1978 Judgment, Chino Basin Municipal Water District (CBMWD) (now Inland Empire Utilities Agency), served as the initial Watermaster. Following the interim appointment of the California Department of Water Resources as Watermaster in April 1997, on February 19, 1998, the Court appointed the Nine-Member Board as Watermaster. In its Order establishing the nine-member Board, the Court directed the Board to develop and submit an OBMP for approval on or before July 2000. (February 19, 1998 Ruling, at 4.)

Having completed the OBMP, Watermaster filed a Motion to re-appoint the Board with the Court on August 30, 2000. On September 28, 2000, the Court appointed the Board to a five-year term as Watermaster. In its September 28, 2000 Order, the Court expressly conditioned the re-appointment, requiring Watermaster to: file a report on the status of its efforts to resolve the terms and conditions applicable to the purchase of desalted water and to secure a recession of Western Municipal Water District's conditional execution of the Peace Agreement, to adopt revised Rules and Regulations subject to Court approval, to submit reports, including schedule and budget information, in accordance with the schedule set forth in the Order, and to cooperate with independent assessment and verification of the data in the reports by the Special Referee and her technical expert.

The September 28, 2000 Order further stated that "a primary concern of the Court in any future application for re-appointment ... will be the parties' continued commitment to provide for future desalters and preserve safe yield in accordance with the OBMP" and that "any future application for re-appointment ... may be conditioned on the development of a detailed plan to reach the OBMP goal of 40,000 acre-feet per year of desalting capacity" to be installed by 2020. (September 28, 2000 Order, at 7.) Finally, the Court noted certain additional factors—installation of production meters; completion of basin monitoring systems; completion of a Recharge Master Plan and installation of appropriate recharge facilities; and expansion of Desalter I and installation of Desalter II—that it would consider when the Board sought re-appointment.

On December 31, 2005, Watermaster filed a Motion to Re-appoint the Nine-Member Board, stating that Watermaster had complied with all five of the express conditions for re-appointment included in the 2000 Order, and described compliance measures with each. (December 31, 2005 Motion, at 3:7-4:3.) The motion also addressed the additional factors for re-appointment from the Court's September 2000 Order, stating that Watermaster had completed, or was in the process of completing, installation of meters for active wells, detailed the monitoring programs that had been initiated during the Board's previous term, described the completion of the Recharge Master Plan Phase II Report and summarized its contents. (Id., at 6:20-27.) The December 31, 2005 Motion stated that it had been unanimously approved by all Pool Committees, the Advisory Committee, and the Board before filing, and that Watermaster knew of no opposition to the re-appointment. (Id., at 13-18.)

On January 20, 2006, the Special Referee filed her Comments and Recommendations Concerning Motion to Re-appoint the Nine-Member Board for a Further Five-Year Term, in which she agreed that Watermaster had completed most, though not all of the requirements imposed by the Court for re-appointment of the nine-member board. Of particular concern to the Special Referee was that the State of the Basin Report did not include a detailed discussion of how the 40 mgd target for desalter capacity would be achieved, what the effects of desalter operation would be, or whether and how replenishment obligations would be met. (January 20, 2006 Special Referee's Comments and Recommendations, at 8.) The Special Referee suggested that if the Court decided to re-appoint the Board, it should require certain assurances from the Board at 3-, 6-, and 12-month intervals, and recommended that the Court consider the Motion to be for a re-appointment of a 2-year interval. (Id., at 12-15.)

On January 30, 2006, Watermaster filed its Comments and Opposition to Special Referee Report, joined by the City of Ontario and the Cucamonga Valley Water District. Watermaster's filing objected to the Special Referee's understatement of the actual accomplishments of Watermaster, and her focus on Watermaster's few failures to strictly comply with the Court's 2000 Order, noting consistent consensus-based implementation of OBMP initiatives, the securing of funding for the desalters, the finalization of the

Recharge Master Plan, the completion and Court approval of the Watermaster Rules and Regulations, as well as other successes. Finally, Watermaster and the joining parties stressed that their Motion had requested re-appointment for five years, and that the Court could not properly construe the motion as one for a 2-year term. (Id., at 10.)

In a February 9, 2006, Order, the Court granted Watermaster's December 2005 Motion, and re-appointed the Board for a 5-year term. The Court commended Watermaster and the parties on their "remarkable achievements" in implementing the OBMP. (February 2006 Order, at 3.) The Court required that Watermaster to continue to make progress toward future desalting up to the 40,000 acre-feet annually described in the OBMP. (Id., at 4.) The Court was also interested in how Watermaster would address issues expressly reserved to Watermaster pursuant to the Peace Agreement and Watermaster's Rules and Regulations. (Ibid.) Finally, the Court directed Watermaster, its staff, and legal counsel to ensure that future reports were timely, transparent, and responsive to the question of whether Watermaster is implementing the Peace Agreement and OBMP in a manner consistent with the Judgment and Court Orders. (Ibid.)

On December 17, 2010, Watermaster filed a Motion for Re-Appointment of the Nine-Member Board. The December 17, 2010 Motion noted that the 2006 Order re-appointing the Board had not established any further criteria for re-appointment, but had described general concerns that Watermaster was to address. Because Watermaster had addressed all of the concerns from the 2006 Order, and Watermaster knew of no objection to re-appointment, it requested that the Board be re-appointed for an additional five-year term. The Court issued an Order on January 26, 2011 re-appointing the Board. The 2011 Order did not include any conditions, and granted the 2011 Motion appointing the Board to a new five-year term expiring on February 10, 2016.

On December 15, 2015, Watermaster filed a Motion for Re-Appointment of the Nine-Member Board. The motion to re-appoint the Board for a 3-year term was approved by the Board after the Advisory Committee approved a motion to re-appoint the Watermaster nine-member Board for a three-year term on November 19, 2015. During its November 19, 2015 meeting the Watermaster Board approved a second motion as follows:

*Direct Watermaster staff to initiate an evaluation of Watermaster business operations including stakeholder input, Pool interaction, the role of the Board and other areas determined by the Parties, with the intent of looking for opportunities to maximize effective implementation of the Judgment, OBMP and related Court Orders.*

On December 28, 2018, Watermaster filed a Motion for Re-Appointment of the Nine-Member Board for a further five-year term. The motion was approved by the Board after the Advisory Committee approved the motion to re-appoint Watermaster nine-member Board for a five-year term on November 15, 2018.

## DISCUSSION

A recommendation regarding Watermaster re-appointment needs to be made to the Court to avoid a lapse in coverage. The Advisory Committee's decision will be presented to the Board to be filed with the Court.

In response to the Board motion described in the Background section above, the results of the requested evaluation along with some identified opportunities for improvement are included in Attachment 1.

While the 2018 Advisory Committee motion did not include a request for an evaluation of Watermaster business operations, staff decided that it is good practice, and a report is included as Attachment 1.

## ATTACHMENTS

1. Evaluation of Watermaster Business Operations 2018-2023. Memorandum from Edgar Tellez Foster to the Watermaster Board.



## Memorandum

To: Watermaster Board

From: Edgar Tellez Foster, Acting General Manager

Date: November 3, 2023

Subject: Evaluation of Watermaster Business Operations 2018-2023

This memorandum summarizes the results of an evaluation of the Watermaster function for the period between 2018 and 2023. A similar evaluation was made in 2018 at the direction of the Board and has been repeated as it is seen to be a valuable exercise. In 2015 the Watermaster Board's direction was:

*Moved to recommend reappointing the Watermaster nine-member Board for a five-year term. In addition, continue to direct Watermaster staff to initiate an evaluation of Watermaster business operations including: stakeholder input, Pool interaction, the role of the Board and other areas determined by the parties with the intent of looking for other opportunities to maximize effective implementation of the Judgment, OBMP, and related court orders.*

Watermaster staff has evaluated the suggested areas of Stakeholder Input, Pool Interaction, and Role of the Board over the last five years and is offering the results below, along with identifying future opportunities as requested.

## Stakeholder Input

### Evaluation Results

- [1] There is "open door" access to Board Members, the GM, Counsel, Engineer, and staff;
- [2] General Manager proactively reaches out to Pool leadership and meets on a regular basis to identify and discuss Pool-specific issues;
- [3] Multiple open meetings each month: regularly scheduled and special Pool & Advisory Committees, and Board;
- [4] Pools have opportunity to provide input on Semi-annual OBMP Implementation Status Reports and Annual Watermaster report before finalizing and filing with the Court;
- [5] All comments on Watermaster reports and financial documents are routinely captured, responded to, and shared;
- [6] Watermaster reports and financial documents are presented in open, public meetings;
- [7] User friendly and secure website allows access to Watermaster reports, Court filings, meeting agendas and minutes, among other information;

[8] Assessment Package Experts (APEX) Group, an informal advisory group of stakeholders to provide feedback on how to improve the Assessment Package format, was assembled and gave advice and assistance on revisions of five years' prior reports;

[9] The 2000 OBMP was updated through a series of meetings promoting dialogue and participation from all Chino Basin stakeholders. Held 9 listening sessions in addition to Pool and Advisory Committee meeting discussion.

[10] Updated the Storage Management Plan through a series of open meetings where parties provided input and shaped the final product;

[11] Conducted workshops to gather input regarding the update to the Chino Valley Model resulting in the inclusion of uncertainty analysis for future Safe Yield Recalculations;

[12] Gathered feedback on the proposed project description for the recirculation of the Environmental Impact Report (EIR) for the OBMP Update;

[13] Convened meetings to address the impending Local Storage Limitation; these resulted in the implementation of the Local Storage Limitation Solution.

[14] Watermaster hosted an average of 60 meetings per year, including regular monthly meetings for Pool Committees, Advisory Committee, and Board, as well as special meetings for OBMP Update, OBMP Implementation Plan Negotiations, Storage Management Plan, RIPComm, PBHSC, GLMC, DYY, Safe Yield Reset, Budget, and Assessment Package Workshops. Watermaster also facilitates Special ad-hoc meetings.

### **Future Opportunities for Stakeholder Input in Maximizing Effective Implementation of the Judgment, OBMP, and related Court Orders**

- Peace Agreement Amendment Negotiations/Extension
- DYYP Extension
- Water Quality Committee and development of the Water Quality Management Program
- Development of the Storage and Recovery Master Plan
- Update to the Storage Management Plan
- 2025 Safe Yield Reevaluation

## Pool Interaction

### Evaluation Results

[1] Staff and consultants attend all Pool Committee meetings and report on actions and activities;

[2] Staff is actively ensuring that parties' representation is up to date, to make sure Pool and Advisory Committees can function properly;

[3] Hosted, for the convenience of the parties, a series of meetings aimed at exploring Peace Agreement Amendment negotiations;

[4] Staff and consultants facilitate communication among Pools outside the monthly Committee meetings.

### **Future Opportunities for Pool Interaction in Maximizing Effective Implementation of the Judgment, OBMP, and related Court Orders**

- Monthly meetings among Pool officers
- Quarterly meetings among Pool officers and Board Officers
- Educational programs on topics identified collectively by the Pools
- Reconvening the Peace agreement amendment / extension negotiations meetings

## Role of the Board

### Evaluation Results

The Board is and has been actively interested in effective implementation of the Restated Judgment and the OBMP:

[1] Continuously asking for regular reports on Restated Judgment and OBMP implementation;

[2] Holds the GM accountable for timely, transparent, and complete compliance with all requirements;

[3] Strongly encourages consensus-based implementation of OBMP objectives;

[4] Consistently approved transactions, applications, budgets, and Assessment Packages;

[5] Revised 5 Assessment Packages following the April 17, 2018 Court Order resetting the Safe Yield in 2019;

[6] Directed staff to conduct an open process to update the OBMP and at the conclusion of the process, adopted the 2020 OBMP in October, 2020;

[7] Updated the Storage Management Plan; the updated plan was approved in May 2020;

[8] Directed staff and consultants to perform the Local Storage Limitation Solution analysis, support IEUA to certify and amendment to the EIR and increase the environmentally reviewed storage volume from 600kaf to 700kaf through 2030;

[9] Directed Staff and consultants to track issues that affect parties and basin management;

[10] In response to the Judge's request, provided a full day tour of the Basin;

[11] Request and receive frequent updates on water quality concerns;

[12] Request and receive frequent updates on grant funding opportunities;

[13] Updated the Recharge Master Plan in 2023;

[14] Requested the analysis of recharge projects and improvements beyond the scope of the Recharge Master Plan Update of 2023;

[15] Concluded the effort of the 2015 Safe Yield Recalculation;

[16] Conducted the Safe Yield Recalculation in 2020;

[17] Directed staff to conduct supplemental studies about the response of the Basin to climate extremes and to understand the reliability of the water resources in the Chino Basin;

[18] Directed staff to design and implement educational sessions to provide knowledge about the Chino Basin and its management for Board Members and stakeholders; this resulted in four day-long workshops in 2022 and 10 Chino Basin Academy sessions in 2023.

**Future Opportunities for the Watermaster Board to perform its role in Maximizing Effective Implementation of the Judgment, OBMP, and related Court Orders**

- Remain aware and attentive to the topic of storage management
- Continue with the implementation of educational programs, including interactive sessions and facility tours.

## Other Areas determined by the parties

No other areas have been identified by parties for evaluation.

It is my pleasure to offer this report to the Board and I encourage Board Members to contact me directly in case of questions, or if further information is needed.



# CHINO BASIN WATERMASTER

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PETER KAVOUNAS, P.E.  
General Manager

## STAFF REPORT

DATE: November 9, 2023  
TO: AP/ONAP/OAP Committee Members  
SUBJECT: Fiscal Year 2023/24 Assessment Package (Business Item II.B.)  
SUMMARY:

Issue: The Chino Basin Watermaster Fiscal Year 2023/24 Assessment Package, based on Production Year 2022/23, needs to be approved. [Within WM Duties and Powers]

Recommendation: Review Fiscal Year 2023/24 Assessment Package as presented and offer advice to Watermaster.

Financial Impact: Collection of assessments according to the Assessment Package creates the funds that are used during the current fiscal year for budgeted expenses and the purchase of water (if available) for replenishment obligations.

### Future Consideration

**Appropriative Pool – November 9, 2023:** Advice and assistance  
**Non-Agricultural Pool – November 9, 2023:** Advice and assistance  
**Agricultural Pool – November 9, 2023:** Advice and assistance  
**Advisory Committee – November 16, 2023:** Advice and assistance  
**Watermaster Board – November 16, 2023:** Approval

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### ACTIONS:

**Appropriative Pool – November 9, 2023:**  
**Non-Agricultural Pool – November 9, 2023:**  
**Agricultural Pool – November 9, 2023:**  
**Advisory Committee – November 16, 2023:**  
**Watermaster Board – November 16, 2023:**

*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

Watermaster issues an Assessment Package annually based on production during the previous production year (July 1 through June 30). Production information is generally collected quarterly, and other necessary information is collected annually. Assessments create funds that are used during the current fiscal year for budgeted expenses. Assessments are based on the approved budget allocated across the total assessable production in the Basin.

## DISCUSSION

The Parties of the Overlying (Non-Agricultural) Pool and the Appropriative Pool were each sent a copy of their Water Activity Report in August 2023 that summarized their water activity for the previous year, including production, Dry Year Yield (DYY), land use conversion, transfers, voluntary agreements, and assignments. Each Party was asked to verify the data gathered and summarized by Watermaster. The Water Activity Reports were received back, and any necessary corrections were made.

Each Appropriative Pool Party's Water Activity Report was accompanied by a "Transfer from Storage to Satisfy Desalter Replenishment Obligation (DRO)" form, and summaries of DRO and Local Storage Accounts' balances. Using the form, the Parties submitted their preference on how they would like their share of DRO to be satisfied with stored water. Those transfers were then executed in September 2023 and the Parties' storage account balances were adjusted accordingly.

Assessments generate funds to cover the current year FY 2023/24 approved budget, in addition to reserves according to existing reserve policies. The Assessment Package does not factor in unspent monies as those are returned to Parties as a credit on the assessment invoicing. The FY 2022/23 Reserve excess cash to be refunded is \$1,284,138.96; Recharge Basin O&M excess cash to be refunded is \$258,043.76; the Debt Payment excess cash to be refunded is \$0; and the Recharge Improvement Projects excess cash to be refunded is \$0.

Continuing from the prior year, the total Operating Safe Yield (OSY) of the Appropriative Pool is 40,834 acre-feet, and Land Use Conversion has priority ahead of Early Transfer in calculating the Agricultural Pool Safe Yield Reallocation.

The Assessment Package is based on the FY 2023/24 Approved Budget totaling \$8,466,150 and identifies total assessable production for all Pools as 86,865.2 acre-feet, resulting in assessments of \$42.39/acre-foot for Judgment Administration and \$55.08/acre-foot for OBMP & Program Elements 1-9, excluding recharge debt service, recharge improvement project expenses, "Pomona Credit" assessments, and assessments for replenishment and CURO water.

For the production year 2022/23, there is a replenishment obligation of 28.4 acre-feet for overproduction, and 212.9 acre-feet for DRO. The new replenishment rate is \$872 per acre-foot, which is MWD's 2023 Tier 1 Untreated rate at \$855 plus OCWD's \$2 connection fee plus TVMWD's \$15 surcharge.

In September 2023, Watermaster received an RTS invoice from IEUA in the amount of \$46,060.40. The RTS is being assessed for water purchased during FY 2016/17 and FY 2017/18 through IEUA. A portion of the RTS is the sixth of ten annual installments for the 5,767.037 acre-feet of water purchased during FY 2016/17. The other portion is the fifth of ten annual installments for the 1,145.9 acre-feet of water purchased during FY 2017/18. The 85/15 Rule is applied where applicable for the RTS charges.

The additional assessments approved as part of the budget, allocated amongst the Appropriators based on their percentage of OSY, are the Pomona Credit assessment of \$66,667.00, recharge debt payment assessment of \$746,765, and recharge improvement project assessment of \$102,000. Other approved assessments will be invoiced based on formulas separate from the Assessment Package.

The total DRO for production year 2022/23 is 26,580.0 acre-feet. This includes the 10,000 acre-feet of DRO Contribution and 16,580.0 acre-feet of Remaining DRO. In August and September 2023, the Appropriate Pool Parties were given an opportunity to transfer water to satisfy their share of DRO. The Parties have submitted their requests and the DRO was satisfied with a combination of stored water, annual water rights, and Exhibit "G" Form A transfers. These transfers resulted in 212.9 acre-feet of the residual DRO to be assessed.

The storage loss rate applied to water held in storage accounts continues to be 0.07%. This rate is reflected in the Assessment Package and has been applied to the beginning balances of locally stored water accounts.

In cases where the ending balance of a storage account has increased from the beginning balance on July 1, 2023, a new storage agreement will be required. Parties with increased storage balances as of the approval of the Assessment Package have already submitted storage applications to Watermaster; the application submitted by the Overlying (Non-Agricultural) Pool was approved by the Watermaster Board on June 22, 2023, and the application submitted by the Appropriate Pool was approved by the Watermaster Board on August 24, 2023. Following the approval of the FY 2023/24 Assessment Package, a new storage agreement will be sent for signature to those Parties with increased balances.

Watermaster held two Assessment Package Workshops: one on October 24, 2023, and the other on October 31, 2023. The purpose of the workshops was to provide the Parties with information pertaining to the Assessment Package and opportunities to raise questions, concerns, and provide feedback.

The FY 2023/24 Assessment Package is being presented to the Pool Committees for advice and assistance. It will then be presented to the Advisory Committee for advice and assistance, and to the Watermaster Board for approval on November 16, 2023. If approved by the Board, invoices will be emailed to the Parties immediately following the Board's approval.

In addition to the line items detailed within the FY 2023/24 Assessment Package, additional credits and charges will be added to assessment invoices as directed by specific action of the Pool(s), or by action of Watermaster per past practice; these items are not dependent on the Board's approval of the Assessment Package. The following items will be added to this year's assessment invoicing:

1. Refund of the excess FY 2021/22 Recharge Basin O&M: \$258,043.76
2. Refund of the excess FY 2022/23 Reserve: \$1,284,138.96

In addition to the items listed above, charges for Pool Administration/Legal Services will be included on the FY 2023/24 Assessment invoices as approved by each Pool Committee.

#### ATTACHMENTS

1. Fiscal Year 2023/24 Assessment Package (DRAFT)



**CHINO BASIN WATERMASTER**

**DRAFT**

**2023/2024 ASSESSMENT PACKAGE  
(PRODUCTION YEAR 2022/2023)**

**PRINTED OCTOBER 26, 2023**





# Chino Basin Watermaster Assessment Package

## Table of Contents

Assessment Year 2023-2024 (Production Year 2022-2023)

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Table of Contents.....	0
<b>Pool 1</b>	
Water Production Overview.....	1
<b>Pool 2</b>	
Assessment Fee Summary.....	2
Water Production Overview.....	3
Water Production Summary.....	4
Local Storage Accounts Summary.....	5
Water Transaction Summary.....	6
Cumulative Unmet Replenishment Obligation (CURO).....	7
<b>Pool 3</b>	
Assessment Fee Summary.....	8
Water Production Overview.....	9
Water Production Summary.....	10
Local Excess Carry Over Storage Account Summary.....	11
Local Supplemental Storage Account Summary.....	12
Other Storage and Replenishment Accounts.....	13
Water Transaction Summary.....	14
Land Use Conversion Summary.....	15
Agricultural Pool Reallocation Summary.....	16
Cumulative Unmet Replenishment Obligation (CURO).....	17
Desalter Replenishment Accounting.....	18
Desalter Replenishment Obligation Contribution (DROC).....	19
Remaining Desalter Replenishment Obligation (RDRO).....	20
Desalter Replenishment Summary.....	21
<b>Pool All</b>	
Assessment Calculation.....	22
Water Transaction Detail.....	23
Analysis of the 85/15 Rule Application to Water Transfers.....	24
Watermaster Replenishment Calculation.....	25
Readiness to Serve (RTS) Charges.....	26
Assessment Package Notes.....	27
Assessment Package References and Definitions.....	28



Assessment Year 2023-2024 (Production Year 2022-2023)

# Water Production Overview

## AGRICULTURAL POOL SUMMARY IN ACRE FEET

Agricultural Pool Safe Yield	82,800.0
Agricultural Total Pool Production	(17,082.2)
	<b>65,717.8</b>
Safe Yield Reduction (Backfill)	(9,000.0)
Total Conversions	(33,725.6)
	<b>(42,725.6)</b>
Early Transfer:	<b>22,992.2</b>

Well County	Physical Production	Voluntary Agreements	Total Ag Pool Production
Los Angeles County	135.0	0.0	135.0
Riverside County	1,914.5	0.0	1,914.5
San Bernardino County	9,293.0	5,739.7	15,032.7
	<b>11,342.5</b>	<b>5,739.7</b>	<b>17,082.2</b>



**Assessment Year 2023-2024 (Production Year 2022-2023)**  
**Assessment Fee Summary**

	AF Production	Non-Agricultural Pool		Replenishment Assessments		CURO Adjmnt	RTS Charges	Other Adjmnts	Total Assmnts Due
		\$42.39 AF/Admin	\$55.08 AF/OBMP	AF Over Annual Right	\$872.00 Per AF				
9W Halo Western OpCo L.P.	25.8	1,094.43	1,422.06	8.9	7,767.78	887.71	505.72	0.00	11,677.70
ANG II (Multi) LLC	0.0	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
Aqua Capital Management LP	0.0	0.00	0.00	0.0	0.00	0.00	382.93	0.00	382.93
California Speedway Corporation	274.2	11,621.94	15,101.12	0.0	0.00	0.00	0.00	0.00	26,723.06
California Steel Industries, Inc.	1,057.5	44,827.98	58,247.82	0.0	0.00	0.00	0.00	0.00	103,075.80
CalMat Co.	0.0	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
CCG Ontario, LLC	0.0	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
City of Ontario (Non-Ag)	1,151.3	48,804.45	63,414.71	0.0	0.00	0.00	0.00	0.00	112,219.16
County of San Bernardino (Non-Ag)	75.5	3,199.64	4,157.49	0.0	0.00	0.00	0.00	0.00	7,357.13
General Electric Company	0.0	0.00	0.00	0.0	0.00	0.00	0.41	0.00	0.41
Hamner Park Associates, a California Limited Partnership	299.2	12,681.10	16,477.35	0.0	0.00	0.00	0.00	0.00	29,158.45
Linde Inc.	0.0	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
Monte Vista Water District (Non-Ag)	15.9	674.89	876.93	0.0	0.00	0.00	0.00	0.00	1,551.82
Riboli Family and San Antonio Winery, Inc.	1.8	77.79	101.07	1.8	1,600.12	2,344.59	253.36	0.00	4,376.93
Space Center Mira Loma, Inc.	93.7	3,972.28	5,161.44	0.0	0.00	0.00	0.00	0.00	9,133.72
TAMCO	0.0	0.00	0.00	0.0	0.00	0.00	242.28	0.00	242.28
West Venture Development Company	0.0	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
	<b>2,994.9</b>	<b>126,954.50</b>	<b>164,959.99</b>	<b>10.7</b>	<b>9,367.90</b>	<b>3,232.30</b>	<b>1,384.70</b>	<b>0.00</b>	<b>305,899.38</b>
	<b>2A</b>	<b>2B</b>	<b>2C</b>	<b>2D</b>	<b>2E</b>	<b>2F</b>	<b>2G</b>	<b>2H</b>	<b>2I</b>

Notes:



**Assessment Year 2023-2024 (Production Year 2022-2023)**

**Water Production Overview**

	Physical Production	Assignments	Other Adjustments	Actual FY Production (Assmnt Pkg Column 4H)
9W Halo Western OpCo L.P.	25.8	0.0	0.0	25.8
ANG II (Multi) LLC	0.0	0.0	0.0	0.0
Aqua Capital Management LP	0.0	0.0	0.0	0.0
California Speedway Corporation	274.2	0.0	0.0	274.2
California Steel Industries, Inc.	1,057.5	0.0	0.0	1,057.5
CalMat Co.	0.0	0.0	0.0	0.0
CCG Ontario, LLC	0.0	0.0	0.0	0.0
City of Ontario (Non-Ag)	0.0	1,151.3	0.0	1,151.3
County of San Bernardino (Non-Ag)	0.0	75.5	0.0	75.5
General Electric Company	808.6	0.0	(808.6)	0.0
Hamner Park Associates, a California Limited Partnership	0.0	299.2	0.0	299.2
Linde Inc.	0.0	0.0	0.0	0.0
Monte Vista Water District (Non-Ag)	0.0	15.9	0.0	15.9
Riboli Family and San Antonio Winery, Inc.	1.8	0.0	0.0	1.8
Space Center Mira Loma, Inc.	0.0	93.7	0.0	93.7
TAMCO	0.0	0.0	0.0	0.0
West Venture Development Company	0.0	0.0	0.0	0.0
	<b>2,167.9</b>	<b>1,635.6</b>	<b>(808.6)</b>	<b>2,994.9</b>
	<b>3A</b>	<b>3B</b>	<b>3C</b>	<b>3D</b>

Notes:

Other Adj:

1) General Electric Company extracted and subsequently injected 808.570 AF of water during the fiscal year.



# Water Production Summary

	Percent of Safe Yield	Carryover Beginning Balance	Prior Year Adjustments	Assigned Share of Safe Yield (AF)	Water Transaction Activity	Other Adjustments	Annual Production Right	Actual Fiscal Year Production	Net Over Production	Under Production Balances		
										Total Under-Produced	Carryover: Next Year Begin Bal	To Excess Carryover Account
9W Halo Western OpCo L.P.	0.256%	0.0	0.0	18.8	(1.9)	0.0	16.9	25.8	8.9	0.0	0.0	0.0
ANG II (Multi) LLC	0.000%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Aqua Capital Management LP	0.000%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
California Speedway Corporation	13.605%	1,000.0	0.0	1,000.0	(100.0)	0.0	1,900.0	274.2	0.0	1,625.8	1,000.0	625.8
California Steel Industries, Inc.	21.974%	1,615.1	0.0	1,615.1	(161.5)	0.0	3,068.8	1,057.5	0.0	2,011.2	1,615.1	396.1
CalMat Co.	0.000%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CCG Ontario, LLC	0.000%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
City of Ontario (Non-Ag)	53.338%	2,396.5	0.0	3,920.6	(5,165.7)	0.0	1,151.3	1,151.3	0.0	0.0	0.0	0.0
County of San Bernardino (Non-Ag)	1.821%	133.9	0.0	133.9	(13.4)	0.0	254.4	75.5	0.0	178.9	133.9	45.0
General Electric Company	0.000%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hamner Park Associates, a California Limited Partnership	6.316%	464.2	0.0	464.2	(46.4)	0.0	882.1	299.2	0.0	582.9	464.2	118.7
Linde Inc.	0.014%	1.0	0.0	1.0	(0.1)	0.0	1.9	0.0	0.0	1.9	1.0	0.9
Monte Vista Water District (Non-Ag)	0.680%	50.0	0.0	50.0	(5.0)	0.0	95.0	15.9	0.0	79.1	50.0	29.1
Riboli Family and San Antonio Winery, Inc.	0.000%	0.0	0.0	0.0	0.0	0.0	0.0	1.8	1.8	0.0	0.0	0.0
Space Center Mira Loma, Inc.	1.417%	0.0	0.0	104.1	(10.4)	0.0	93.7	93.7	0.0	0.0	0.0	0.0
TAMCO	0.579%	42.6	0.0	42.6	(4.3)	0.0	81.0	0.0	0.0	81.0	42.6	38.4
West Venture Development Company	0.000%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	<b>100.00%</b>	<b>5,703.3</b>	<b>0.0</b>	<b>7,350.3</b>	<b>(5,508.7)</b>	<b>0.0</b>	<b>7,545.0</b>	<b>2,994.9</b>	<b>10.7</b>	<b>4,560.8</b>	<b>3,306.9</b>	<b>1,253.9</b>
	<b>4A</b>	<b>4B</b>	<b>4C</b>	<b>4D</b>	<b>4E</b>	<b>4F</b>	<b>4G</b>	<b>4H</b>	<b>4I</b>	<b>4J</b>	<b>4K</b>	<b>4L</b>

Notes:  
 1) City of Ontario (Non-Ag) dedicated 2,396.5 AF of Carryover water, and 2,377.2 AF of Annual Share of Operating Safe Yield, to satisfy City of Ontario's 2023/24 DRO pursuant to an Exhibit "G" Section 10 Form A.



**Assessment Year 2023-2024 (Production Year 2022-2023)**

**Local Storage Accounts Summary**

	Local Excess Carry Over Storage Account (ECO)					Local Supplemental Storage Account				Combined
	Beginning Balance	0.07% Storage Loss	Transfers To / (From)	From Under-Production	Ending Balance	Beginning Balance	0.07% Storage Loss	Transfers To / (From)	Ending Balance	Ending Balance
9W Halo Western OpCo L.P.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ANG II (Multi) LLC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Aqua Capital Management LP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
California Speedway Corporation	2,394.3	(1.7)	0.0	625.8	3,018.5	0.0	0.0	0.0	0.0	3,018.5
California Steel Industries, Inc.	3,292.2	(2.3)	0.0	396.1	3,686.0	0.0	0.0	0.0	0.0	3,686.0
CalMat Co.	5.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	5.0
CCG Ontario, LLC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
City of Ontario (Non-Ag)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
County of San Bernardino (Non-Ag)	297.0	(0.2)	0.0	45.0	341.8	0.0	0.0	0.0	0.0	341.8
General Electric Company	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hamner Park Associates, a California Limited Partnership	1,800.7	(1.3)	0.0	118.7	1,918.1	0.0	0.0	0.0	0.0	1,918.1
Linde Inc.	65.2	0.0	0.0	0.9	66.0	0.0	0.0	0.0	0.0	66.0
Monte Vista Water District (Non-Ag)	145.2	(0.1)	0.0	29.1	174.2	0.0	0.0	0.0	0.0	174.2
Riboli Family and San Antonio Winery, Inc.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Space Center Mira Loma, Inc.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TAMCO	294.3	(0.2)	0.0	38.4	332.4	0.0	0.0	0.0	0.0	332.4
West Venture Development Company	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	<b>8,293.9</b>	<b>(5.8)</b>	<b>0.0</b>	<b>1,253.9</b>	<b>9,542.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>9,542.0</b>
	<b>5A</b>	<b>5B</b>	<b>5C</b>	<b>5D</b>	<b>5E</b>	<b>5F</b>	<b>5G</b>	<b>5H</b>	<b>5I</b>	<b>5J</b>

Notes:  
1)



**Assessment Year 2023-2024 (Production Year 2022-2023)**

**Water Transaction Summary**

	Percent of Safe Yield	Assigned Share of Safe Yield (AF)	Water Transactions			Total Water Transactions
			10% of Operating Safe Yield ("Haircut")	Transfers (To) / From ECO Account	General Transfers / Exhibit G Water Sales	
9W Halo Western OpCo L.P.	0.256%	18.8	(1.9)	0.0	0.0	(1.9)
ANG II (Multi) LLC	0.000%	0.0	0.0	0.0	0.0	0.0
Aqua Capital Management LP	0.000%	0.0	0.0	0.0	0.0	0.0
California Speedway Corporation	13.605%	1,000.0	(100.0)	0.0	0.0	(100.0)
California Steel Industries, Inc.	21.974%	1,615.1	(161.5)	0.0	0.0	(161.5)
CalMat Co.	0.000%	0.0	0.0	0.0	0.0	0.0
CCG Ontario, LLC	0.000%	0.0	0.0	0.0	0.0	0.0
City of Ontario (Non-Ag)	53.338%	3,920.6	(392.1)	0.0	(4,773.7)	(5,165.7)
County of San Bernardino (Non-Ag)	1.821%	133.9	(13.4)	0.0	0.0	(13.4)
General Electric Company	0.000%	0.0	0.0	0.0	0.0	0.0
Hamner Park Associates, a California Limited Partnership	6.316%	464.2	(46.4)	0.0	0.0	(46.4)
Linde Inc.	0.014%	1.0	(0.1)	0.0	0.0	(0.1)
Monte Vista Water District (Non-Ag)	0.680%	50.0	(5.0)	0.0	0.0	(5.0)
Riboli Family and San Antonio Winery, Inc.	0.000%	0.0	0.0	0.0	0.0	0.0
Space Center Mira Loma, Inc.	1.417%	104.1	(10.4)	0.0	0.0	(10.4)
TAMCO	0.579%	42.6	(4.3)	0.0	0.0	(4.3)
West Venture Development Company	0.000%	0.0	0.0	0.0	0.0	0.0
	<b>100.000%</b>	<b>7,350.3</b>	<b>(735.0)</b>	<b>0.0</b>	<b>(4,773.7)</b>	<b>(5,508.7)</b>
	<b>6A</b>	<b>6B</b>	<b>6C</b>	<b>6D</b>	<b>6E</b>	<b>6F</b>

Notes:

1) City of Ontario (Non-Ag) dedicated 2,396.5 AF of Carryover water, and 2,377.2 AF of Annual Share of Operating Safe Yield, to satisfy City of Ontario's 2023/24 DRO pursuant to an Exhibit "G" Section 10 Form A.



**Assessment Year 2023-2024 (Production Year 2022-2023)**

**Cumulative Unmet Replenishment Obligation (CURO)**

Remaining Replenishment Obligation:	AF
Appropriative - 100	1,533.2
Appropriative - 15/85	32.4
Non-Agricultural - 100	70.8
	<b>1,636.4</b>

Replenishment Rates	
2023 Rate	\$872.00
2022 Rate	\$811.00

**Pool 2 Non-Agricultural**

Company	Outstanding Obligation (AF)	Fund Balance (\$)	Outstanding Obligation (\$)
9W Halo Western OpCo L.P.	19.2	\$15,881.72	\$887.71
ANG II (Multi) LLC	0.0	\$0.00	\$0.00
Aqua Capital Management LP	0.0	\$0.00	\$0.00
California Speedway Corporation	0.0	\$0.00	\$0.00
California Steel Industries, Inc.	0.0	\$0.00	\$0.00
CalMat Co.	0.0	\$0.00	\$0.00
CCG Ontario, LLC	0.0	\$0.00	\$0.00
City of Ontario (Non-Ag)	0.0	\$0.00	\$0.00
County of San Bernardino (Non-Ag)	0.0	\$0.00	\$0.00
General Electric Company	0.0	\$0.00	\$0.00
Hamner Park Associates, a California Limited Partnership	0.0	\$0.00	\$0.00
Linde Inc.	0.0	\$0.00	\$0.00
Monte Vista Water District (Non-Ag)	0.0	\$0.00	\$0.00
Riboli Family and San Antonio Winery, Inc.	51.6	\$42,662.82	\$2,344.59
Space Center Mira Loma, Inc.	0.0	\$0.00	\$0.00
TAMCO	0.0	\$0.00	\$0.00
West Venture Development Company	0.0	\$0.00	\$0.00
<b>Pool 2 Non-Agricultural Total</b>	<b>70.8</b>	<b>\$58,544.54</b>	<b>\$3,232.30</b>

7A

7B

7C

Notes:

1) The 2023 replenishment rate includes MWD's Full Service Untreated Tier 1 volumic cost of \$855/AF, a \$15/AF surcharge from Three Valleys Municipal Water District, and a \$2/AF connection fee from Orange County Water District.





**Assessment Year 2023-2024 (Production Year 2022-2023)**

**Assessment Fee Summary**

	AF Production and Exchanges	Appropriative Pool		Ag Pool SY Reallocation			Replenishment Assessments			85/15 Activity		CURO Adjmt	ASSESSMENTS DUE							
		\$42.39 AF/Admin	\$55.08 AF/OBMP	AF Total Reallocation	\$724,055 \$11.02 AF/Admin	\$940,831 \$14.32 AF/OBMP	\$130.80 AF/15%	\$741.20 AF/85%	\$872.00 AF/100%	15% Producer Credits	15% Pro-rated Debits		Total Production Based	Pomona Credit	Recharge Debt Payment	Recharge Imprvmt Project	RTS Charges	Other Adjmts	DRO	Total Due
BlueTriton Brands, Inc.	276.6	11,724.40	15,234.25	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26,958.65	0.00	0.00	0.00	9,886.74	0.00	0.00	36,845.39
CalMat Co. (Appropriative)	0.0	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chino Hills, City Of	2,176.9	92,280.19	119,905.47	2,510.0	27,654.64	35,934.21	92.40	0.00	0.00	0.00	34,273.03	9.01	310,148.95	2,567.35	28,757.92	3,928.02	1.37	0.00	0.00	345,403.61
Chino, City Of	3,112.5	131,940.02	171,437.99	11,814.1	130,163.73	169,133.66	132.11	0.00	0.00	0.00	49,002.76	12.89	651,823.16	4,904.69	54,939.50	7,504.14	0.07	0.00	0.00	719,171.56
Cucamonga Valley Water District	13,514.7	572,888.98	744,390.78	2,710.2	29,859.64	38,799.37	573.61	0.00	0.00	(126,965.64)	212,772.01	55.95	1,472,374.70	4,400.69	49,293.96	6,733.02	15.90	0.00	0.00	1,532,818.27
Desalter Authority	39,815.0	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fontana Union Water Company	0.0	0.00	0.00	3,729.3	41,088.39	53,389.90	0.00	0.00	0.00	0.00	0.00	0.00	94,478.29	7,771.37	87,050.40	11,890.14	0.00	0.00	0.00	201,190.20
Fontana Water Company	8,721.0	369,684.55	480,354.44	834.6	9,195.77	11,948.90	370.15	0.00	0.00	(708,741.18)	137,301.51	36.11	300,150.25	1.33	14.94	2.04	12.03	0.00	0.00	300,180.58
Fontana, City Of	0.0	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Golden State Water Company	921.7	39,072.09	50,768.83	239.9	2,643.58	3,435.05	39.12	0.00	0.00	(20,010.37)	14,511.45	3.82	90,463.57	500.00	5,600.74	765.00	0.66	0.00	0.00	97,329.98
Jurupa Community Services District	7,157.8	303,417.06	394,248.93	16,765.9	184,720.46	240,024.22	303.80	0.00	0.00	0.00	112,689.65	29.63	1,235,433.75	2,506.01	28,070.90	3,834.18	7.64	0.00	0.00	1,269,852.48
Marygold Mutual Water Company	559.7	23,727.59	30,830.75	382.3	4,212.11	5,473.18	0.00	0.00	0.00	0.00	0.00	0.00	64,243.63	796.67	8,923.84	1,218.90	1,005.25	0.00	0.00	76,188.29
Monte Vista Irrigation Company	0.0	0.00	0.00	394.8	4,349.58	5,651.81	0.00	0.00	0.00	0.00	0.00	0.00	10,001.39	822.67	9,215.08	1,258.68	0.00	0.00	0.00	21,297.82
Monte Vista Water District	5,165.5	218,963.93	284,513.65	2,920.0	32,171.13	41,802.90	219.24	0.00	0.00	0.00	81,323.60	21.39	659,015.84	5,864.70	65,692.92	8,972.94	6.40	0.00	0.00	739,552.80
NCL Co, LLC	0.0	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Niagara Bottling, LLC	1,401.4	59,406.28	77,190.32	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	68,399.52	204,996.12	0.00	0.00	0.00	31,471.59	19,986.10	183,374.62	439,828.43
Nicholson Family Trust	0.0	0.00	0.00	2.2	24.67	32.05	0.00	0.00	0.00	0.00	0.00	0.00	56.72	4.67	52.27	7.14	0.00	0.00	0.00	120.80
Norco, City Of	0.0	0.00	0.00	117.7	1,297.12	1,685.46	0.00	0.00	0.00	0.00	0.00	0.00	2,982.58	245.33	2,748.10	375.36	0.00	0.00	0.00	6,351.37
Ontario, City Of	12,566.1	532,677.78	692,141.83	12,521.7	137,959.52	179,263.44	533.35	0.00	0.00	0.00	197,837.50	52.03	1,740,465.45	13,828.07	154,894.00	21,156.84	14.80	0.00	0.00	1,930,359.16
Pomona, City Of	10,197.4	432,267.19	561,672.02	6,543.7	72,095.89	93,680.80	0.00	0.00	0.00	0.00	0.00	0.00	1,159,715.90	(53,030.93)	152,743.31	20,863.08	0.00	0.00	0.00	1,280,291.36
San Antonio Water Company	459.0	19,454.98	25,279.08	879.1	9,686.11	12,586.05	19.48	0.00	0.00	0.00	7,225.61	1.90	74,253.21	1,832.01	20,521.10	2,802.96	0.74	0.00	0.00	99,410.02
San Bernardino, County of (Shooting Park)	17.6	747.63	971.45	0.0	0.00	0.00	0.75	13,072.54	0.00	0.00	277.67	1,275.23	16,345.27	0.00	0.00	0.00	356.08	216.18	2,308.18	19,225.71
Santa Ana River Water Company	0.0	0.00	0.00	759.2	8,364.31	10,868.51	0.00	0.00	0.00	0.00	0.00	0.00	19,232.82	1,582.01	17,720.73	2,420.46	1,268.28	0.00	0.00	42,224.30
Upland, City Of	540.0	22,892.68	29,745.90	1,664.2	18,335.92	23,825.53	22.92	0.00	0.00	0.00	8,502.38	2.24	103,327.57	3,468.02	38,846.72	5,306.04	1.82	0.00	0.00	150,950.17
West End Consolidated Water Co	0.0	0.00	0.00	552.8	6,090.82	7,914.36	0.00	0.00	0.00	0.00	0.00	0.00	14,005.18	1,152.01	12,904.10	1,762.56	0.00	0.00	0.00	29,823.85
West Valley Water District	0.0	0.00	0.00	375.9	4,141.62	5,381.59	0.00	0.00	0.00	0.00	0.00	0.00	9,523.21	783.34	8,774.49	1,198.50	626.34	0.00	0.00	20,905.88
<b>106,603.1</b>	<b>2,831,145.35</b>	<b>3,678,685.69</b>	<b>65,717.8</b>	<b>724,055.00</b>	<b>940,831.00</b>	<b>2,306.93</b>	<b>13,072.54</b>	<b>0.00</b>	<b>(855,717.19)</b>	<b>855,717.17</b>	<b>69,899.72</b>	<b>8,259,996.21</b>	<b>0.01</b>	<b>746,765.02</b>	<b>102,000.00</b>	<b>44,675.70</b>	<b>20,202.28</b>	<b>185,682.80</b>	<b>9,359,322.02</b>	
	<b>8A</b>	<b>8B</b>	<b>8C</b>	<b>8D</b>	<b>8E</b>	<b>8F</b>	<b>8G</b>	<b>8H</b>	<b>8I</b>	<b>8J</b>	<b>8K</b>	<b>8L</b>	<b>8M</b>	<b>8N</b>	<b>8O</b>	<b>8P</b>	<b>8Q</b>	<b>8R</b>	<b>8S</b>	<b>8T</b>

Notes:  
 1) IEUA is collecting the sixth of ten annual RTS charges for water purchased in FY 2016/17, and fifth of ten annual RTS charges for water purchased in FY 2017/18.  
 2) "Other Adjustments" (Column [8R]) includes adjustments from replenishment purchase for DRO. If water was not available for purchase in the previous year, this adjustment is based on the previous year's obligation, multiplied by the current replenishment rate, minus the fund balance, similar to the CURO.



**Assessment Year 2023-2024 (Production Year 2022-2023)**  
**Water Production Overview**

	Physical Production	Voluntary Agreements (w/ Ag)	Assignments (w/ Non-Ag)	Other Adjustments	Actual FY Production (Assmnt Pkg Column 10I)
BlueTriton Brands, Inc.	276.6	0.0	0.0	0.0	276.6
CalMat Co. (Appropriative)	0.0	0.0	0.0	0.0	0.0
Chino Hills, City Of	2,218.1	(41.2)	0.0	0.0	2,176.9
Chino, City Of	5,568.9	(2,380.9)	(75.5)	0.0	3,112.5
Cucamonga Valley Water District	13,514.7	0.0	0.0	0.0	13,514.7
Desalter Authority	39,844.0	0.0	0.0	(29.0)	39,815.0
Fontana Union Water Company	0.0	0.0	0.0	0.0	0.0
Fontana Water Company	8,721.0	0.0	0.0	0.0	8,721.0
Fontana, City Of	0.0	0.0	0.0	0.0	0.0
Golden State Water Company	921.7	0.0	0.0	0.0	921.7
Jurupa Community Services District	7,521.6	0.0	(392.9)	29.0	7,157.8
Marygold Mutual Water Company	559.7	0.0	0.0	0.0	559.7
Monte Vista Irrigation Company	0.0	0.0	0.0	0.0	0.0
Monte Vista Water District	5,293.0	(101.7)	(15.9)	(9.9)	5,165.5
NCL Co, LLC	0.0	0.0	0.0	0.0	0.0
Niagara Bottling, LLC	1,401.4	0.0	0.0	0.0	1,401.4
Nicholson Family Trust	0.0	0.0	0.0	0.0	0.0
Norco, City Of	0.0	0.0	0.0	0.0	0.0
Ontario, City Of	16,933.4	(3,216.0)	(1,151.3)	0.0	12,566.1
Pomona, City Of	10,197.4	0.0	0.0	0.0	10,197.4
San Antonio Water Company	459.0	0.0	0.0	0.0	459.0
San Bernardino, County of (Shooting Park)	17.6	0.0	0.0	0.0	17.6
Santa Ana River Water Company	0.0	0.0	0.0	0.0	0.0
Upland, City Of	807.9	0.0	0.0	(267.8)	540.0
West End Consolidated Water Co	0.0	0.0	0.0	0.0	0.0
West Valley Water District	0.0	0.0	0.0	0.0	0.0
	<b>114,256.1</b>	<b>(5,739.7)</b>	<b>(1,635.6)</b>	<b>(277.7)</b>	<b>106,603.1</b>
Less Desalter Authority Production					<b>(39,815.0)</b>
Total Less Desalter Authority Production					<b>66,788.0</b>

9A
9B
9C
9D
9E

Notes:  
 Other Adjustments:  
 1) CDA provided 28.968 AF to JCSD for irrigation at Orchard Park.  
 2) Monte Vista Water District received credit of 9.899 AF after evaporative losses due to Pump-to-Waste activities in which the water was recaptured into a recharge basin.  
 3) City of Upland received credit of 267.804 AF after evaporative losses due to Pump-to-Waste activities in which the water was recaptured into a recharge basin.



# Water Production Summary

	Percent of Operating Safe Yield	Carryover Beginning Balance	Prior Year Adjustments	Assigned Share of Operating Safe Yield	Net Ag Pool Reallocation	Water Transaction Activity	Other Adjustments	Annual Production Right	Actual Fiscal Year Production	Storage and Recovery Program(s)	Total Production and Exchanges	Net Over-Production		Under Production Balances		
												85/15%	100%	Total Under-Produced	Carryover: Next Year Begin Bal	To Excess Carryover Account
BlueTriton Brands, Inc.	0.000%	0.0	0.0	0.0	0.0	276.6	0.0	276.6	276.6	0.0	276.6	0.0	0.0	0.0	0.0	0.0
CalMat Co. (Appropriative)	0.000%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chino Hills, City Of	3.851%	1,572.5	0.0	1,572.5	2,510.0	0.0	0.0	5,655.1	2,176.9	0.0	2,176.9	0.0	0.0	3,478.1	1,572.5	1,905.6
Chino, City Of	7.357%	3,004.2	0.0	3,004.2	11,814.1	0.0	0.0	17,822.4	3,112.5	0.0	3,112.5	0.0	0.0	14,709.9	3,004.2	11,705.7
Cucamonga Valley Water District	6.601%	0.0	0.0	2,695.5	2,710.2	14,687.3	0.0	20,092.9	13,514.7	0.0	13,514.7	0.0	0.0	6,578.1	2,695.5	3,882.7
Desalter Authority	0.000%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39,815.0	0.0	39,815.0	0.0	39,815.0	0.0	0.0	0.0
Fontana Union Water Company	11.657%	0.0	0.0	4,760.0	3,729.3	(8,489.3)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fontana Water Company	0.002%	0.8	0.0	0.8	834.6	20,003.5	0.0	20,839.8	8,721.0	0.0	8,721.0	0.0	0.0	12,118.7	0.8	12,117.9
Fontana, City Of	0.000%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Golden State Water Company	0.750%	167.5	0.0	306.3	239.9	366.4	0.0	1,080.1	921.7	0.0	921.7	0.0	0.0	158.3	158.3	0.0
Jurupa Community Services District	3.759%	1,535.0	0.0	1,535.0	16,765.9	0.0	0.0	19,835.8	7,157.8	0.0	7,157.8	0.0	0.0	12,678.0	1,535.0	11,143.1
Marygold Mutual Water Company	1.195%	285.6	0.0	488.0	382.3	0.0	0.0	1,155.9	559.7	0.0	559.7	0.0	0.0	596.1	488.0	108.2
Monte Vista Irrigation Company	1.234%	503.9	0.0	503.9	394.8	0.0	0.0	1,402.6	0.0	0.0	0.0	0.0	0.0	1,402.6	503.9	898.7
Monte Vista Water District	8.797%	2,941.0	0.0	3,592.2	2,920.0	0.0	0.0	9,453.1	5,165.5	0.0	5,165.5	0.0	0.0	4,287.6	3,592.2	695.5
NCL Co, LLC	0.000%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Niagara Bottling, LLC	0.000%	0.0	0.0	0.0	0.0	4,000.0	0.0	4,000.0	1,401.4	0.0	1,401.4	0.0	0.0	2,598.6	0.0	2,598.6
Nicholson Family Trust	0.007%	1.6	0.0	2.9	2.2	(4.5)	0.0	2.2	0.0	0.0	0.0	0.0	0.0	2.2	2.2	0.0
Norco, City Of	0.368%	150.3	0.0	150.3	117.7	0.0	0.0	418.3	0.0	0.0	0.0	0.0	0.0	418.3	150.3	268.0
Ontario, City Of	20.742%	8,469.8	0.0	8,469.8	12,521.7	0.0	0.0	29,461.3	12,566.1	0.0	12,566.1	0.0	0.0	16,895.1	8,469.8	8,425.4
Pomona, City Of	20.454%	8,352.2	0.0	8,352.2	6,543.7	0.0	0.0	23,248.0	10,197.4	0.0	10,197.4	0.0	0.0	13,050.7	8,352.2	4,698.5
San Antonio Water Company	2.748%	1,122.1	0.0	1,122.1	879.1	0.0	0.0	3,123.4	459.0	0.0	459.0	0.0	0.0	2,664.4	1,122.1	1,542.3
San Bernardino, County of (Shooting P	0.000%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.6	0.0	17.6	17.6	0.0	0.0	0.0	0.0
Santa Ana River Water Company	2.373%	969.0	0.0	969.0	759.2	0.0	0.0	2,697.2	0.0	0.0	0.0	0.0	0.0	2,697.2	969.0	1,728.2
Upland, City Of	5.202%	2,124.2	0.0	2,124.2	1,664.2	408.3	0.0	6,320.9	540.0	0.0	540.0	0.0	0.0	5,780.9	2,124.2	3,656.7
West End Consolidated Water Co	1.728%	705.6	0.0	705.6	552.8	(66.4)	0.0	1,897.6	0.0	0.0	0.0	0.0	0.0	1,897.6	705.6	1,192.0
West Valley Water District	1.175%	479.8	0.0	479.8	375.9	0.0	0.0	1,335.5	0.0	0.0	0.0	0.0	0.0	1,335.5	479.8	855.7
	<b>100.00%</b>	<b>32,384.9</b>	<b>0.0</b>	<b>40,834.0</b>	<b>65,717.8</b>	<b>31,181.8</b>	<b>0.0</b>	<b>170,118.5</b>	<b>106,603.1</b>	<b>0.0</b>	<b>106,603.1</b>	<b>17.6</b>	<b>39,815.0</b>	<b>103,348.0</b>	<b>35,925.4</b>	<b>67,422.7</b>
Less Desalter Authority Production									<b>(39,815.0)</b>		<b>(39,815.0)</b>		<b>(39,815.0)</b>			
Total Less Desalter Authority Production									<b>66,788.0</b>		<b>66,788.0</b>		<b>0.0</b>			
	<b>10A</b>	<b>10B</b>	<b>10C</b>	<b>10D</b>	<b>10E</b>	<b>10F</b>	<b>10G</b>	<b>10H</b>	<b>10I</b>	<b>10J</b>	<b>10K</b>	<b>10L</b>	<b>10M</b>	<b>10N</b>	<b>10O</b>	<b>10P</b>

Notes:  
1) BlueTriton Brands, Inc. transferred 276.6 AF out of their ECO account to offset their Production Year 2022/23 overproduction obligation.



**Assessment Year 2023-2024 (Production Year 2022-2023)**

**Local Excess Carry Over Storage Account Summary**

	Excess Carry Over Account (ECO)					Ending Balance
	Beginning Balance	0.07% Storage Loss	Transfers To / (From)	From Supplemental Storage	From Under-Production	
BlueTriton Brands, Inc.	1,154.1	(0.8)	(318.1)	0.0	0.0	835.2
CalMat Co. (Appropriative)	0.4	0.0	0.0	0.0	0.0	0.4
Chino Hills, City Of	14,545.1	(10.2)	0.0	0.0	1,905.6	16,440.5
Chino, City Of	127,116.0	(89.0)	(23,642.6)	0.0	11,705.7	115,090.2
Cucamonga Valley Water District	8,757.5	(6.1)	(3,020.1)	0.0	3,882.7	9,613.9
Desalter Authority	0.0	0.0	0.0	0.0	0.0	0.0
Fontana Union Water Company	0.0	0.0	0.0	0.0	0.0	0.0
Fontana Water Company	4,901.8	(3.4)	(1,346.0)	0.0	12,117.9	15,670.2
Fontana, City Of	0.0	0.0	0.0	0.0	0.0	0.0
Golden State Water Company	0.0	0.0	0.0	0.0	0.0	0.0
Jurupa Community Services District	39,778.5	(27.8)	(2,316.1)	0.0	11,143.1	48,577.6
Marygold Mutual Water Company	317.2	(0.2)	(258.8)	0.0	108.2	166.3
Monte Vista Irrigation Company	11,534.1	(8.1)	(180.5)	0.0	898.7	12,244.2
Monte Vista Water District	3,636.7	(2.5)	(2,074.2)	0.0	695.5	2,255.4
NCL Co, LLC	4.0	0.0	0.0	0.0	0.0	4.0
Niagara Bottling, LLC	316.0	(0.2)	0.0	0.0	2,598.6	2,914.4
Nicholson Family Trust	0.0	0.0	0.0	0.0	0.0	0.0
Norco, City Of	2,795.2	(2.0)	(53.8)	0.0	268.0	3,007.4
Ontario, City Of	47,726.5	(33.4)	(649.1)	0.0	8,425.4	55,469.4
Pomona, City Of	26,548.7	(18.6)	(4,522.1)	0.0	4,698.5	26,706.5
San Antonio Water Company	5,289.2	(3.7)	(873.8)	0.0	1,542.3	5,953.9
San Bernardino, County of (Shooting Park)	0.0	0.0	0.0	0.0	0.0	0.0
Santa Ana River Water Company	5,836.4	(4.1)	(347.1)	0.0	1,728.2	7,213.4
Upland, City Of	22,320.5	(15.6)	(10,842.0)	0.0	3,656.7	15,119.6
West End Consolidated Water Co	5,722.0	(4.0)	(961.1)	0.0	1,192.0	5,949.0
West Valley Water District	8,663.8	(6.1)	(171.9)	0.0	855.7	9,341.6
	<b>336,963.7</b>	<b>(235.9)</b>	<b>(51,577.3)</b>	<b>0.0</b>	<b>67,422.7</b>	<b>352,573.2</b>
	<b>11A</b>	<b>11B</b>	<b>11C</b>	<b>11D</b>	<b>11E</b>	<b>11F</b>

Notes:

1) BlueTriton Brands, Inc. transferred 276.6 AF out of their ECO account to offset their Production Year 2022/23 overproduction obligation.



Assessment Year 2023-2024 (Production Year 2022-2023)

# Local Supplemental Storage Account Summary

	Recharged Recycled Account					Quantified (Pre 7/1/2000) Account					New (Post 7/1/2000) Account					Combined
	Beginning Balance	0.07% Storage Loss	Transfers To / (From)	Transfer to ECO Account	Ending Balance	Beginning Balance	0.07% Storage Loss	Transfers To / (From)	Transfer to ECO Account	Ending Balance	Beginning Balance	0.07% Storage Loss	Transfers To / (From)	Transfer to ECO Account	Ending Balance	Ending Balance
BlueTriton Brands, Inc.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CalMat Co. (Appropriative)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chino Hills, City Of	13,930.3	(9.8)	1,242.2	0.0	15,162.8	3,786.1	(2.7)	(949.9)	0.0	2,833.5	0.0	0.0	0.0	0.0	0.0	17,996.3
Chino, City Of	8,496.7	(5.9)	1,586.7	0.0	10,077.5	1,050.3	(0.7)	0.0	0.0	1,049.6	1,923.9	(1.3)	0.0	0.0	1,922.6	13,049.6
Cucamonga Valley Water District	44,993.4	(31.5)	3,355.9	0.0	48,317.8	10,678.4	(7.5)	0.0	0.0	10,670.9	892.0	(0.6)	293.4	0.0	1,184.8	60,173.5
Desalter Authority	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fontana Union Water Company	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fontana Water Company	1,624.6	(1.1)	0.0	0.0	1,623.4	0.0	0.0	0.0	0.0	0.0	309.6	(0.2)	22.3	0.0	331.8	1,955.2
Fontana, City Of	44.0	0.0	0.0	0.0	43.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.9
Golden State Water Company	0.0	0.0	0.0	0.0	0.0	1,121.7	(0.8)	(248.0)	0.0	872.9	0.0	0.0	0.0	0.0	0.0	872.9
Jurupa Community Services District	4,825.7	(3.4)	0.0	0.0	4,822.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4,822.3
Marygold Mutual Water Company	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Monte Vista Irrigation Company	0.0	0.0	0.0	0.0	0.0	5,442.4	(3.8)	0.0	0.0	5,438.6	0.0	0.0	0.0	0.0	0.0	5,438.6
Monte Vista Water District	0.0	0.0	585.9	0.0	585.9	3,371.8	(2.4)	0.0	0.0	3,369.4	0.0	0.0	0.0	0.0	0.0	3,955.3
NCL Co, LLC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Niagara Bottling, LLC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nicholson Family Trust	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Norco, City Of	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	96.2	(0.1)	0.0	0.0	96.2	96.2
Ontario, City Of	53,146.7	(37.2)	6,523.0	0.0	59,632.5	8,038.8	(5.6)	0.0	0.0	8,033.2	0.0	0.0	0.0	0.0	0.0	67,665.7
Pomona, City Of	0.0	0.0	0.0	0.0	0.0	10,896.8	(7.6)	0.0	0.0	10,889.2	1,557.7	(1.1)	0.0	0.0	1,556.6	12,445.7
San Antonio Water Company	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4,648.4	(3.3)	916.2	0.0	5,561.4	5,561.4
San Bernardino, County of (Shooting Park)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Ana River Water Company	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	480.4	(0.3)	0.0	0.0	480.1	480.1
Upland, City Of	15,054.4	(10.5)	1,315.0	0.0	16,359.0	5,795.1	(4.1)	0.0	0.0	5,791.0	0.0	0.0	0.0	0.0	0.0	22,150.0
West End Consolidated Water Co	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	451.9	(0.3)	0.0	0.0	451.6	451.6
West Valley Water District	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	307.3	(0.2)	0.0	0.0	307.1	307.1
	<b>142,115.7</b>	<b>(99.5)</b>	<b>14,608.7</b>	<b>0.0</b>	<b>156,624.9</b>	<b>50,181.3</b>	<b>(35.1)</b>	<b>(1,197.9)</b>	<b>0.0</b>	<b>48,948.3</b>	<b>10,667.5</b>	<b>(7.5)</b>	<b>1,232.0</b>	<b>0.0</b>	<b>11,892.0</b>	<b>217,465.2</b>
	<b>12A</b>	<b>12B</b>	<b>12C</b>	<b>12D</b>	<b>12E</b>	<b>12F</b>	<b>12G</b>	<b>12H</b>	<b>12I</b>	<b>12J</b>	<b>12K</b>	<b>12L</b>	<b>12M</b>	<b>12N</b>	<b>12O</b>	<b>12P</b>

Notes:  
1)



**Assessment Year 2023-2024 (Production Year 2022-2023)**

**Other Storage and Replenishment Accounts**

<b>DESALTER REPLENISHMENT</b>	<b>Beginning Balance</b>	<b>Water Purchases</b>	<b>Transfers To</b>	<b>Transfers From</b>	<b>Ending Balance</b>
<b>CONTROLLED OVERDRAFT AND OFFSETS</b>					
Re-Op Offset Pre-Peace II / CDA	1,286.7	.....	0.0	0.0	1,286.7
Re-Op Offset Peace II Expansion	62,500.0	.....	0.0	(12,500.0)	50,000.0
Non-Ag OBMP Special Assessment	0.0	.....	735.0	(735.0)	0.0
Non-Ag Dedication	0.0	.....	0.0	0.0	0.0
	<b>63,786.7</b>		<b>735.0</b>	<b>(13,235.0)</b>	<b>51,286.7</b>

<b>DEDICATED REPLENISHMENT</b>					
BlueTriton Brands, Inc.	0.0	0.0	0.0	0.0	0.0
CalMat Co. (Appropriative)	0.0	0.0	0.0	0.0	0.0
Chino Hills, City Of	0.0	0.0	0.0	0.0	0.0
Chino, City Of	0.0	0.0	0.0	0.0	0.0
Cucamonga Valley Water District	0.0	0.0	0.0	0.0	0.0
Fontana Union Water Company	0.0	0.0	1,705.1	(1,705.1)	0.0
Fontana Water Company	0.0	0.0	0.0	0.0	0.0
Fontana, City Of	0.0	0.0	0.0	0.0	0.0
Golden State Water Company	0.0	0.0	0.0	0.0	0.0
Jurupa Community Services District	0.0	0.0	0.0	0.0	0.0
Marygold Mutual Water Company	0.0	0.0	0.0	0.0	0.0
Monte Vista Irrigation Company	0.0	0.0	0.0	0.0	0.0
Monte Vista Water District	0.0	0.0	0.0	0.0	0.0
NCL Co, LLC	0.0	0.0	0.0	0.0	0.0
Niagara Bottling, LLC	0.0	0.0	0.0	0.0	0.0
Nicholson Family Trust	0.0	0.0	1.0	(1.0)	0.0
Norco, City Of	0.0	0.0	0.0	0.0	0.0
Ontario, City Of	0.0	0.0	4,773.7	(4,773.7)	0.0
Pomona, City Of	0.0	0.0	0.0	0.0	0.0
San Antonio Water Company	0.0	0.0	0.0	0.0	0.0
San Bernardino, County of (Shooting Park)	0.0	0.0	0.0	0.0	0.0
Santa Ana River Water Company	0.0	0.0	0.0	0.0	0.0
Upland, City Of	0.0	0.0	0.0	0.0	0.0
West End Consolidated Water Co	0.0	0.0	0.0	0.0	0.0
West Valley Water District	0.0	0.0	0.0	0.0	0.0
	<b>0.0</b>	<b>0.0</b>	<b>6,479.8</b>	<b>(6,479.8)</b>	<b>0.0</b>

13A

13B

13C

13D

13E

<b>STORAGE AND RECOVERY</b>	<b>Beginning Balance</b>	<b>Storage Loss</b>	<b>Transfers To</b>	<b>Transfers From</b>	<b>Ending Balance</b>
<b>METROPOLITAN WATER DISTRICT</b>					
Dry Year Yield / Conjunctive Use Program	0.0	0.0	7,939.1	0.0	7,939.1
	13F	13G	13H	13I	13J

Notes:  
1) A new DYY cycle of "puts" began May 2023.



**Assessment Year 2023-2024 (Production Year 2022-2023)**

**Water Transaction Summary**

	Water Transactions				Total Water Transactions
	Assigned Rights	General Transfer	Transfers (To) / From ECO Account	Transfers (To) Desalter Replenishment	
BlueTriton Brands, Inc.	0.0	0.0	276.6	0.0	276.6
CalMat Co. (Appropriative)	0.0	0.0	0.0	0.0	0.0
Chino Hills, City Of	0.0	0.0	0.0	0.0	0.0
Chino, City Of	(21,500.0)	0.0	21,500.0	0.0	0.0
Cucamonga Valley Water District	7,903.0	6,784.2	0.0	0.0	14,687.3
Desalter Authority	0.0	0.0	0.0	0.0	0.0
Fontana Union Water Company	0.0	(6,784.2)	0.0	(1,705.1)	(8,489.3)
Fontana Water Company	20,003.5	0.0	0.0	0.0	20,003.5
Fontana, City Of	0.0	0.0	0.0	0.0	0.0
Golden State Water Company	366.4	0.0	0.0	0.0	366.4
Jurupa Community Services District	0.0	0.0	0.0	0.0	0.0
Marygold Mutual Water Company	0.0	0.0	0.0	0.0	0.0
Monte Vista Irrigation Company	0.0	0.0	0.0	0.0	0.0
Monte Vista Water District	0.0	0.0	0.0	0.0	0.0
NCL Co, LLC	0.0	0.0	0.0	0.0	0.0
Niagara Bottling, LLC	4,000.0	0.0	0.0	0.0	4,000.0
Nicholson Family Trust	(3.5)	0.0	0.0	(1.0)	(4.5)
Norco, City Of	0.0	0.0	0.0	0.0	0.0
Ontario, City Of	0.0	4,773.7	0.0	(4,773.7)	0.0
Pomona, City Of	0.0	0.0	0.0	0.0	0.0
San Antonio Water Company	(403.0)	0.0	403.0	0.0	0.0
San Bernardino, County of (Shooting Park)	0.0	0.0	0.0	0.0	0.0
Santa Ana River Water Company	0.0	0.0	0.0	0.0	0.0
Upland, City Of	(9,591.7)	0.0	10,000.0	0.0	408.3
West End Consolidated Water Co	(774.7)	0.0	708.3	0.0	(66.4)
West Valley Water District	0.0	0.0	0.0	0.0	0.0
	<b>0.0</b>	<b>4,773.7</b>	<b>32,887.9</b>	<b>(6,479.8)</b>	<b>31,181.8</b>
	<b>14A</b>	<b>14B</b>	<b>14C</b>	<b>14D</b>	<b>14E</b>

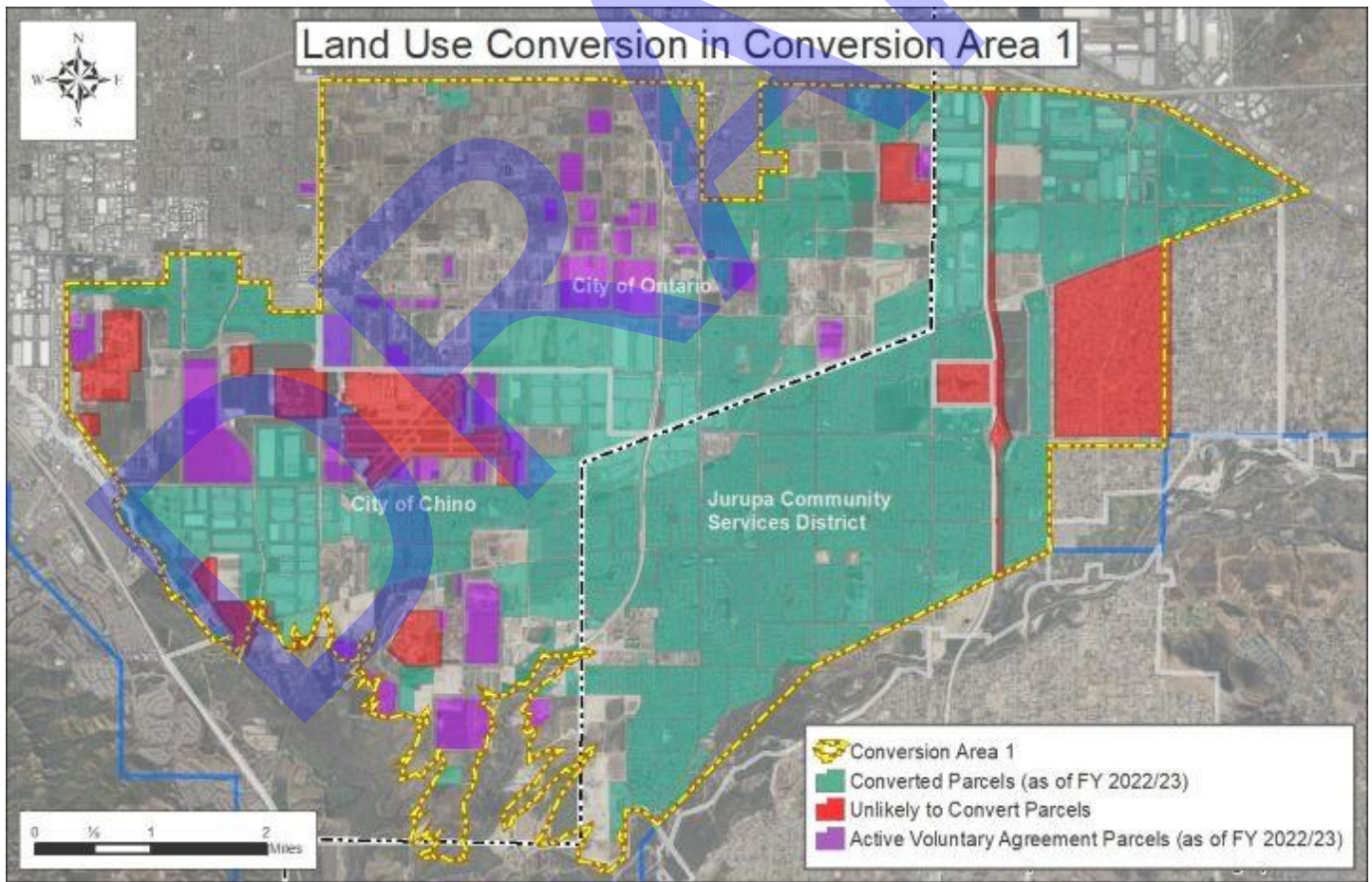
Notes:



Assessment Year 2023-2024 (Production Year 2022-2023)

# Land Use Conversion Summary

	Prior Conversion	Conversion @ 1.3 af/ac		Total Prior to Peace Agrmt Converted AF	Conversion @ 2.0 af/ac		Total Land Use Conversion Acre-Feet
		Acres	Acre-Feet		Acres	Acre-Feet	
Chino Hills, City Of	0.0	670.266	871.3	871.3	203.334	406.7	1,278.0
Chino, City Of	196.2	1,434.750	1,865.2	2,061.4	3,699.522	7,399.0	9,460.5
Cucamonga Valley Water District	0.0	460.280	598.4	598.4	0.000	0.0	598.4
Fontana Water Company	0.0	0.000	0.0	0.0	417.000	834.0	834.0
Jurupa Community Services District	0.0	2,756.920	3,584.0	3,584.0	5,989.648	11,979.3	15,563.3
Monte Vista Water District	0.0	48.150	62.6	62.6	21.510	43.0	105.6
Ontario, City Of	209.4	527.044	685.2	894.6	2,495.660	4,991.3	5,885.9
	<b>405.6</b>	<b>5,897.410</b>	<b>7,666.6</b>	<b>8,072.3</b>	<b>12,826.674</b>	<b>25,653.3</b>	<b>33,725.6</b>
	15A	15B	15C	15D	15E	15F	15G



Notes:





**Assessment Year 2023-2024 (Production Year 2022-2023)**

**Agricultural Pool Reallocation Summary**

	% Share of Operating Safe Yield	Reallocation of Agricultural Pool Safe Yield				
		Safe Yield Reduction <sup>1</sup>	Land Use Conversions	Early Transfer	Total AG Pool Reallocation	
BlueTriton Brands, Inc.	0.000%	0.0	0.0	0.0	0.0	
CalMat Co. (Appropriative)	0.000%	0.0	0.0	0.0	0.0	
Chino Hills, City Of	3.851%	346.6	1,278.0	885.4	2,510.0	
Chino, City Of	7.357%	662.1	9,460.5	1,691.5	11,814.1	
Cucamonga Valley Water District	6.601%	594.1	598.4	1,517.7	2,710.2	
Desalter Authority	0.000%	0.0	0.0	0.0	0.0	
Fontana Union Water Company	11.657%	1,049.1	0.0	2,680.2	3,729.3	
Fontana Water Company	0.002%	0.2	834.0	0.5	834.6	
Fontana, City Of	0.000%	0.0	0.0	0.0	0.0	
Golden State Water Company	0.750%	67.5	0.0	172.4	239.9	
Jurupa Community Services District	3.759%	338.3	15,563.3	864.3	16,765.9	
Marygold Mutual Water Company	1.195%	107.6	0.0	274.8	382.3	
Monte Vista Irrigation Company	1.234%	111.1	0.0	283.7	394.8	
Monte Vista Water District	8.797%	791.7	105.6	2,022.6	2,920.0	
NCL Co, LLC	0.000%	0.0	0.0	0.0	0.0	
Niagara Bottling, LLC	0.000%	0.0	0.0	0.0	0.0	
Nicholson Family Trust	0.007%	0.6	0.0	1.6	2.2	
Norco, City Of	0.368%	33.1	0.0	84.6	117.7	
Ontario, City Of	20.742%	1,866.8	5,885.9	4,769.0	12,521.7	
Pomona, City Of	20.454%	1,840.9	0.0	4,702.8	6,543.7	
San Antonio Water Company	2.748%	247.3	0.0	631.8	879.1	
San Bernardino, County of (Shooting Park)	0.000%	0.0	0.0	0.0	0.0	
Santa Ana River Water Company	2.373%	213.6	0.0	545.6	759.2	
Upland, City Of	5.202%	468.2	0.0	1,196.1	1,664.2	
West End Consolidated Water Co	1.728%	155.5	0.0	397.3	552.8	
West Valley Water District	1.175%	105.8	0.0	270.2	375.9	
<b>Agricultural Pool Safe Yield</b>	<b>82,800.0</b>	<b>100%</b>	<b>9,000.0</b>	<b>33,725.6</b>	<b>22,992.2</b>	<b>65,717.8</b>
Agricultural Pool Production	(17,082.2)	16A	16B	16C	16D	16E
Safe Yield Reduction <sup>1</sup>	(9,000.0)					
Land Use Conversions	(33,725.6)					
Early Transfer [16D]	22,992.2					

Notes:  
<sup>1</sup> Paragraph 10, Subdivision (a)(1) of Exhibit "H" of the Judgment states "to supplement, in the particular year, water available from Operating Safe Yield to compensate for any reduction in the Safe Yield by reason of recalculation thereof after the tenth year of operation hereunder."



Assessment Year 2023-2024 (Production Year 2022-2023)

# Cumulative Unmet Replenishment Obligation (CURO)

Remaining Replenishment Obligation:		AF	Replenishment Rates	
Appropriative - 100		1,533.2	2023 Rate	\$872.00
Appropriative - 15/85		32.4	2022 Rate	\$811.00
Non-Agricultural - 100		70.8		
		<b>1,636.4</b>		

Company	Outstanding Obligation (AF)	Fund Balance (\$)	Outstanding Obligation (\$)	AF Production and Exchanges	85/15 Producers	Percent	15%	85%	100%	Total
BlueTriton Brands, Inc.	0.0	\$0.00	\$0.00	276.6	XXXXXXXXXX	0.000%	XXXXXXXXXX	XXXXXXXXXX	\$0.00	\$0.00
CalMat Co. (Appropriative)	0.0	\$0.00	\$0.00	0.0	XXXXXXXXXX	0.000%	XXXXXXXXXX	XXXXXXXXXX	\$0.00	\$0.00
Chino Hills, City Of	0.0	\$0.00	\$0.00	2,176.9	2,176.9	4.005%	\$9.01	\$0.00	XXXXXXXXXX	\$9.01
Chino, City Of	0.0	\$0.00	\$0.00	3,112.5	3,112.5	5.727%	\$12.89	\$0.00	XXXXXXXXXX	\$12.89
Cucamonga Valley Water District	0.0	\$0.00	\$0.00	13,514.7	13,514.7	24.865%	\$55.95	\$0.00	XXXXXXXXXX	\$55.95
Desalter Authority	0.0	\$0.00	\$0.00	39,815.0	XXXXXXXXXX	0.000%	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	\$0.00
Fontana Union Water Company	0.0	\$0.00	\$0.00	0.0	0.0	0.000%	\$0.00	\$0.00	XXXXXXXXXX	\$0.00
Fontana Water Company	0.0	\$0.00	\$0.00	8,721.0	8,721.0	16.045%	\$36.11	\$0.00	XXXXXXXXXX	\$36.11
Fontana, City Of	0.0	\$0.00	\$0.00	0.0	XXXXXXXXXX	0.000%	XXXXXXXXXX	XXXXXXXXXX	\$0.00	\$0.00
Golden State Water Company	0.0	\$0.00	\$0.00	921.7	921.7	1.696%	\$3.82	\$0.00	XXXXXXXXXX	\$3.82
Jurupa Community Services District	0.0	\$0.00	\$0.00	7,157.8	7,157.8	13.169%	\$29.63	\$0.00	XXXXXXXXXX	\$29.63
Marygold Mutual Water Company	0.0	\$0.00	\$0.00	559.7	XXXXXXXXXX	0.000%	XXXXXXXXXX	XXXXXXXXXX	\$0.00	\$0.00
Monte Vista Irrigation Company	0.0	\$0.00	\$0.00	0.0	0.0	0.000%	\$0.00	\$0.00	XXXXXXXXXX	\$0.00
Monte Vista Water District	0.0	\$0.00	\$0.00	5,165.5	5,165.5	9.504%	\$21.39	\$0.00	XXXXXXXXXX	\$21.39
NCL Co, LLC	0.0	\$0.00	\$0.00	0.0	XXXXXXXXXX	0.000%	XXXXXXXXXX	XXXXXXXXXX	\$0.00	\$0.00
Niagara Bottling, LLC	1,533.2	\$1,268,563.09	\$68,399.52	1,401.4	XXXXXXXXXX	0.000%	XXXXXXXXXX	XXXXXXXXXX	\$68,399.52	\$68,399.52
Nicholson Family Trust	0.0	\$0.00	\$0.00	0.0	0.0	0.000%	\$0.00	\$0.00	XXXXXXXXXX	\$0.00
Norco, City Of	0.0	\$0.00	\$0.00	0.0	0.0	0.000%	\$0.00	\$0.00	XXXXXXXXXX	\$0.00
Ontario, City Of	0.0	\$0.00	\$0.00	12,566.1	12,566.1	23.119%	\$52.03	\$0.00	XXXXXXXXXX	\$52.03
Pomona, City Of	0.0	\$0.00	\$0.00	10,197.4	XXXXXXXXXX	0.000%	XXXXXXXXXX	XXXXXXXXXX	\$0.00	\$0.00
San Antonio Water Company	0.0	\$0.00	\$0.00	459.0	459.0	0.844%	\$1.90	\$0.00	XXXXXXXXXX	\$1.90
San Bernardino, County of (Shooting Park)	32.4	\$26,735.17	\$1,500.19	17.6	17.6	0.032%	\$0.07	\$1,275.16	XXXXXXXXXX	\$1,275.23
Santa Ana River Water Company	0.0	\$0.00	\$0.00	0.0	0.0	0.000%	\$0.00	\$0.00	XXXXXXXXXX	\$0.00
Upland, City Of	0.0	\$0.00	\$0.00	540.0	540.0	0.994%	\$2.24	\$0.00	XXXXXXXXXX	\$2.24
West End Consolidated Water Co	0.0	\$0.00	\$0.00	0.0	0.0	0.000%	\$0.00	\$0.00	XXXXXXXXXX	\$0.00
West Valley Water District	0.0	\$0.00	\$0.00	0.0	0.0	0.000%	\$0.00	\$0.00	XXXXXXXXXX	\$0.00
<b>Pool 3 Appropriative Total</b>	<b>1,565.6</b>	<b>\$1,295,298.26</b>	<b>\$69,899.71</b>	<b>106,603.1</b>	<b>54,352.9</b>	<b>100.000%</b>	<b>\$225.04</b>	<b>\$1,275.16</b>	<b>\$68,399.52</b>	<b>\$69,899.72</b>
	17A	17B	17C	17D	17E	17F	17G	17H	17I	17J

Notes:  
 1) The 2023 replenishment rate includes MWD's Full Service Untreated Tier 1 volumic cost of \$855/AF, a \$15/AF surcharge from Three Valleys Municipal Water District, and a \$2/AF connection fee from Orange County Water District.



Assessment Year 2023-2024 (Production Year 2022-2023)  
**Desalter Replenishment Accounting<sup>1</sup>**

Production Year	Desalter Production			Desalter Replenishment									Remaining Desalter Replenishment Obligation <sup>4,7</sup> PIIA, 6.2(b)(iii)	
	Pre-Peace II Desalter Production	Peace II Desalter Expansion Production <sup>2</sup>	Total	Desalter (aka Kaiser) Account PIIA, 6.2 (a)(i)	Paragraph 31 Settlement Agreements Dedication <sup>3</sup> PIIA, 6.2(a)(ii)	"Leave Behind" Losses PIIA, 6.2(a)(iv)	Safe Yield Contributed by Parties PIIA, 6.2(a)(v)	Controlled Overdraft / Re-Op, PIIA, 6.2(a)(vi)			Appropriative Pool DRO Contribution PIIA, 6.2(b)(ii)	Non-Ag OBMP Assessment (10% Haircut) <sup>6</sup> PIIA, 6.2(b)(i)		
								Allocation to Pre-Peace II Desalters <sup>4,5</sup>	Allocation to All Desalters <sup>5</sup>	Balance				
2000 / 2001	7,989.0	0.0	7,989.0	3,994.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3,994.5
2001 / 2002	9,457.8	0.0	9,457.8	4,728.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4,728.9
2002 / 2003	10,438.5	0.0	10,438.5	5,219.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5,219.3
2003 / 2004	10,605.0	0.0	10,605.0	5,302.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5,302.5
2004 / 2005	9,853.6	0.0	9,853.6	4,926.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4,926.8
2005 / 2006	16,475.8	0.0	16,475.8	11,579.1	0.0	0.0	0.0	0.0	0.0	0.0	400,000.0	0.0	0.0	4,896.7
2006 / 2007	26,356.2	0.0	26,356.2	608.4	4,273.1	0.0	0.0	21,474.7	0.0	378,525.3	0.0	0.0	0.0	0.0
2007 / 2008	26,972.1	0.0	26,972.1	0.0	0.0	0.0	0.0	26,972.1	0.0	351,553.2	0.0	0.0	0.0	0.0
2008 / 2009	32,920.5	0.0	32,920.5	0.0	0.0	0.0	0.0	61,989.1	0.0	289,564.1	0.0	0.0	0.0	(29,068.6)
2009 / 2010	28,516.7	0.0	28,516.7	0.0	0.0	0.0	0.0	28,516.7	0.0	261,047.4	0.0	0.0	0.0	0.0
2010 / 2011	29,318.7	0.0	29,318.7	0.0	0.0	0.0	0.0	29,318.7	0.0	231,728.7	0.0	0.0	0.0	0.0
2011 / 2012	28,378.9	0.0	28,378.9	0.0	0.0	0.0	0.0	28,378.9	0.0	203,349.7	0.0	0.0	0.0	0.0
2012 / 2013	27,061.7	0.0	27,061.7	0.0	0.0	0.0	0.0	27,061.7	0.0	176,288.1	0.0	0.0	0.0	0.0
2013 / 2014	29,228.0	14.6	29,242.6	0.0	0.0	0.0	0.0	0.0	12,500.0	163,788.1	10,000.0	0.0	0.0	6,742.6
2014 / 2015	29,541.3	448.7	29,990.0	0.0	0.0	0.0	0.0	0.0	12,500.0	151,288.1	10,000.0	0.0	0.0	7,490.0
2015 / 2016	27,008.8	1,154.1	28,162.9	0.0	0.0	0.0	0.0	0.0	12,500.0	138,788.1	10,000.0	0.0	0.0	5,662.9
2016 / 2017	26,725.6	1,527.2	28,252.8	0.0	0.0	0.0	0.0	0.0	12,500.0	126,288.1	10,000.0	735.0	0.0	5,017.8
2017 / 2018	28,589.8	1,462.5	30,052.3	0.0	0.0	0.0	0.0	0.0	12,500.0	113,788.1	10,000.0	735.0	0.0	6,817.3
2018 / 2019	25,502.9	5,696.3	31,199.2	0.0	0.0	0.0	0.0	0.0	12,500.0	101,288.1	10,000.0	735.0	0.0	7,964.2
2019 / 2020	27,593.6	8,003.4	35,597.1	0.0	0.0	0.0	0.0	0.0	12,500.0	88,788.1	10,000.0	735.0	0.0	12,362.0
2020 / 2021	31,944.8	8,169.7	40,114.5	0.0	0.0	0.0	0.0	0.0	12,500.0	76,288.1	10,000.0	735.0	0.0	16,879.4
2021 / 2022	28,678.0	11,847.4	40,525.4	0.0	0.0	0.0	0.0	0.0	12,500.0	63,788.1	10,000.0	735.0	0.0	17,290.4
<b>2022 / 2023</b>	<b>30,223.8</b>	<b>9,591.2</b>	<b>39,815.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>12,500.0</b>	<b>51,288.1</b>	<b>10,000.0</b>	<b>735.0</b>	<b>0.0</b>	<b>16,580.0</b>
2023 / 2024	30,000.0	10,000.0	40,000.0	0.0	0.0	0.0	0.0	0.0	12,500.0	38,788.1	10,000.0	735.0	0.0	16,765.0
2024 / 2025	30,000.0	10,000.0	40,000.0	0.0	0.0	0.0	0.0	0.0	12,500.0	26,288.1	10,000.0	735.0	0.0	16,765.0
2025 / 2026	30,000.0	10,000.0	40,000.0	0.0	0.0	0.0	0.0	0.0	5,000.0	21,288.1	10,000.0	735.0	0.0	24,265.0
2026 / 2027	30,000.0	10,000.0	40,000.0	0.0	0.0	0.0	0.0	0.0	5,000.0	16,288.1	10,000.0	735.0	0.0	24,265.0
2027 / 2028	30,000.0	10,000.0	40,000.0	0.0	0.0	0.0	0.0	0.0	5,000.0	11,288.1	10,000.0	735.0	0.0	24,265.0
2028 / 2029	30,000.0	10,000.0	40,000.0	0.0	0.0	0.0	0.0	0.0	5,000.0	6,288.1	10,000.0	735.0	0.0	24,265.0
2029 / 2030	30,000.0	10,000.0	40,000.0	0.0	0.0	0.0	0.0	0.0	5,000.0	1,288.1	10,000.0	735.0	0.0	24,265.0
	<b>759,381.2</b>	<b>117,915.1</b>	<b>877,296.3</b>	<b>36,359.6</b>	<b>4,273.1</b>	<b>0.0</b>	<b>0.0</b>	<b>223,711.9</b>	<b>175,000.0</b>	<b>51,288.1</b>	<b>170,000.0</b>	<b>10,290.5</b>	<b>0.0</b>	<b>257,661.5</b>
	<b>18A</b>	<b>18B</b>	<b>18C</b>	<b>18D</b>	<b>18E</b>	<b>18F</b>	<b>18G</b>	<b>18H</b>	<b>18I</b>	<b>18J</b>	<b>18K</b>	<b>18L</b>	<b>18M</b>	

Notes:  
<sup>1</sup> Original table format and content: WEI, Response to Condition Subsequent Number 7, November 2008. Table has since been revised as a result of the March 15, 2019 Court Order.  
<sup>2</sup> Peace II Desalter Expansion was anticipated to have an annual production of approximately 10,000 AF.  
<sup>3</sup> 3,956.877 acre-feet + 316.177 acre-feet added as Non-Ag dedicated stored water per Paragraph 31 Settlement Agreements. Per Agreements, the water is deemed to have been dedicated as of June 30, 2007.  
<sup>4</sup> Six years of Desalter tracking (Production Year 2000-2001 through Production Year 2005/2006) may have incorrectly assumed that a significant portion of Desalter production was being offset by Desalter Induced Recharge. Condition Subsequent 7 included an adjustment of 29,070 AF against Desalter replenishment in Production Year 2008/2009.  
<sup>5</sup> Pursuant to section 7.2(e)(ii) of the Peace II Agreement, the initial schedule for the Peace II Desalter Expansion controlled overdraft of 175,000 acre-feet had been amended to be allocated to Desalter replenishment over a 17-year period, beginning in 2013/14 and ending in 2029/30.  
<sup>6</sup> For the first 10 years following the Peace II Agreement (2006/2007 through 2015/2016), the Non-Ag "10% Haircut" water is apportioned among the specific seven members of the Appropriative Pool, per PIIA 9.2(a). In the eleventh year and in each year thereafter, it is dedicated to Watermaster to further offset desalter replenishment. However, to the extent there is no remaining desalter replenishment obligation in any year after applying the offsets set forth in 6.2(a), it will be distributed pro rata among the members of the Appropriative Pool based upon each Producer's combined total share of OSY and the previous year's actual production.  
<sup>7</sup> Per the Peace II Agreement, Section 6.2(b)(iii) (as amended by the March 15, 2019 Court Order), the Remaining Desalter Replenishment Obligation is to be assessed against the Appropriative Pool, pro-rata based on each Producer's combined total share of OSY and their Adjusted Physical Production.  
<sup>8</sup> Due to the Re-Operation Schedule amendments in 2019, the Pre-Peace II Controlled Overdraft is left with a balance of 1,288.054 AF, which may be utilized at a later date to offset a future Desalter Replenishment Obligation.



**Assessment Year 2023-2024 (Production Year 2022-2023)**

**Desalter Replenishment Obligation Contribution**

	Percent of Operating Safe Yield	Land Use Conversions	Percent of Land Use Conversions	85% DROC Based on % OSY	15% DROC Based on % of LUC	Total DRO Contribution
BlueTriton Brands, Inc.	0.000%	0.0	0.000%	0.0	0.0	0.0
CalMat Co. (Appropriative)	0.000%	0.0	0.000%	0.0	0.0	0.0
Chino Hills, City Of	3.851%	1,278.0	3.789%	327.3	56.8	384.2
Chino, City Of	7.357%	9,460.5	28.051%	625.3	420.8	1,046.1
Cucamonga Valley Water District	6.601%	598.4	1.774%	561.1	26.6	587.7
Fontana Union Water Company	11.657%	0.0	0.000%	990.8	0.0	990.8
Fontana Water Company	0.002%	834.0	2.473%	0.2	37.1	37.3
Fontana, City Of	0.000%	0.0	0.000%	0.0	0.0	0.0
Golden State Water Company	0.750%	0.0	0.000%	63.8	0.0	63.8
Jurupa Community Services District	3.759%	15,563.3	46.147%	319.5	692.2	1,011.7
Marygold Mutual Water Company	1.195%	0.0	0.000%	101.6	0.0	101.6
Monte Vista Irrigation Company	1.234%	0.0	0.000%	104.9	0.0	104.9
Monte Vista Water District	8.797%	105.6	0.313%	747.7	4.7	752.4
NCL Co, LLC	0.000%	0.0	0.000%	0.0	0.0	0.0
Niagara Bottling, LLC	0.000%	0.0	0.000%	0.0	0.0	0.0
Nicholson Family Trust	0.007%	0.0	0.000%	0.6	0.0	0.6
Norco, City Of	0.368%	0.0	0.000%	31.3	0.0	31.3
Ontario, City Of	20.742%	5,885.9	17.452%	1,763.1	261.8	2,024.9
Pomona, City Of	20.454%	0.0	0.000%	1,738.6	0.0	1,738.6
San Antonio Water Company	2.748%	0.0	0.000%	233.6	0.0	233.6
San Bernardino, County of (Shooting Park)	0.000%	0.0	0.000%	0.0	0.0	0.0
Santa Ana River Water Company	2.373%	0.0	0.000%	201.7	0.0	201.7
Upland, City Of	5.202%	0.0	0.000%	442.2	0.0	442.2
West End Consolidated Water Co	1.728%	0.0	0.000%	146.9	0.0	146.9
West Valley Water District	1.175%	0.0	0.000%	99.9	0.0	99.9
	<b>100.000%</b>	<b>33,725.6</b>	<b>100.000%</b>	<b>8,500.0</b>	<b>1,500.0</b>	<b>10,000.0</b>
	<b>19A</b>	<b>19B</b>	<b>19C</b>	<b>19D</b>	<b>19E</b>	<b>19F</b>

Notes:

Section 6.2(b)(ii) of the Peace II Agreement as the amendment is shown in the March 15, 2019 Court Order states: "The members of the Appropriative Pool will contribute a total of 10,000 afy toward Desalter replenishment, allocated among the Appropriative Pool members as follows: 1) 85% of the total (8,500 afy) will be allocated according to the Operating Safe Yield percentage of each Appropriative Pool members; and 2) 15% of the total (1,500 afy) will be allocated according to each land use conversion agency's percentage of the total land use conversion claims. The formula is to be adjusted annually based on the actual land use conversion allocations of the year."



Assessment Year 2023-2024 (Production Year 2022-2023)

**Remaining Desalter Replenishment Obligation (RDRO)**

	Assigned Share of Operating Safe Yield	CALCULATING THE ADJUSTED PHYSICAL PRODUCTION						ALLOCATING THE RDRO		
		Physical Production	50% of Voluntary Agreements with Ag	Assignments with Non-Ag	Storage and Recovery Programs	Other Adjustments	Total Adjusted Physical Production	Total Production and OSY Basis (20A+20G)	Percentage (20H) / Sum(20H)	Total Remaining Desalter Replenishment Obligation
BlueTriton Brands, Inc.	0.0	276.6	0.0	0.0	0.0	0.0	276.6	276.6	0.250%	41.5
CalMat Co. (Appropriative)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000%	0.0
Chino Hills, City Of	1,572.5	2,218.1	(20.6)	0.0	0.0	0.0	2,197.5	3,770.1	3.412%	565.7
Chino, City Of	3,004.2	5,568.9	(1,190.4)	(75.5)	0.0	0.0	4,303.0	7,307.1	6.613%	1,096.5
Cucamonga Valley Water District	2,695.5	13,514.7	0.0	0.0	0.0	0.0	13,514.7	16,210.2	14.671%	2,432.4
Fontana Union Water Company	4,760.0	0.0	0.0	0.0	0.0	0.0	0.0	4,760.0	4.308%	714.3
Fontana Water Company	0.8	8,721.0	0.0	0.0	0.0	0.0	8,721.0	8,721.8	7.894%	1,308.8
Fontana, City Of	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000%	0.0
Golden State Water Company	306.3	921.7	0.0	0.0	0.0	0.0	921.7	1,228.0	1.111%	184.3
Jurupa Community Services District	1,535.0	7,521.6	0.0	(392.9)	0.0	29.0	7,157.8	8,692.7	7.867%	1,304.4
Marygold Mutual Water Company	488.0	559.7	0.0	0.0	0.0	0.0	559.7	1,047.7	0.948%	157.2
Monte Vista Irrigation Company	503.9	0.0	0.0	0.0	0.0	0.0	0.0	503.9	0.456%	75.6
Monte Vista Water District	3,592.2	5,293.0	(50.8)	(15.9)	0.0	(9.9)	5,216.3	8,808.5	7.972%	1,321.8
NCL Co, LLC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000%	0.0
Niagara Bottling, LLC	0.0	1,401.4	0.0	0.0	0.0	0.0	1,401.4	1,401.4	1.268%	210.3
Nicholson Family Trust	2.9	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.003%	0.4
Norco, City Of	150.3	0.0	0.0	0.0	0.0	0.0	0.0	150.3	0.136%	22.5
Ontario, City Of	8,469.8	16,933.4	(1,608.0)	(1,151.3)	0.0	0.0	14,174.1	22,643.9	20.494%	3,397.9
Pomona, City Of	8,352.2	10,197.4	0.0	0.0	0.0	0.0	10,197.4	18,549.6	16.788%	2,783.5
San Antonio Water Company	1,122.1	459.0	0.0	0.0	0.0	0.0	459.0	1,581.1	1.431%	237.2
San Bernardino, County of (Shooting Park)	0.0	17.6	0.0	0.0	0.0	0.0	17.6	17.6	0.016%	2.6
Santa Ana River Water Company	969.0	0.0	0.0	0.0	0.0	0.0	0.0	969.0	0.877%	145.4
Upland, City Of	2,124.2	807.9	0.0	0.0	0.0	(267.8)	540.0	2,664.2	2.411%	399.8
West End Consolidated Water Co	705.6	0.0	0.0	0.0	0.0	0.0	0.0	705.6	0.639%	105.9
West Valley Water District	479.8	0.0	0.0	0.0	0.0	0.0	0.0	479.8	0.434%	72.0
	<b>40,834.0</b>	<b>74,412.1</b>	<b>(2,869.8)</b>	<b>(1,635.6)</b>	<b>0.0</b>	<b>(248.7)</b>	<b>69,657.9</b>	<b>110,491.9</b>	<b>100.000%</b>	<b>16,580.0</b>
	<b>20A</b>	<b>20B</b>	<b>20C</b>	<b>20D</b>	<b>20E</b>	<b>20F</b>	<b>20G</b>	<b>20H</b>	<b>20I</b>	<b>20J</b>

Notes:  
 Section 6.2(b)(iii) of the Peace II Agreement as the amendment is shown in the March 15, 2019 Court Order states: "A Replenishment Assessment against the Appropriative Pool for any remaining Desalter replenishment obligation after applying both 6(b)(i) and 6(b)(ii), allocated pro-rata to each Appropriative Pool member according to the combined total of the member's share of Operating Safe Yield and the member's Adjusted Physical Production."



# Desalter Replenishment Summary

	Desalter Replenishment Obligation in AF			Total DRO Fulfillment Activity							Assessments	
	Desalter Replenishment Contribution	Remaining Desalter Replenishment Obligation	Total Desalter Replenishment Obligation	Transfer from Dedicated Replenishment Account	Transfer from Excess Carry Over Storage Account	Transfer from Recharged Recycled Storage Account	Transfer from Quantified Storage Account	Transfer from Post 7/1/2000 Storage Account	Replenishment Water Purchase	Total Transfers and Water Purchases	Residual DRO (AF)	Assessments Due On Residual DRO (\$)
BlueTriton Brands, Inc.	0.0	(41.5)	(41.5)	0.0	41.5	0.0	0.0	0.0	0.0	41.5	0.0	0.00
CalMat Co. (Appropriative)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
Chino Hills, City Of	(384.2)	(565.7)	(949.9)	0.0	0.0	0.0	949.9	0.0	0.0	949.9	0.0	0.00
Chino, City Of	(1,046.1)	(1,096.5)	(2,142.6)	0.0	2,142.6	0.0	0.0	0.0	0.0	2,142.6	0.0	0.00
Cucamonga Valley Water District	(587.7)	(2,432.4)	(3,020.1)	0.0	3,020.1	0.0	0.0	0.0	0.0	3,020.1	0.0	0.00
Fontana Union Water Company	(990.8)	(714.3)	(1,705.1)	1,705.1	0.0	0.0	0.0	0.0	0.0	1,705.1	0.0	0.00
Fontana Water Company	(37.3)	(1,308.8)	(1,346.0)	0.0	1,346.0	0.0	0.0	0.0	0.0	1,346.0	0.0	0.00
Fontana, City Of	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
Golden State Water Company	(63.8)	(184.3)	(248.0)	0.0	0.0	0.0	248.0	0.0	0.0	248.0	0.0	0.00
Jurupa Community Services District	(1,011.7)	(1,304.4)	(2,316.1)	0.0	2,316.1	0.0	0.0	0.0	0.0	2,316.1	0.0	0.00
Marygold Mutual Water Company	(101.6)	(157.2)	(258.8)	0.0	258.8	0.0	0.0	0.0	0.0	258.8	0.0	0.00
Monte Vista Irrigation Company	(104.9)	(75.6)	(180.5)	0.0	180.5	0.0	0.0	0.0	0.0	180.5	0.0	0.00
Monte Vista Water District	(752.4)	(1,321.8)	(2,074.2)	0.0	2,074.2	0.0	0.0	0.0	0.0	2,074.2	0.0	0.00
NCL Co, LLC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
Niagara Bottling, LLC	0.0	(210.3)	(210.3)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(210.3)	183,374.62
Nicholson Family Trust	(0.6)	(0.4)	(1.0)	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.00
Norco, City Of	(31.3)	(22.5)	(53.8)	0.0	53.8	0.0	0.0	0.0	0.0	53.8	0.0	0.00
Ontario, City Of	(2,024.9)	(3,397.9)	(5,422.7)	4,773.7	649.1	0.0	0.0	0.0	0.0	5,422.7	0.0	0.00
Pomona, City Of	(1,738.6)	(2,783.5)	(4,522.1)	0.0	4,522.1	0.0	0.0	0.0	0.0	4,522.1	0.0	0.00
San Antonio Water Company	(233.6)	(237.2)	(470.8)	0.0	470.8	0.0	0.0	0.0	0.0	470.8	0.0	0.00
San Bernardino, County of (Shooting Park)	0.0	(2.6)	(2.6)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(2.6)	2,308.18
Santa Ana River Water Company	(201.7)	(145.4)	(347.1)	0.0	347.1	0.0	0.0	0.0	0.0	347.1	0.0	0.00
Upland, City Of	(442.2)	(399.8)	(842.0)	0.0	842.0	0.0	0.0	0.0	0.0	842.0	0.0	0.00
West End Consolidated Water Co	(146.9)	(105.9)	(252.8)	0.0	252.8	0.0	0.0	0.0	0.0	252.8	0.0	0.00
West Valley Water District	(99.9)	(72.0)	(171.9)	0.0	171.9	0.0	0.0	0.0	0.0	171.9	0.0	0.00
	<b>(10,000.0)</b>	<b>(16,580.0)</b>	<b>(26,580.0)</b>	<b>6,479.8</b>	<b>18,689.3</b>	<b>0.0</b>	<b>1,197.9</b>	<b>0.0</b>	<b>0.0</b>	<b>26,367.1</b>	<b>(212.9)</b>	<b>185,682.80</b>
	<b>21A</b>	<b>21B</b>	<b>21C</b>	<b>21D</b>	<b>21E</b>	<b>21F</b>	<b>21G</b>	<b>21H</b>	<b>21I</b>	<b>21J</b>	<b>21K</b>	<b>21L</b>

Notes:  
 1) City of Ontario (Non-Ag) dedicated 2,396.5 AF of Carryover water, and 2,377.2 AF of Annual Share of Operating Safe Yield, to satisfy City of Ontario's 2023/24 DRO pursuant to an Exhibit "G" Section 10 Form A.



Assessment Year 2023-2024 (Production Year 2022-2023)

**Assessment Calculation - Projected** (Includes "10% Judgment Administration and 15% OBMP & Program Elements 1-9 Operating Reserves")

**PRODUCTION BASIS**

2021/2022 Production and Exchanges in Acre-Feet (Actuals)  
 2022/2023 Production and Exchanges in Acre-Feet (Actuals)<sup>1</sup>

**BUDGET**

Judgment Administration <sup>2,3</sup>  
 OBMP & Program Elements 1-9 <sup>2</sup>  
 Judgment Administration, OBMP & PE 1-9 Assessments

**TOTAL BUDGET**

Less: Budgeted Interest Income  
 Less: Contributions from Outside Agencies

**Subtotal: CASH DEMAND**

**Add: OPERATING RESERVE**

Judgment Administration (10%)  
 OBMP & PE 1-9 (15%)

**Subtotal: OPERATING RESERVE**

**Less: Cash Balance on Hand Available for Assessments <sup>4</sup>**

**FUNDS REQUIRED TO BE ASSESSED**

Proposed Assessments

Judgment Administration, OBMP & PE 1-9 Assessments (Minimum \$5.00 Per Producer)

**Grand Total**

Prior Year Assessments, (Actuals) Information Only

**Grand Total**

Variance Between Proposed Assessments and Prior Year Assessments

**Grand Total**

Estimated Assessment as of "Approved" Budget August 25, 2023, Information Only

**Grand Total**

FY 2022/23 Budget <sup>5</sup>	FY 2023/24 Budget	ASSESSMENT	APPROPRIATIVE POOL		AGRICULTURAL POOL		NON-AG POOL	
		99,715.646	75,398.179	75.613%	21,304.032	21.365%	3,013.435	3.022%
		86,865.190	66,788.048	76.887%	17,082.226	19.665%	2,994.916	3.448%
			<b>Judgment Administration</b>	<b>OBMP &amp; PE 1-9</b>	<b>Judgment Administration</b>	<b>OBMP &amp; PE 1-9</b>	<b>Judgment Administration</b>	<b>OBMP &amp; PE 1-9</b>
\$3,334,108	\$3,681,911	\$3,681,911	\$2,830,911		\$724,055		\$126,944	
\$5,526,566	\$5,283,151	\$5,283,151		\$4,062,056		\$1,038,943		\$182,151
\$8,860,674	\$8,965,062	\$8,965,062	\$2,830,911	\$4,062,056	\$724,055	\$1,038,943	\$126,944	\$182,151
		\$8,965,062	\$2,830,911	\$4,062,056	\$724,055	\$1,038,943	\$126,944	\$182,151
(\$35,550)	(\$312,500)	(\$312,500)		(\$240,272)		(\$61,454)		(\$10,774)
(\$181,866)	(\$186,412)	(\$186,412)		(\$143,327)		(\$36,658)		(\$6,427)
\$8,643,258	\$8,466,150	\$8,466,150	\$2,830,911	\$3,678,457	\$724,055	\$940,831	\$126,944	\$164,950
\$333,411	\$368,191	\$368,191	\$283,091		\$72,406		\$12,694	
\$828,985	\$792,473	\$792,473		\$609,309		\$155,842		\$27,323
\$1,162,396	\$1,160,664	\$1,160,664	\$283,091	\$609,309	\$72,406	\$155,842	\$12,694	\$27,323
(\$1,162,396)	(\$1,160,664)	(\$1,160,664)	(\$283,091)	(\$609,309)	(\$72,406)	(\$155,842)	(\$12,694)	(\$27,323)
\$8,643,258	\$8,466,150	\$8,466,150	\$2,830,911	\$3,678,457	\$724,055	\$940,831	\$126,944	\$164,950
	[A]	Per Acre-Foot	\$42.39	\$55.08	\$42.39	\$55.08	\$42.39	\$55.08
				\$97.47		\$97.47		\$97.47
	[B]	Per Acre-Foot	\$33.44	\$53.24	\$33.44	\$53.24	\$33.44	\$53.24
				\$86.68		\$86.68		\$86.68
	[A] - [B]		\$8.95	\$1.84	\$8.95	\$1.84	\$8.95	\$1.84
				\$10.79		\$10.79		\$10.79
			\$40.77	\$52.97	\$40.77	\$52.97	\$40.77	\$52.97
				\$93.74		\$93.74		\$93.74

Notes:

- <sup>1</sup> Due to the timing of when the Budget and the Assessment Package are prepared, actual production numbers on this page may differ from the Budget depending on any last minute corrections during the Assessment Package preparation process.
- <sup>2</sup> Total costs are allocated to Pools by actual production percentages. Does not include Recharge Debt Payment, Recharge Improvement Projects, Replenishment Water Purchases, or RTS charges.
- <sup>3</sup> Judgment Administration excludes OAP, AP, and ONAP specific legal services, meeting compensation, or Special Funds. These items invoiced separately on the Assessment invoices.
- <sup>4</sup> June 30th fund balance (estimated) less funds required for Operating Reserves, Agricultural Pool Reserves, and Carryover replenishment obligations.
- <sup>5</sup> The previous fiscal year's budget numbers are from the previously approved Assessment Package and does not reflect numbers from any amended budget that may have followed.



**Assessment Year 2023-2024 (Production Year 2022-2023)**

**Water Transaction Detail**

**Standard Transactions**

To:	From:	Date of Submittal	Quantity	\$ / Acre Feet	Total \$	If 85/15 Rule Applies:			
						85%	15%	WM Pays	
Cucamonga Valley Water District	Chino, City Of Storage Account	1/3/2023	1,324.2	639.20	846,437.59	719,471.95	126,965.64	Cucamonga Valley Water District	
	Chino, City Of Storage Account	1/3/2023	6,175.8	639.20	3,947,562.41				
	San Antonio Water Company Storage Account	5/22/2023	403.0	N/A	N/A				
	<i>85/15 Rule does not apply. Utilizing SAWCO shares.</i>								
Fontana Water Company	Upland, City Of Storage Account	11/8/2022	7,884.8	599.25	4,724,941.23	4,016,200.05	708,741.18	Fontana Water Company	
	Upland, City Of Storage Account	11/8/2022	2,115.2	599.25	1,267,558.77				
	Chino, City Of Storage Account	12/27/2022	10,000.0	639.20	6,392,000.00				
	Nicholson Family Trust Annual Account	5/3/2023	3.5	619.23	2,167.31				
Golden State Water Company	Upland, City Of Annual Account	6/8/2023	208.0	641.25	133,402.44	113,392.08	20,010.37	Golden State Water Company	
	Upland, City Of Annual Account	6/8/2023	92.0	641.25	58,972.56				
	West End Consolidated Water Co Annual Account	6/8/2023	66.4	49.00	3,253.60				
	<i>85/15 Rule does not apply. Utilizing West End shares.</i>								
Niagara Bottling, LLC	Chino, City Of Storage Account	12/21/2022	4,000.0	N/A	N/A				
	<i>85/15 Rule does not apply. Sale price was not disclosed.</i>								
Upland, City Of	West End Consolidated Water Co Storage Account	5/29/2023	708.3	49.00	34,706.70				
	<i>85/15 Rule does not apply, Utilizing West End shares.</i>								
			<b>32,981.2</b>		<b>17,411,002.61</b>	<b>4,849,064.07</b>	<b>855,717.19</b>		
<b>Total 15% Credits from all Transactions:</b>							<b>\$855,717.19</b>		





**Assessment Year 2023-2024 (Production Year 2022-2023)**

**Water Transaction Detail**

**Applied Recurring Transactions:**

<b>From:</b>	<b>To:</b>	<b>Quantity</b>	<b>\$ / Acre Feet</b>	
Fontana Union Water Company Annual Account - Assigned Share of Operating Safe Yield	Cucamonga Valley Water District Annual Account - Transfer (To) / From	All	0.00	<i>Transfer FUWC Share of Safe Yield to CVWD.</i>
Fontana Union Water Company Annual Account - Stormwater New Yield	Cucamonga Valley Water District Annual Account - Transfer (To) / From	All	0.00	<i>Transfer FUWC New Yield to CVWD.</i>
Fontana Union Water Company Annual Account - Diff - Potential vs. Net	Cucamonga Valley Water District Annual Account - Transfer (To) / From	All	0.00	<i>Transfer FUWC Ag Pool Reallocation Difference (Potential vs. Net) to CVWD.</i>
Fontana Union Water Company Annual Account - Transfer (To) / From	Cucamonga Valley Water District Annual Account - Transfer (To) / From	All	0.00	<i>Transfer FUWC water transfer rights to CVWD.</i>
Fontana Union Water Company Annual Account - Assigned Rights	Cucamonga Valley Water District Annual Account - Assigned Rights	All	0.00	<i>Transfer FUWC water transfer rights to CVWD.</i>
Fontana Union Water Company Annual Account - Total AG SY Reallocation	Cucamonga Valley Water District Annual Account - Transfer (To) / From	All	0.00	<i>Transfer FUWC Total Ag SY to CVWD.</i>
Fontana Union Water Company Annual Account - Desalter Replenishment Obligation	Cucamonga Valley Water District Annual Account - Transfer (To) / From	All	0.00	<i>Transfer of FUWC DRO</i>

**Notes:**

- 1) The Water Transaction between City of Chino and Cucamonga Valley Water District submitted on 1/3/2023 for the amount of 7,500 AF had been split because the amount purchased exceeds what is required to satisfy overproduction; the 85/15 Rule only applies to the portion that satisfies overproduction per the direction of the Appropriative Pool on November 2, 2011.
- 2) The Water Transaction between City of Upland and Fontana Water Company submitted on 11/8/2022 for the amount of 10,000 AF had been split because the amount purchased exceeds what is required to satisfy overproduction; the 85/15 Rule only applies to the portion that satisfies overproduction per the direction of the Appropriative Pool on November 2, 2011.
- 3) The Water Transaction between City of Upland and Golden State Water Company submitted on 6/8/2023 for the amount of 300 AF had been split because the amount purchased exceeds what is required to satisfy overproduction; the 85/15 Rule only applies to the portion that satisfies overproduction per the direction of the Appropriative Pool on November 2, 2011.



**Assessment Year 2023-2024 (Production Year 2022-2023)**

**Analysis of the 85/15 Rule Application to Water Transfers**

To	(Over)/Under Production Excluding Water Transfer(s)	From	Date of Submittal	Transfer Quantity	Is Buyer an 85/15 Party?	Is Transfer Being Placed into Annual Account?	Is Purpose of Transfer to Utilize SAWCO or West End Shares?	Amount of Transfer Eligible for 85/15 Rule
Cucamonga Valley Water District	(1,324.9)	Chino, City Of Storage Account	1/3/2023	1,324.2	Yes	Yes	No	1,324.2
		Chino, City Of Storage Account	1/3/2023	6,175.8	Yes	Yes	No	0.0
		San Antonio Water Company Storage Account	5/22/2023	403.0	Yes	Yes	Yes	0.0
<i>85/15 Rule does not apply. Utilizing SAWCO shares.</i>								
Fontana Water Company	(7,884.8)	Upland, City Of Storage Account	11/8/2022	7,884.8	Yes	Yes	No	7,884.8
		Upland, City Of Storage Account	11/8/2022	2,115.2	Yes	Yes	No	0.0
		Chino, City Of Storage Account	12/27/2022	10,000.0	Yes	Yes	No	0.0
		Nicholson Family Trust Annual Account	5/3/2023	3.5	Yes	Yes	No	0.0
Golden State Water Company	(208.1)	Upland, City Of Annual Account	6/8/2023	208.0	Yes	Yes	No	208.0
		Upland, City Of Annual Account	6/8/2023	92.0	Yes	Yes	No	0.0
		West End Consolidated Water Co Annual Account	6/8/2023	66.4	Yes	Yes	Yes	0.0
<i>85/15 Rule does not apply. Utilizing West End shares.</i>								
Niagara Bottling, LLC	(1,401.4)	Chino, City Of Storage Account	12/21/2022	4,000.0	No	Yes	No	0.0
<i>85/15 Rule does not apply. Sale price was not disclosed.</i>								
Upland, City Of	5,372.6	West End Consolidated Water Co Storage Account	5/29/2023	708.3	Yes	Yes	Yes	0.0
<i>85/15 Rule does not apply, Utilizing West End shares.</i>								

**Notes:**

- 1) The Water Transaction between City of Chino and Cucamonga Valley Water District submitted on 1/3/2023 for the amount of 7,500 AF had been split because the amount purchased exceeds what is required to satisfy overproduction; the 85/15 Rule only applies to the portion that satisfies overproduction per the direction of the Appropriate Pool on November 2, 2011.
- 2) The Water Transaction between City of Upland and Fontana Water Company submitted on 11/8/2022 for the amount of 10,000 AF had been split because the amount purchased exceeds what is required to satisfy overproduction; the 85/15 Rule only applies to the portion that satisfies overproduction per the direction of the Appropriate Pool on November 2, 2011.
- 3) The Water Transaction between City of Upland and Golden State Water Company submitted on 6/8/2023 for the amount of 300 AF had been split because the amount purchased exceeds what is required to satisfy overproduction; the 85/15 Rule only applies to the portion that satisfies overproduction per the direction of the Appropriate Pool on November 2, 2011.



**Assessment Year 2023-2024 (Production Year 2022-2023)**

**Watermaster Replenishment Calculation**

**Cost of Replenishment Water per acre foot:**

Watermaster Replenishment Cost	\$855.00
Projected Spreading - OCWD Connection Fee	\$2.00
Projected Spreading - Delivery Surcharge	\$15.00
Pre-purchased Credit	\$0.00
<b>Total Replenishment Cost per acre foot (see footnote)</b>	<b>\$872.00</b>

<b>Replenishment Obligation:</b>	<b>AF @ \$872.00</b>	<b>15%</b>	<b>85%</b>	<b>Total</b>
Appropriative - 100	0.0			\$0.00
Appropriative - 15/85	17.6	\$2,306.92	\$13,072.54	\$15,379.46
Non-Agricultural - 100	10.7			\$9,367.90
	<b>28.4</b>			<b>\$24,747.36</b>

<b>Company</b>	<b>AF Production and Exchanges</b>	<b>85/15 Producers</b>	<b>Percent of Total 85/15 Producers</b>	<b>15% Replenishment Assessment</b>	<b>15% Water Transaction Debits</b>
BlueTriton Brands, Inc.	276.6			-	-
CalMat Co. (Appropriative)	0.0			-	-
Chino Hills, City Of	2,176.9	2,176.9	4.005%	\$92.40	\$34,273.03
Chino, City Of	3,112.5	3,112.5	5.727%	\$132.11	\$49,002.76
Cucamonga Valley Water District	13,514.7	13,514.7	24.865%	\$573.61	\$212,772.01
Desalter Authority	39,815.0			-	-
Fontana Union Water Company	0.0	0.0	0.000%	-	-
Fontana Water Company	8,721.0	8,721.0	16.045%	\$370.15	\$137,301.51
Fontana, City Of	0.0			-	-
Golden State Water Company	921.7	921.7	1.696%	\$39.12	\$14,511.45
Jurupa Community Services District	7,157.8	7,157.8	13.169%	\$303.80	\$112,689.65
Marygold Mutual Water Company	559.7			-	-
Monte Vista Irrigation Company	0.0	0.0	0.000%	-	-
Monte Vista Water District	5,165.5	5,165.5	9.504%	\$219.24	\$81,323.60
NCL Co, LLC	0.0			-	-
Niagara Bottling, LLC	1,401.4			-	-
Nicholson Family Trust	0.0	0.0	0.000%	-	-
Norco, City Of	0.0	0.0	0.000%	-	-
Ontario, City Of	12,566.1	12,566.1	23.119%	\$533.35	\$197,837.50
Pomona, City Of	10,197.4			-	-
San Antonio Water Company	459.0	459.0	0.844%	\$19.48	\$7,225.61
San Bernardino, County of (Shooting Park)	17.6	17.6	0.032%	\$0.75	\$277.67
Santa Ana River Water Company	0.0	0.0	0.000%	-	-
Upland, City Of	540.0	540.0	0.994%	\$22.92	\$8,502.38
West End Consolidated Water Co	0.0	0.0	0.000%	-	-
West Valley Water District	0.0	0.0	0.000%	-	-
<b>** Fee assessment total is 15% of Appropriative 15/85 replenishment obligation</b>	<b>106,603.1</b>	<b>54,352.9</b>	<b>**</b>	<b>\$2,306.93</b>	<b>\$855,717.17</b>

Transfers to  
**8G**

Transfers to  
**8K**

Notes: The 2023 rate includes a \$15 delivery surcharge from Three Valleys Municipal Water District.



Assessment Year 2023-2024 (Production Year 2022-2023)

# Readiness to Serve (RTS) Charges

ALL POOLS

Total Water Purchased: 6,912.9 AF Total RTS Charge: \$46,060.40 (\$6.66/AF)

Appropriative or Non-Agricultural Pool Party	FY 2016/2017 Water Purchases										FY 2017/2018 Water Purchase						TOTAL RTS CHARGES				
	Purchased Water in AF							2015/16 Prod & Exch From 85/15 Producers			Year 6 RTS Charges			Purchased Water in AF		2016/17 Prod & Exch From 85/15 Producers		Year 5 RTS Charges			
	20160623		20161216	20170418	85/15 Breakdown			Acre-Feet	Percent	15% \$1.00	85% \$5.66	100% \$6.66	RO	DRO	Acre-Feet	Percent		15% \$1.00	85% \$5.66	100% \$6.66	
	RO	DRO	DRO	RO	AF @ 100%	AF @ 85/15	AF Total														RO
BlueTriton Brands, Inc.	1,135.3	8.9	4.0	335.7	1,483.8	0.0	1,483.8	0.0	0.000%	0.00	0.00	9,886.14	0.1	0.0	0.0	0.000%	0.00	0.00	0.60	9,886.74	
CalMat Co. (Appropriative)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.00	
Chino Hills, City Of	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,548.3	2.009%	0.97	0.00	0.00	0.0	0.0	2,152.0	3.002%	0.40	0.00	0.00	1.37	
Chino, City Of	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.0	0.0	388.9	0.543%	0.07	0.00	0.00	0.07	
Cucamonga Valley Water District	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20,534.7	26.648%	12.85	0.00	0.00	0.0	0.0	16,562.0	23.104%	3.06	0.00	0.00	15.90	
Fontana Union Water Company	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.00	
Fontana Water Company	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15,317.2	19.877%	9.58	0.00	0.00	0.0	0.0	13,250.5	18.484%	2.45	0.00	0.00	12.03	
Fontana, City Of	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.00	
Golden State Water Company	0.0	0.0	0.0	0.0	0.0	0.0	0.0	807.4	1.048%	0.51	0.00	0.00	0.0	0.0	850.3	1.186%	0.16	0.00	0.00	0.66	
Jurupa Community Services District	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8,952.8	11.618%	5.60	0.00	0.00	0.0	0.0	11,023.2	15.377%	2.03	0.00	0.00	7.64	
Marygold Mutual Water Company	78.7	51.9	20.3	0.0	150.9	0.0	150.9	0.0	0.000%	0.00	0.00	1,005.25	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	1,005.25	
Monte Vista Irrigation Company	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.00	
Monte Vista Water District	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8,203.7	10.646%	5.13	0.00	0.00	0.0	0.0	6,865.0	9.577%	1.27	0.00	0.00	6.40	
NCL Co, LLC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.00	
Niagara Bottling, LLC	2,567.5	35.5	0.0	1,174.3	3,777.3	0.0	3,777.3	0.0	0.000%	0.00	0.00	25,168.07	946.1	0.0	0.0	0.000%	0.00	0.00	6,303.53	31,471.59	
Nicholson Family Trust	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.00	
Norco, City Of	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.00	
Ontario, City Of	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18,053.8	23.429%	11.29	0.00	0.00	0.0	0.0	18,970.2	26.463%	3.50	0.00	0.00	14.80	
Pomona, City Of	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.00	
San Antonio Water Company	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,030.8	1.338%	0.64	0.00	0.00	0.0	0.0	537.7	0.750%	0.10	0.00	0.00	0.74	
San Bernardino, County of (Shooting Park)	38.8	0.3	0.1	9.4	48.2	48.2	48.6	9.4	0.012%	0.01	273.17	2.65	13.2	0.8	13.0	0.018%	0.00	74.97	5.28	356.08	
Santa Ana River Water Company	0.0	48.0	23.7	0.0	71.7	0.0	71.7	0.0	0.000%	0.00	0.00	477.62	0.0	118.7	0.0	0.000%	0.00	0.00	790.66	1,268.28	
Upland, City Of	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2,600.7	3.375%	1.63	0.00	0.00	0.0	0.0	1,071.9	1.495%	0.20	0.00	0.00	1.82	
West End Consolidated Water Co	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.00	
West Valley Water District	0.0	23.5	11.8	0.0	35.3	0.0	35.3	0.0	0.000%	0.00	0.00	234.88	0.0	58.8	0.0	0.000%	0.00	0.00	391.46	626.34	
9W Halo Western OpCo L.P.	62.2	0.0	0.0	10.6	72.9	0.0	72.9	0.0	0.000%	0.00	0.00	485.55	3.0	0.0	0.0	0.000%	0.00	0.00	20.18	505.72	
ANG II (Multi) LLC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.00	
Aqua Capital Management LP	57.5	0.0	0.0	0.0	57.5	0.0	57.5	0.0	0.000%	0.00	0.00	382.93	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	382.93	
California Speedway Corporation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.00	
California Steel Industries, Inc.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.00	
CalMat Co.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.00	
CCG Ontario, LLC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.00	
City of Ontario (Non-Ag)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.00	
County of San Bernardino (Non-Ag)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.00	
General Electric Company	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.000%	0.00	0.00	0.41	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.41	
Hamner Park Associates, a California Limited Partnershi	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.00	
Linde Inc.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.00	
Monte Vista Water District (Non-Ag)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.00	
Riboli Family and San Antonio Winery, Inc.	28.8	0.0	0.0	4.0	32.8	0.0	32.8	0.0	0.000%	0.00	0.00	218.30	5.3	0.0	0.0	0.000%	0.00	0.00	35.07	253.36	
Space Center Mira Loma, Inc.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.00	
TAMCO	19.8	0.0	0.0	16.5	36.4	0.0	36.4	0.0	0.000%	0.00	0.00	242.25	0.0	0.0	0.0	0.000%	0.00	0.00	0.03	242.28	
West Venture Development Company	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.0	0.0	0.0	0.000%	0.00	0.00	0.00	0.00	
	<b>3,988.7</b>	<b>168.0</b>	<b>59.9</b>	<b>1,550.5</b>	<b>5,718.8</b>	<b>48.2</b>	<b>5,767.0</b>	<b>77,058.9</b>	<b>100.0%</b>	<b>48.21</b>	<b>273.17</b>	<b>38,104.03</b>	<b>967.7</b>	<b>178.2</b>	<b>71,684.9</b>	<b>100.0%</b>	<b>13.23</b>	<b>74.97</b>	<b>7,546.79</b>	<b>46,060.41</b>	
	<b>26A</b>	<b>26B</b>	<b>26C</b>	<b>26D</b>	<b>26E</b>	<b>26F</b>	<b>26G</b>	<b>26H</b>	<b>26I</b>	<b>26J</b>	<b>26K</b>	<b>26L</b>	<b>26M</b>	<b>26N</b>	<b>26O</b>	<b>26P</b>	<b>26Q</b>	<b>26R</b>	<b>26S</b>	<b>26T</b>	

Notes:  
 1) This year's RTS includes the sixth of ten annual RTS charges for water purchased in FY 2016/17, and fifth of ten annual RTS charges for water purchased in FY 2017/18.



# Assessment Year 2023-2024 (Production Year 2022-2023) Assessment Package Notes

Page	Note
All (a)	A change in a Party's name will be reflected in the Assessment Package for the production year in which the name change occurred. For example, if a Party changed its name on June 30, 2023, it will be reflected in the FY 2023/2024 Assessment Package (for Production Year 2022/2023). Additionally, if a Party changed its name on July 1, 2023, it will be reflected in the FY 2024/2025 Assessment Package (for Production Year 2023/2024).
All (b)	To avoid the possibility of being mistakenly identified as one of other similarly named organizations, the Chino Basin Desalter Authority is referred to as Desalter Authority.
pg01	"Agricultural Total Pool Production" includes Voluntary Agreements between Appropriators and Agricultural Pool Parties.
pg02-07	ANG II (Multi) LLC temporarily leased their rights to 9W Halo Western OpCo L.P. (as successor to Angelica) beginning on March 2010 through January 2030.
pg04 (a)	Transfers in Column [4E] include the annual transfer of 10% of the Non-Ag Safe Yield to be utilized to offset the overall Desalter Replenishment Obligation in accordance with the Peace II Agreement Section 6.2, and also the Exhibit "G" physical solution.
pg04 (b)	Column [4H], "Actual Fiscal Year Production," includes physical production and Assignments between Appropriators and Non-Ag Pool Parties.
pg04 (c)	"Net Over Production" does not include evaporative loss. Additional water will be purchased in order to adequately cover evaporative losses. The rates are 1.5% from November through March, 4.2% from April through October.
pg05 (a)	Hydraulic Control was achieved on February 1, 2016. Pursuant to Paragraph 7.4(b) of the Peace II Agreement, Storage Loss is now calculated at 0.07%.
pg05 (b)	When applicable, Column [5C] includes the Exhibit "G" physical solution transfers to the Appropriative Pool.
pg06	Transfers in Column [6C] is the annual transfer of 10 percent of the Non-Ag Safe Yield to be utilized to offset the overall Desalter Replenishment Obligation in accordance with the Peace II Agreement Section 6.2.
pg07 (a)	The financial Outstanding Obligations are reconciled on pages 7.1 and 17.1.
pg07 (b)	Fund Balance is maintained on a spreadsheet by Watermaster.
pg07 (c)	Outstanding Obligation (\$) is calculated by multiplying Outstanding Obligation (AF) by the current rate, reduced by the Fund Balance (\$).
pg07 (d)	Fund Balance is the money collected by Watermaster, Outstanding Obligation (\$) is the money owed by the Parties or credited to the Parties.
pg08 (a)	Recharge Debt Payment expenses [8O] and Recharge Improvement Project expenses [8P] are each allocated on % OSY, based on the approved budget.
pg08 (b)	Pursuant to Paragraph 5.4(b) of the Peace Agreement, the City of Pomona shall be allowed a credit of up to \$2 million against OBMP Assessments through 2030. This equates to \$66,667 per year. TVMWD elected to discontinue payment of the "Pomona Credit," effective FY 2012/2013. It is now paid by the Appropriative Pool Parties, allocated on % OSY (Column [8N]).
pg09 (a)	Other Adjustments [9D] include water provided to another Appropriator, pump-to-waste that has been captured in a recharge basin (as verified by IEUA), and other miscellaneous recharge / injection of native water.
pg09 (b)	Evaporative Losses will be applied to recharged water from Pump-to-Waste activities beginning in October 2017. (Evaporative Loss Rates: 1.5% Nov - Mar; 4.2% Apr - Oct)
pg10 (a)	The Restated Judgment allowed an accumulated overdraft of 200,000 AF over 40 years. The total Operating Safe Yield is now 40,834 AF, allocated by percentage of Operating Safe Yield.
pg10 (b)	Column [10I], "Actual Fiscal Year Production," includes physical production, Voluntary Agreements, Assignments, and, if applicable, other adjustments. A detailed breakdown can be found on Page 9.1.



# Assessment Year 2023-2024 (Production Year 2022-2023) Assessment Package Notes

Page	Note
pg10 (c)	"Net Over Production" does not include evaporative loss. Additional water will be purchased in order to adequately cover evaporative losses. The rates are 1.5% from November through March, 4.2% from April through October.
pg11 (a)	The Assessment Package database is set up so that all water must go through the Party Annual Accounts on the way to or from ECO Storage Accounts, and through the ECO Storage Accounts on the way to or from Supplemental Storage Accounts (does not apply to water dedicated to offset the Desalter Replenishment Obligation).
pg11 (b)	Column [11C] includes transfers to the Desalter Replenishment Obligation.
pg12 (a)	The Assessment Package database is set up so that all water must go through the Party Annual Accounts on the way to or from ECO Storage Accounts, and through the ECO Storage Accounts on the way to or from Supplemental Storage Accounts (does not apply to water dedicated to offset the Desalter Replenishment Obligation).
pg12 (b)	Columns [12C], [12H], and [12M] include transfers to the Desalter Replenishment Obligation.
pg12 (c)	The first 3,000 AF of City of Fontana's recharged recycled water transfers to the City of Ontario, and all of the City of Montclair's recharged recycled water transfers to MVWD.
pg13 (a)	"Re-Operation Offset: Pre-Peace II Desalters" had an original beginning balance of 225,000.000 AF. The 29,070 AF correction required by Condition Subsequent 7 is included. (See Page 18.1)
pg13 (b)	"Re-Operation Offset: Peace II Expansion" had an original beginning balance of 175,000.000 AF. It will now be allocated to Desalter replenishment over a 17-year period, beginning in 2013/14 and ending in 2029/30, according to a schedule. (See Page 18.1)
pg13 (c)	There is no loss assessed on the native Basin water allocated to offset Desalter production as a result of Basin Reoperation as approved in the Peace II Agreement.
pg13 (d)	"Non-Ag Dedication" was used in a prior Assessment Package to indicate the Paragraph 31 Settlement Agreements Dedication.
pg13 (e)	The "Non-Ag" OBMP Special Assessment", also referred to as the "10% Haircut", will indicate the movement of water when it is being utilized to further offset the Desalter Replenishment Obligation. See [18L] on Page 18.1.
pg13 (f)	Columns [13C] and [13D] under "Dedicated Replenishment" include transfers of water from an Annual Account to DRO, including Party to Party transfers such as those executed with the Exhibit "G" Form A.
pg14	Transfers in Column [14A] include annual water transfers/leases between Appropriators and/or from Appropriators to Watermaster for replenishment purposes, and also the Exhibit "G" physical solution transfers from the Non-Ag Pool.
pg15 (a)	Most of the remaining eligible parcels for Land Use Conversion are within the Conversion Area 1 boundary.
pg15 (b)	"Unlikely to Convert Parcels" regardless of eligibility are not likely to convert due to pre-existing land use. Eligibility will be determined on a case by case basis.
pg16	Beginning with the 2015/16 Assessment Package, the Agricultural Pool Safe Yield Reallocation is now being calculated with a new formula in accordance with the March 15, 2019 Court Order.
pg17 (a)	The financial Outstanding Obligations are reconciled on pages 7.1 and 17.1.
pg17 (b)	Fund Balance is maintained on a spreadsheet by Watermaster.
pg17 (c)	Outstanding Obligation is calculated by multiplying Outstanding Obligation (AF) by the current rate, reduced by the Fund Balance.
pg17 (d)	Fund Balance is the money collected by Watermaster, Outstanding Obligation (\$) is the money owed by the Parties or credited to the Parties.
pg21 (a)	Any balance in a Dedicated Replenishment Account is utilized first to satisfy new or carried over Desalter Replenishment Obligation beginning with the fiscal year such water was made available. The balance, if any, can be found on page 13.1.



# Assessment Year 2023-2024 (Production Year 2022-2023) Assessment Package Notes

Page	Note
pg21 (b)	Due to an agreement between CVWD and FUWC, all of FUWC's rights are automatically transferred to CVWD. A recurring transaction was created so that a portion of that water gets returned to FUWC to satisfy their share of DRO.
pg22	The table on this page is a replica of the table found in the Watermaster Budget.
pg24	The column titled "(Over)/Under Production Excluding Water Transfer(s)" excludes Exhibit "G" water sales and water transfers between Appropriators and to Watermaster (if any). ([10B] + [10C] + [10D] + [10E] + [14B] - [10K])
pg25 (a)	The "15% Water Transaction Debits" total is the "Total 15% Credits from all Transaction" from Page 23.1.
pg25 (b)	"Replenishment Obligation" does not include evaporative loss. Additional water will be purchased in order to adequately cover evaporative losses. The rates are 1.5% from November through March, 4.2% from April through October.
pg26 (a)	Beginning with fiscal year 2016/17, water purchased through the IEUA will be charged with an annual RTS fee over a ten year period commencing two years after the initial purchase. This fee will vary year to year based on a ten-year rolling average.
pg26 (b)	RTS will be allocated based on the total RTS charge for the year and not on the calculated cost per acre-foot.

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**Assessment Year 2023-2024 (Production Year 2022-2023)**

**Assessment Package References and Definitions**

Column	Title	Description
2A	<b>AF Production</b>	Actual fiscal year production by each Party. Copied from [4H].
2B	<b>Non-Agricultural Pool - AF/Admin</b>	Production [2A] <times> per acre-foot Admin fee.
2C	<b>Non-Agricultural Pool - AF/OBMP</b>	Production [2A] <times> per acre-foot OBMP fee.
2D	<b>Replenishment Assessments - AF Exceeding Annual Right</b>	Over-production for each Party beyond their annual production right. Copied from [4I].
2E	<b>Replenishment Assessments - \$872 Per AF</b>	Amount overproduced [2D] <times> the current replenishment rate.
2F	<b>CURO Adjustment</b>	Monetary amount needed (or to be credited) for each Party's Cumulative Unmet Replenishment Obligation (CURO). Calculated on Page 7.1.
2G	<b>RTS Charges</b>	Annual Readiness to Serve charges for water purchased in prior years.
2H	<b>Other Adjustments</b>	Used as necessary for any other monetary adjustments needed to the Assessment Package.
2I	<b>Total Assessments Due</b>	Total fees assessed based on Party production. [2B] + [2C] + [2E] + [2F] + [2G] + [2H].
3A	<b>Physical Production</b>	Fiscal year physical production by each Party.
3B	<b>Assignments</b>	Total of water received from an Appropriator by each Party.
3C	<b>Other Adjustments</b>	Any other adjustments that result in off-set of the fiscal year's production.
3D	<b>Actual FY Production (Assmnt Pkg Column 4H)</b>	Total adjusted production for the fiscal year. Also known as Assessable Production. [3A] + [3B] + [3C].
4A	<b>Percent of Safe Yield</b>	The Party's yearly percentage of Safe Yield.
4B	<b>Carryover Beginning Balance</b>	The beginning balance in each Annual Account. This number carries forward from the ending balance in the previous period Assessment Package.
4C	<b>Prior Year Adjustments</b>	This number reflects the adjusted production rights from a previous Assessment Package, in the event that corrections are needed.
4D	<b>Assigned Share of Safe Yield (AF)</b>	The Party's yearly volume of Safe Yield.
4E	<b>Water Transaction Activity</b>	Total of one-time water transfers between Parties for this period, including the annual transfer of 10 percent of the Non-Ag Safe Yield to be utilized to offset the overall Desalter Replenishment Obligation, as stated in the Peace II Agreement, and Exhibit "G" physical solution transfers to the Appropriative Pool.
4F	<b>Other Adjustments</b>	This number reflects adjusted production rights, in the event that corrections are needed.
4G	<b>Annual Production Right</b>	Current Year Production Right. [4B] + [4C] + [4D] + [4E] + [4F].





Assessment Year 2023-2024 (Production Year 2022-2023)

# Assessment Package References and Definitions

Column	Title	Description
4H	<b>Actual Fiscal Year Production</b>	Fiscal year production, including Assignments, from CBWM's production system (as verified by each Party on their Water Activity Report). Also known as Assessable Production.
4I	<b>Net Over Production</b>	Over-production, if any, for each Party beyond their annual production right. $[4H] <minus> [4G]$ , equaling more than zero.
4J	<b>Under Production Balances - Total Under-Produced</b>	Production rights $[4G] <minus>$ production $[4H]$ , equaling more than zero.
4K	<b>Under Production Balances - Carryover: Next Year Begin Bal</b>	Either total under-produced $[4J]$ or share of Safe Yield $[4D]$ , whichever is less.
4L	<b>Under Production Balances - To Excess Carryover Account</b>	Total under-produced $[4J] <minus>$ Carryover to next year $[4K]$ , equaling more than zero.
5A	<b>Local Excess Carry Over Storage Account (ECO) - Beginning Balance</b>	The beginning balance in each ECO account. This number will carry forward from the ending balance in the previous period Assessment Package.
5B	<b>Local Excess Carry Over Storage Account (ECO) - 0.07% Storage Loss</b>	Beginning balance $[5A] <times> -0.0007$ .
5C	<b>Local Excess Carry Over Storage Account (ECO) - Transfers To / (From)</b>	Total of water transferred to and from the ECO Account.
5D	<b>Local Excess Carry Over Storage Account (ECO) - From Under-Production</b>	Total of water transferred from the Annual Account due to under production. Copied from $[4L]$ .
5E	<b>Local Excess Carry Over Storage Account (ECO) - Ending Balance</b>	The current balance in each ECO account. $[5A] + [5B] + [5C] + [5D]$ .
5F	<b>Local Supplemental Storage Account - Beginning Balance</b>	The beginning balance in each Supplemental Account. This number will carry forward from the ending balance in the previous period Assessment Package.
5G	<b>Local Supplemental Storage Account - 0.07% Storage Loss</b>	Beginning balance $[5F] <times> -0.0007$ .
5H	<b>Local Supplemental Storage Account - Transfers To / (From)</b>	Total of water transferred to and from the Annual and/or ECO Account.
5I	<b>Local Supplemental Storage Account - Ending Balance</b>	The current balance in each Supplemental Account. $[5F] + [5G] + [5H]$ .
5J	<b>Combined - Ending Balance</b>	The combined amount in all local storage accounts. $[5E] + [5I]$ .
6A	<b>Percent of Safe Yield</b>	The Party's yearly percentage of Operating Safe Yield.
6B	<b>Assigned Share of Safe Yield (AF)</b>	The Party's yearly volume of Operating Safe Yield.
6C	<b>Water Transactions - 10% of Operating Safe Yield ("Haircut")</b>	Operating Safe Yield $[6B] <times> -0.1$
6D	<b>Water Transactions - Transfers (To) / From ECO Account</b>	Total of water transferred between the Annual Account and ECO Account.
6E	<b>Water Transactions - General Transfers / Exhibit G Water Sales</b>	Total of water transfers between Parties for this period including Exhibit G Water Sales.
6F	<b>Water Transactions - Total Water Transactions</b>	Total water transactions. $[6C] + [6D] + [6E]$ . This column is used to populate $[4E]$ .



**Assessment Year 2023-2024 (Production Year 2022-2023)**

**Assessment Package References and Definitions**

Column	Title Description
7A	<b>Outstanding Obligation (AF)</b> The amount of obligation carried over from prior Assessment Package(s) that were not met due to various reason, including but not limited to MWD not having replenishment water available to purchase.
7B	<b>Fund Balance (\$)</b> The amount of money collected or owed for replenishment assessments from prior Assessment Package(s).
7C	<b>Outstanding Obligation (\$)</b> The amount of money that each Party owes or is credited based on current replenishment rate. [7A] <times> [CURRENT RATE] <minus> [7B].
8A	<b>AF Production and Exchanges</b> Total production and exchanges. Copied from [10K].
8B	<b>Appropriative Pool - AF/Admin</b> Production and Exchanges [8A] <times> per acre-foot Admin fee.
8C	<b>Appropriative Pool - AF/OBMP</b> Production and Exchanges [8A] <times> per acre-foot OBMP fee.
8D	<b>Ag Pool SY Reallocation - AF Total Reallocation</b> Reallocation of Ag Pool Safe Yield. Copied from [10E] and [16E].
8E	<b>Ag Pool SY Reallocation - AF/Admin</b> Party Ag Pool reallocation [8D] <divided by> Total Ag Pool Reallocation [8D Total] <times> total dollar amount needed for Ag Pool Administration.
8F	<b>Ag Pool SY Reallocation - AF/OBMP</b> Party Ag Pool reallocation [8D] <divided by> Total Ag Pool Reallocation [8D Total] <times> total dollar amount needed for Ag Pool OBMP.
8G	<b>Replenishment Assessments - AF/15%</b> For Parties participating in the 85/15 Rule: Percentage of total 85/15 participant production <times> required credit amount. Copied from Page 25.1.
8H	<b>Replenishment Assessments - AF/85%</b> For parties participating in the 85/15 Rule: Total volume overproduced [10L] <times> 85% of the replenishment rate.
8I	<b>Replenishment Assessments - AF/100%</b> For parties not participating in the 85/15 Rule: Total volume overproduced [10M] <times> 100% of the replenishment rate.
8J	<b>85/15 Water Transaction Activity - 15% Producer Credits</b> For parties participating in the 85/15 Rule: Credit amount equals 15% of the cost of the water purchased. Total to be credited copied from Page 23.1.
8K	<b>85/15 Water Transaction Activity - 15% Pro-rated Debits</b> For parties participating in the 85/15 Rule: Percentage of total 85/15 participant production <times> required credit amount. Copied from Page 25.1.
8L	<b>CURO Adjustment</b> Monetary amount needed (or to be credited) for each Party's Cumulative Unmet Replenishment Obligation (CURO). Calculated on Page 17.1.
8M	<b>ASSESSMENTS DUE - Total Production Based</b> Total fees assessed based on Party production. [8B] + [8C] + [8E] + [8F] + [8G] + [8H] + [8I] + [8J] + [8K] + [8L].
8N	<b>ASSESSMENTS DUE - Pomona Credit</b> Debit amount to Pomona <times> -1 <times> percent share of Operating Safe Yield [10A].
8O	<b>ASSESSMENTS DUE - Recharge Debt Payment</b> Total recharge debt payment <times> percent share of Operating Safe Yield [10A].
8P	<b>ASSESSMENTS DUE - Recharge Improvement Project</b> Total Recharge Improvement Project <times> Percent Share of Operating Safe Yield [10A].



**Assessment Year 2023-2024 (Production Year 2022-2023)**

**Assessment Package References and Definitions**

Column	Title Description
8Q	<b>ASSESSMENTS DUE - RTS Charges</b> Annual Readiness to Serve charges for water purchased in prior years.
8R	<b>ASSESSMENTS DUE - Other Adjustments</b> Used as necessary for any other monetary adjustments needed to the Assessment Package.
8S	<b>ASSESSMENTS DUE - DRO</b> Total assessments due for Desalter Replenishment. Copied from [21L].
8T	<b>ASSESSMENTS DUE - Total Due</b> Total assessments. [8M] + [8N] + [8O] + [8P] + [8Q] + [8R] + [8S].
9A	<b>Physical Production</b> Fiscal year physical production by each Party.
9B	<b>Voluntary Agreements (w/ Ag)</b> Total of water provided to Agricultural Pool Parties.
9C	<b>Assignments (w / Non-Ag)</b> Total of water provided to Non-Agricultural Pool Parties.
9D	<b>Other Adjustments</b> Total of water received from, or provided to, another Appropriator. Also includes production off-sets.
9E	<b>Actual FY Production (Assmnt Pkg Column 10I)</b> Total adjusted production for the fiscal year. [9A] + [9B] + [9C] + [9D].
10A	<b>Percent of Operating Safe Yield</b> The Party's yearly percentage of Operating Safe Yield.
10B	<b>Carryover Beginning Balance</b> The beginning balance in each Annual Account. This number carries forward from the ending balance in the previous period Assessment Package.
10C	<b>Prior Year Adjustments</b> This number reflects the adjusted production rights from a previous Assessment Package, in the event that corrections are needed.
10D	<b>Assigned Share of Operating Safe Yield</b> The Party's yearly volume of Operating Safe Yield.
10E	<b>Net Ag Pool Reallocation</b> Reallocation of Ag Pool Safe Yield. Copied from [16E]. The calculations that lead to this are made on Page 16.1.
10F	<b>Water Transaction Activity</b> Water transactions. Copied from [14E]. The calculations that lead to this are made on Page 14.1.
10G	<b>Other Adjustments</b> This number reflects adjusted production rights, in the event that corrections are needed.
10H	<b>Annual Production Right</b> Current Year Production Right. [10B] + [10C] + [10D] + [10E] + [10F] + [10G].
10I	<b>Actual Fiscal Year Production</b> Fiscal year production, including Assignments and Voluntary Agreements, from CBWM's production system (as verified by each Party on their Water Activity Report). Includes a sub note subtracting Desalter production.
10J	<b>Storage and Recover Program(s)</b> Total exchanges for the period (July 1 - June 30) including MZ1 forbearance and DYY deliveries (as reported to CBWM by IEUA and TVMWD and as verified by each Party on their Water Activity Report). A DYY in-lieu "put" is shown as a positive number and a DYY "take" is shown as a negative number.
10K	<b>Total Production and Exchanges</b> Actual production [10I] <plus> Storage and Recovery exchanges [10J]. Includes a sub note subtracting Desalter production. Also known as Assessable Production.



**Assessment Year 2023-2024 (Production Year 2022-2023)**

**Assessment Package References and Definitions**

Column	Title Description
10L	<b>Net Over-Production - 85/15%</b> For 85/15 Rule participants: Production rights [10H] <minus> total production and exchanges [10K], equaling less than zero.
10M	<b>Net Over-Production - 100%</b> For non-85/15 Rule participants: Production rights [10H] <minus> total production and exchanges [10K], equaling less than zero. Includes a sub note subtracting Desalter production.
10N	<b>Under Production Balances - Total Under-Produced</b> Production rights [10H] <minus> total production and exchanges [10K], equaling more than zero.
10O	<b>Under Production Balances - Carryover: Next Year Begin Bal</b> Either total under-produced [10N] or share of Operating Safe Yield [10D], whichever is less.
10P	<b>Under Production Balances - To Excess Carryover Account</b> Total under produced [10N] <minus> Carryover to next year [10O], equaling more than zero.
11A	<b>Excess Carry Over Account (ECO) - Beginning Balance</b> The beginning balance in each ECO account. This carries forward from the ending balance in the previous period Assessment Package.
11B	<b>Excess Carry Over Account (ECO) - 0.07% Storage Loss</b> Beginning balance [11A] <times> -0.0007.
11C	<b>Excess Carry Over Account (ECO) - Transfers To / (From)</b> Total of water transferred to and from ECO and the Annual Account. Also includes Desalter Replenishment Obligation transfers.
11D	<b>Excess Carry Over Account (ECO) - From Supplemental Storage</b> Total of water transferred to and from Local Supplemental Storage accounts, as shown on Page 12.1.
11E	<b>Excess Carry Over Account (ECO) - From Under-Production</b> Total of water transferred from the Annual Account due to under production. Copied from [10P].
11F	<b>Excess Carry Over Account (ECO) - Ending Balance</b> The current balance in each ECO account. [11A] + [11B] + [11C] + [11D] + [11E].
12A	<b>Recharged Recycled Account - Beginning Balance</b> The beginning balance in each Recharged Recycled Account. This number carries forward from the ending balance in the previous period Assessment Package.
12B	<b>Recharged Recycled Account - 0.07% Storage Loss</b> Beginning balance [12A] <times> -0.0007.
12C	<b>Recharged Recycled Account - Transfers To / (From)</b> Total recharged recycled water credited to each Party for the year, as provided by IEUA. Also includes Desalter Replenishment Obligation transfers.
12D	<b>Recharged Recycled Account - Transfer to ECO Account</b> Total of water transferred to the ECO Account, as shown on Page 11.1.
12E	<b>Recharged Recycled Account - Ending Balance</b> The current balance in each Recharged Recycled account. [12A] + [12B] + [12C] + [12D].
12F	<b>Quantified (Pre 7/1/2000) Account - Beginning Balance</b> The beginning balance in each Quantified Supplemental Account. This number carries forward from the ending balance in the previous period Assessment Package.
12G	<b>Quantified (Pre 7/1/2000) Account - 0.07% Storage Loss</b> Beginning balance [12F] <times> -0.0007.
12H	<b>Quantified (Pre 7/1/2000) Account - Transfers To / (From)</b> Total of water transferred to and from the Annual Account. Also includes Desalter Replenishment Obligation transfers.
12I	<b>Quantified (Pre 7/1/2000) Account - Transfer to ECO Account</b> Total of water transferred to the ECO Account, as shown on Page 11.1.



Assessment Year 2023-2024 (Production Year 2022-2023)

# Assessment Package References and Definitions

Column	Title Description
12J	<b>Quantified (Pre 7/1/2000) Account - Ending Balance</b> The current balance in each Quantified Supplemental account. [12F] + [12G] + [12H] + [12I].
12K	<b>New (Post 7/1/2000) Account - Beginning Balance</b> The beginning balance in each New Supplemental Account. This number carries forward from the ending balance in the previous period Assessment Package.
12L	<b>New (Post 7/1/2000) Account - 0.07% Storage Loss</b> Beginning balance [12K] <times> -0.0007.
12M	<b>New (Post 7/1/2000) Account - Transfers To / (From)</b> Total of water transferred to and from the Annual Account. Also includes Desalter Replenishment Obligation transfers.
12N	<b>New (Post 7/1/2000) Account - Transfer to ECO Account</b> Total of water transferred to the ECO Account, as shown on Page 11.1.
12O	<b>New (Post 7/1/2000) Account - Ending Balance</b> The current balance in each New Supplemental Account. [12K] + [12L] + [12M] + [12N].
12P	<b>Combined - Ending Balance</b> The combined amount in all supplemental storage accounts [12E] + [12J] + [12O].
13A	<b>Dedicated Replenishment - Beginning Balance</b> The beginning balances in each Dedicated Replenishment account. These numbers carry forward from the ending balances in the previous period Assessment Package.
13B	<b>Dedicated Replenishment - Water Purchases</b> Where applicable, the total of water purchased by each Dedicated Replenishment account.
13C	<b>Dedicated Replenishment - Transfers To</b> Where applicable, the total of water transferred to each Dedicated Replenishment account. Includes transfers from Exhibit "G" Section 10 Form A, and transfers from the Annual Account.
13D	<b>Dedicated Replenishment - Transfers From</b> Total of water transferred from each Dedicated Replenishment account. The inverse amounts in this column goes to column [21D] on page 21.1.
13E	<b>Dedicated Replenishment - Ending Balance</b> The current balances in each Dedicated Replenishment account. [13A] + [13B] + [13C] + [13D].
13F	<b>Storage and Recovery - Beginning Balance</b> The beginning balance in the Storage and Recovery (DYY) Account. This number carries forward from the ending balance in the previous period Assessment Package.
13G	<b>Storage and Recovery - Storage Loss</b> Beginning balance [13F] <times> -0.0007.
13H	<b>Storage and Recovery - Transfers To</b> Total of water transferred to the Storage and Recovery Account ("puts").
13I	<b>Storage and Recovery - Transfers From</b> Total of water transferred from the Storage and Recovery Account ("takes").
13J	<b>Storage and Recovery - Ending Balance</b> The current balance in the Storage and Recovery Account. [13F] + [13G] + [13H] + [13I].
14A	<b>Water Transactions - Assigned Rights</b> Total of assigned transactions for this period, including annual water transfers/leases between Appropriators and/or from Appropriators to Watermaster for replenishment purposes, and also the Exhibit "G" physical solution transfers from the Non-Ag Pool.
14B	<b>Water Transactions - General Transfer</b> Total of water transfers between Parties for this period.
14C	<b>Water Transactions - Transfers (To) / From ECO Account</b> Total of water transferred between the Annual Account and ECO Account.



**Assessment Year 2023-2024 (Production Year 2022-2023)**

**Assessment Package References and Definitions**

Column	Title	Description
14D	<b>Water Transactions - Transfers (To) Desalter Replenishment</b>	Total of water transferred from the ECO Account to the Desalter Replenishment Account.
14E	<b>Water Transactions - Total Water Transactions</b>	Total water transactions. [14A]+ [14B] + [14C] + [14D]. This column is used to populate [10F].
15A	<b>Prior Conversion</b>	Prior Land Use Conversion in acre-feet.
15B	<b>Conversion @ 1.3 af/ac - Acres</b>	Converted parcels in acres at 1.3 acre-feet per acre.
15C	<b>Conversion @ 1.3 af/ac - Acre-Feet</b>	Converted parcels in acre-feet at 1.3 acre-feet per acre. [15B] <times> 1.3.
15D	<b>Total Prior to Peace Agrmt Converted AF</b>	Total Land Use Conversion in acre-feet prior to the Peace Agreement. [15A] + [15C].
15E	<b>Conversion @ 2.0 af/ac - Acres</b>	Converted parcels in acres at 2.0 acre-feet per acre.
15F	<b>Conversion @ 2.0 af/ac - Acre-Feet</b>	Converted parcels in acre-feet at 2.0 acre-feet per acre. [15E] <times> 2.0.
15G	<b>Total Land Use Conversion Acre-Feet</b>	Total Land Use Conversion in acre-feet for each Party. [15D] + [15F].
16A	<b>% Share of Operating Safe Yield</b>	The Party's yearly percentage of Operating Safe Yield. Copied from [10A].
16B	<b>Reallocation of Agricultural Pool Safe Yield - Safe Yield Reduction</b>	The Party's percent share of Operating Safe Yield [16A] multiplied by 9,000.
16C	<b>Reallocation of Agricultural Pool Safe Yield - Land Use Conversions</b>	Total land use conversions claimed on Page 15.1 (as verified by each Party on their Water Activity Report). Copied from [15G].
16D	<b>Reallocation of Agricultural Pool Safe Yield - Early Transfer</b>	The remaining Agricultural Pool Safe Yield (82,800 <minus> Agricultural Pool Production <minus> Safe Yield Reduction <minus> Land Use Conversion) multiplied by percent share of Operating Safe Yield [16A].
16E	<b>Reallocation of Agricultural Pool Safe Yield - Total Ag Pool Reallocation</b>	Each Party's Agricultural Pool Reallocation. [16B] + [16C] + [16D]. This column is used to populate [10E].
17A	<b>Outstanding Obligation (AF)</b>	The amount of obligation carried over from prior Assessment Package(s) that were not met due to various reasons, including but not limited to MWD not having replenishment water available to purchase.
17B	<b>Fund Balance (\$)</b>	The amount of money collected or owed for replenishment assessments from prior Assessment Packages(s).
17C	<b>Outstanding Obligation (\$)</b>	The amount of money that each Party owes or is credited based on current replenishment rate. [17A] <times> [CURRENT RATE] <minus> [17B].
17D	<b>AF Production and Exchanges</b>	Each Party's total production and exchanges. Copied from [10K].
17E	<b>85/15 Producers</b>	The total production and exchanges of 85/15 Producers only.
17F	<b>Percent</b>	The percentage of each 85/15 Producer's total production and exchanges [17E] divided by the sum of [17E].



Assessment Year 2023-2024 (Production Year 2022-2023)

# Assessment Package References and Definitions

Column	Title Description
17G	<b>15%</b> If an 85/15 Producer, then the 85/15 Producers' total Outstanding Obligation (\$) at 15%, multiplied by their production and exchanges percentage. [17C] total of 85/15 Producers <times> 15% <times> [17F].
17H	<b>85%</b> If an 85/15 Producer, then the Outstanding Obligation (\$) at 85%.
17I	<b>100%</b> If not an 85/15 Producer, then the Outstanding Obligation (\$) at 100%.
17J	<b>Total</b> The total CURO for the year. [17G] + [17H] + [17I].
18A	<b>Desalter Production - Pre-Peace II Desalter Production</b> Production from the Pre-Peace II Desalter Wells.
18B	<b>Desalter Production - Peace II Desalter Expansion Production</b> Production from the Peace II Desalter Expansion Wells.
18C	<b>Desalter Production - Total</b> The combined production from all Desalter Wells. [18A] + [18B].
18D	<b>Desalter Replenishment - Desalter (aka Kaiser) Account PIIA, 6.2 (a)(i)</b> Credit applied to the total Desalter Production from the Kaiser account.
18E	<b>Desalter Replenishment - Paragraph 31 Settlement Agreements Dedication PIIA, 6.2(a)(ii)</b> Credit applied to the total Desalter Production from "dedication of water from the Overlying (Non-Agricultural) Pool Storage Account or from any contribution arising from an annual authorized Physical Solution Transfer in accordance with amended Exhibit G
18F	<b>Desalter Replenishment - "Leave Behind" Losses PIIA, 6.2(a)(iv)</b> Credit applied to the total Desalter Production from "any declared losses from storage in excess of actual losses enforced as a "Leave Behind".
18G	<b>Desalter Replenishment - Safe Yield Contributed by Parties PIIA, 6.2(a)(v)</b> Credit applied to the total Desalter Production from "Safe Yield that may be contributed by the parties."
18H	<b>Desalter Replenishment - Controlled Overdraft / Re-Op, PIIA, 6.2(a)(vi) - Allocation to Pre-Peace II Desalters</b> The 225,000 AF portion of the 400,000 AF Controlled Overdraft that was originally allocated to the Pre-Peace II Desalter production.
18I	<b>Desalter Replenishment - Controlled Overdraft / Re-Op, PIIA, 6.2(a)(vi) - Allocation to All Desalters</b> The 175,000 AF portion of the 400,000 AF Controlled Overdraft that was originally allocated to the Peace II Desalter Expansion production but is now allocated to all Desalter production per set schedule.
18J	<b>Desalter Replenishment - Controlled Overdraft / Re-Op, PIIA, 6.2(a)(vi) - Balance</b> The remaining balance of the 400,000 AF Controlled Overdraft.
18K	<b>Desalter Replenishment - Appropriative Pool DRO Contribution PIIA, 6.2(b)(ii)</b> The 10,000 AF contribution to the Desalter Replenishment Obligation by the Appropriative Pool.
18L	<b>Desalter Replenishment - Non-Ag OBMP Assessment (10% Haircut) PIIA, 6.2(b)(i)</b> The 10% of the Non-Agricultural Pool Safe Yield used to offset the total Desalter Replenishment Obligation beginning with production year 2016/2017.
18M	<b>Remaining Desalter Replenishment Obligation PIIA, 6.2(b)(iii)</b> Total Desalter Production minus Desalter Replenishment. [18C] - [18D] - [18E] - [18F] - [18G] - [18H] - [18I] - [18K] - [18L].
19A	<b>Percent of Operating Safe Yield</b> The Party's yearly percentage of Operating Safe Yield. Copied from [10A].
19B	<b>Land Use Conversions</b> Total Land Use Conversion in acre-feet for each Party. Copied from [15G].
19C	<b>Percent of Land Use Conversions</b> Each Party's pro rata share of Land Use Conversions [19B] from the total of [19B].



**Assessment Year 2023-2024 (Production Year 2022-2023)**

**Assessment Package References and Definitions**

Column	Title Description
19D	<b>85% DROC Based on Percent OSY</b> Each Party's share of the 10,000 AF Desalter Replenishment Obligation based on OSY. $10,000 \times 0.85 \times [19A]$ .
19E	<b>15% DROC Based on Percent of LUC</b> Each Party's share of the 10,000 AF Desalter Replenishment Obligation based on Percent of Land Use Conversions. $10,000 \times 0.15 \times [19C]$ .
19F	<b>Total Desalter Replenishment</b> Each Party's share of the 10,000 AF Desalter Replenishment Obligation. $[19D] + [19E]$ .
20A	<b>Assigned Share of Operating Safe Yield</b> The Party's yearly volume of Operating Safe Yield. Copied from [10D].
20B	<b>Physical Production Adjustment Calculation - Physical Production</b> Fiscal year physical production by each Party. Copied from [9A].
20C	<b>Physical Production Adjustment Calculation - 50% of Voluntary Agreements with Ag</b> Total of water provided to Agricultural Pool Parties multiplied by 50%. $[9B] \times 0.50$ .
20D	<b>Physical Production Adjustment Calculation - Assignments with Non-Ag</b> Total of water provided to Non-Agricultural Pool Parties. Copied from [9C].
20E	<b>Physical Production Adjustment Calculation - Storage and Recovery Programs</b> Total exchanges for the period (July 1 - June 30) including MZ1 forbearance and DYY deliveries (as reported to CBWM by IEUA and TVMWD and as verified by each Party on their Water Activity Report). Copied from [10J].
20F	<b>Physical Production Adjustment Calculation - Other Adjustments</b> Total of water received from, or provided to, another Appropriator. Also includes production off-sets. Copied from [9D] but does not include production adjustments to prevent a negative annual production to a Party.
20G	<b>Physical Production Adjustment Calculation - Total Adjusted Production</b> Each Party's Adjusted Physical Production. $[20B] + [20C] + [20D] + [20E] + [20F]$ .
20H	<b>RDRO Calculation - Total Production and OSY Basis</b> The sum of each Party's Adjusted Physical Production and Assigned Share of Operating Safe Yield. $[20A] + [20G]$ .
20I	<b>RDRO Calculation - Percentage</b> The percentage of each Party's Adjusted Physical Production and Assigned Share of Operating Safe Yield basis. $[20H]$ divided by the sum of $[20H]$ .
20J	<b>RDRO Calculation - Individual Party RDRO</b> Each Party's pro rata share of the Remaining Desalter Replenishment Obligation. $[20I] \times \text{Total RDRO}$ .
21A	<b>Desalter Replenishment Obligation in AF - Desalter Replenishment Obligation Contribution (DROC)</b> Each Party's share of the 10,000 AF Desalter Replenishment Obligation Contribution. Copied from [19F].
21B	<b>Desalter Replenishment Obligation in AF - Remaining Desalter Replenishment Obligation (RDRO)</b> Each Party's pro rata share of the Remaining Desalter Replenishment Obligation. Copied from [20J].
21C	<b>Desalter Replenishment Obligation in AF - Total Desalter Replenishment Obligation</b> The sum of Desalter Replenishment Obligation Contribution, and Remaining Desalter Replenishment Obligation. $[21A] + [21B]$ .
21D	<b>Total DRO Fulfillment Activity - Transfer from Dedicated Replenishment Account</b> Total of water transferred from Desalter Dedicated Replenishment Account to satisfy the desalter replenishment obligation.
21E	<b>Total DRO Fulfillment Activity - Transfer from Excess Carry Over Storage Account</b> Total of water transferred from Excess Carry Over Storage Account to satisfy the desalter replenishment obligation.
21F	<b>Total DRO Fulfillment Activity - Transfer from Recharged Recycled Storage Account</b> Total of water transferred from Recharged Recycle Storage Account to satisfy the desalter replenishment obligation.
21G	<b>Total DRO Fulfillment Activity - Transfer from Quantified Storage Account</b> Total of water transferred from Quantified Storage Account to satisfy the desalter replenishment obligation.





Assessment Year 2023-2024 (Production Year 2022-2023)

# Assessment Package References and Definitions

Column	Title Description
21H	<b>Total DRO Fulfillment Activity - Transfer from Post 7/1/2000 Storage Account</b> Total of water transferred from Post 7/1/2000 Storage Account to satisfy the desalter replenishment obligation.
21I	<b>Total DRO Fulfillment Activity - Replenishment Water Purchase</b> Total of water purchased to satisfy the desalter replenishment obligation.
21J	<b>Total DRO Fulfillment Activity - Total Transfers and Water Purchases</b> The sum of all transfers and purchases to satisfy the desalter replenishment obligation. [21D] + [21E] + [21F] + [21G] + [21H] + [21I].
21K	<b>Assessments - Residual DRO (AF)</b> Total residual Desalter Replenishment Obligation after transfers and purchases. [21C] + [21J].
21L	<b>Assessments - Assessments Due On Residual DRO (\$)</b> Total assessments due for Desalter Replenishment. [21K] <times> [Current Replenishment Rate]. This column is used to populate [8S].
26A	<b>FY 2016/2017 Water Purchases - Purchased Water in AF - 20160623 - RO</b> The amount of water purchased to satisfy the accumulated replenishment obligation through the end of production year 2014/15. Water was delivered in October 2016.
26B	<b>FY 2016/2017 Water Purchases - Purchased Water in AF - 20160623 - DRO</b> The amount of water purchased to be used towards the Desalter Replenishment Obligation. Water was delivered in October 2016.
26C	<b>FY 2016/2017 Water Purchases - Purchased Water in AF - 20161216 - DRO</b> The amount of water purchased to be used towards the Desalter Replenishment Obligation. Water was delivered in December 2016.
26D	<b>FY 2016/2017 Water Purchases - Purchased Water in AF - 20170418 - RO</b> The amount of water purchased to satisfy production year 2015/16 replenishment obligation. Water was delivered in April 2018.
26E	<b>FY 2016/2017 Water Purchases - Purchased Water in AF - 85/15 Breakdown - AF @ 100%</b> The amount of water purchased subject to 100% RTS rate. This applies to: DRO water; RO water of non-85/15 Pool 3 producers; and RO water of Pool 2 producers. 1) Pool 3, 85/15 Ineligible: [26A] + [26B] + [26C] + [26D]. 2) Pool 3, 85/15 Eligible: [26B] + [26C]. 3) Pool 2: [26A] + [26D].
26F	<b>FY 2016/2017 Water Purchases - Purchased Water in AF - 85/15 Breakdown - AF @ 85/15</b> The amount of water purchased subject to the 85/15 Rule. This applies to RO water of 85/15 Pool 3 producers. 1) Pool 3, 85/15 Eligible: [26A] + [26D].
26G	<b>FY 2016/2017 Water Purchases - Purchased Water in AF - 85/15 Breakdown - AF Total</b> Total water purchased by each Appropriative Pool or Non-Agricultural Pool Party. [26E] + [26F].
26H	<b>FY 2016/2017 Water Purchases - 2015/16 Prod &amp; Exch From 85/15 Producers - Acre-Feet</b> Total production and exchanges of 85/15 Producers from fiscal year 2015/16. This is the basis of the 85/15 Rule for water purchased in fiscal year 2016/17.
26I	<b>FY 2016/2017 Water Purchases - 2015/16 Prod &amp; Exch From 85/15 Producers - Percent</b> The percentage of each 85/15 Producer's total production and exchanges. [26H] divided by the sum of [26H].
26J	<b>FY 2016/2017 Water Purchases - Year 6 RTS Charges - 15%</b> If an 85/15 Producer, then each 85/15 Producer's share of the total RTS charge of 85/15 eligible water. "Total RTS Charge" <divided by> "Total Water Purchased" <times> 0.15 <times> [26F] Total <times> [26I].
26K	<b>FY 2016/2017 Water Purchases - Year 6 RTS Charges - 85%</b> If an 85/15 Producer, then their RTS charge of 85/15 eligible water at 85%. "Total RTS Charge" <divided by> "Total Water Purchased" <times> [26F] <times> 0.85.
26L	<b>FY 2016/2017 Water Purchases - Year 6 RTS Charges - 100%</b> RTS charge on all water not subject to the 85/15 Rule. "Total RTS Charge" <divided by> "Total Water Purchased" <times> [26E].
26M	<b>FY 2017/2018 Water Purchase - Purchased Water in AF - 20171211 - RO</b> The amount of water purchased to satisfy replenishment obligations through the end of production year 2014/15. Water was delivered in December 2017.



Assessment Year 2023-2024 (Production Year 2022-2023)

# Assessment Package References and Definitions

Column	Title	Description
26N	<b>FY 2017/2018 Water Purchase - Purchased Water in AF - 20171211 - DRO</b>	The amount of water purchased to be used towards the Desalter Replenishment Obligation. Water was delivered in December 2017.
26O	<b>FY 2017/2018 Water Purchase - 2016/17 Prod &amp; Exch From 85/15 Producers - Acre-Feet</b>	Total production and exchanges of 85/15 Producers from fiscal year 2016/17. This is the basis of the 85/15 Rule for water purchased in fiscal year 2017/18.
26P	<b>FY 2017/2018 Water Purchase - 2016/17 Prod &amp; Exch From 85/15 Producers - Percent</b>	The percentage of each 85/15 Producer's total production and exchanges. [26O] divided by the sum of [26O].
26Q	<b>FY 2017/2018 Water Purchase - Year 5 RTS Charges - 15%</b>	If an 85/15 Producer, then each 85/15 Producer's share of the total RTS charge of 85/15 eligible water in [26M].
26R	<b>FY 2017/2018 Water Purchase - Year 5 RTS Charges - 85%</b>	If an 85/15 Producer, then their RTS charge of 85/15 eligible water in [26M] at 85%.
26S	<b>FY 2017/2018 Water Purchase - Year 5 RTS Charges - 100%</b>	RTS charge on all water in [26M] and water not subject to the 85/15 Rule in [26M].
26T	<b>TOTAL RTS CHARGES</b>	Total RTS Charge. [26J] + [26K] + [26L] + [26Q] + [26R] + [26S].

DRAFT



# CHINO BASIN WATERMASTER

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**PETER KAVOUNAS, P.E.**  
General Manager

## STAFF REPORT

DATE: November 9, 2023

TO: AP/ONAP/OAP Committee Members

SUBJECT: Resolution to Levy Replenishment and Administrative Assessments for Fiscal Year 2023/24, Based on Production Year 2022/23. (Business Item II.C.)

### SUMMARY:

Issue: A resolution is required for the Chino Basin Watermaster to levy administrative, special project, and replenishment assessments for Fiscal Year 2023/24. [Within WM Duties and Powers]

Recommendation: Review Resolution 2023-07 as presented and offer advice to Watermaster.

Financial Impact: Collection of the assessments according to the Assessment Package creates the funds that are used during the current fiscal year for budgeted expenses.

### Future Consideration

**Appropriative Pool – November 9, 2023:** Advice and assistance  
**Non-Agricultural Pool – November 9, 2023:** Advice and assistance  
**Agricultural Pool – November 9, 2023:** Advice and assistance  
**Advisory Committee – November 16, 2023:** Advice and assistance  
**Watermaster Board – November 16, 2023:** Approval

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### ACTIONS:

**Appropriative Pool – November 9, 2023:**  
**Non-Agricultural Pool – November 9, 2023:**  
**Agricultural Pool – November 9, 2023:**  
**Advisory Committee – November 16, 2023:**  
**Watermaster Board – November 16, 2023:**

*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

Watermaster issues an Assessment Package annually based on the previous production year (July 1 through June 30). Production information is generally collected quarterly, and other necessary information is collected annually. The Assessment Package creates funds that are used during the current fiscal year for budgeted expenses. Assessments are based on the approved budget divided by the total assessable production in the Basin.

Watermaster is endowed with powers to levy and collect administrative, special project, and replenishment assessments necessary to maintain water levels and to cover the cost of administering the Chino Basin Restated Judgment. A resolution of the Watermaster Board is needed to levy the assessments and issue invoices to parties. Pursuant to the Restated Judgment, each party has thirty (30) days from the date of invoice to remit the payment for assessments due. After that date, interest will accrue on any portion which was due as provided for in Section 55(c) of the Restated Judgment.

## DISCUSSION

The draft Fiscal Year 2023/24 Assessment Package is being considered for approval this month under Business Item II.B. and Resolution 2023-07 has been drafted for the Watermaster Board's consideration.

If Resolution 2023-07 is approved through the Watermaster process in November 2023, the invoices will be emailed in late November and assessments will be due 30 days later.

## ATTACHMENTS

1. Resolution 2023-07: A Resolution of the Chino Basin Watermaster Levying Administrative, Replenishment, and Special Project Assessments for Fiscal Year 2023/24

**RESOLUTION 2023-07**

**A RESOLUTION OF THE CHINO BASIN WATERMASTER  
LEVYING ADMINISTRATIVE, REPLENISHMENT, AND SPECIAL PROJECT ASSESSMENTS  
FOR FISCAL YEAR 2023-2024**

WHEREAS, the Chino Basin Watermaster was appointed on January 27, 1978, under Case No. RCVRS 51010 (formerly case No. SCV 164327) entitled Chino Basin Municipal Water District v. City of Chino, et al., with powers to levy and collect administrative and replenishment assessments necessary to maintain water levels and to cover the cost of administering the Chino Basin Judgment; and

WHEREAS, the Watermaster Advisory Committee approved and the Watermaster Board adopted the Fiscal Year 2023-2024 Budget on May 25, 2023, to carry out the necessary Watermaster functions under the Judgment; and

WHEREAS, the parties named in this Judgment have pumped 28.4 acre-feet of water in excess of the operating safe yield, which is required to be replaced at the expense of the parties in accordance with the assessment formulas for the respective pools.

NOW, THEREFORE, BE IT RESOLVED that the Chino Basin Watermaster levies the respective assessments for each pool effective November 16, 2023 as shown on Exhibit "A" attached hereto.

BE IT FURTHER RESOLVED, that pursuant to the Judgment, each party has thirty (30) days from the date of invoice to remit the amount of payment for assessments due. After that date, interest will accrue on that portion which was due as provided for in Section 55 (c) of the Restated Judgment.

THE FOREGOING RESOLUTION was  
**ADOPTED** by the Watermaster Board on the 16<sup>th</sup> day of November 2023.

By: \_\_\_\_\_  
Chair – Watermaster Board

ATTEST:

\_\_\_\_\_  
Secretary/Treasurer – Watermaster Board

Exhibit "A"  
Resolution 2023-07

Summary of Assessments  
Fiscal Year 2023-2024  
Production Year 2022-2023

1. OVERLYING (NON-AGRICULTURAL) POOL	
a.	2023-2024 Budget
	\$ <u>42.39</u> Per AF - Admin.
	\$ <u>55.08</u> Per AF - OBMP
b.	Replenishment
	\$ <u>872.00</u> Per AF
c.	CURO
	\$ <u>3,232.30</u> Total
2. APPROPRIATIVE POOL	
a.	Administration
	1. 2023-2024 Budget
	\$ <u>42.39</u> Per AF - Admin.
	\$ <u>55.08</u> Per AF - OBMP
	2. Ag Pool Reallocated
	\$ <u>11.02</u> Per AF - Admin.
	\$ <u>14.32</u> Per AF - OBMP
b.	100% Net Replenishment
	\$ <u>872.00</u> Per AF
c.	15/85 Water Activity
	15% Replenishment Assessments
	\$ <u>2,306.93</u> Total
	15% Water Transaction Activity
	\$ <u>855,717.17</u> Total
d.	CURO
	\$ <u>69,899.72</u> Total
e.	Pomona Credit
	\$ <u>66,667.00</u> Total
f.	Recharge Debt Payment
	\$ <u>746,765.00</u> Total
g.	Recharge Improvement Project
	\$ <u>102,000.00</u> Total

STATE OF CALIFORNIA            )  
  ) ss  
COUNTY OF SAN BERNARDINO    )

I, Bob Kuhn, Secretary/Treasurer of the Chino Basin Watermaster, DO HEREBY CERTIFY that the foregoing Resolution being No. 2023-07, was adopted at a regular meeting of the Chino Basin Watermaster Board on November 16, 2023 by the following vote:

AYES:            0  
NOES:            0  
ABSENT:          0  
ABSTAIN:        0

CHINO BASIN WATERMASTER

\_\_\_\_\_  
Secretary

Date: November 16, 2023