CHINO BASIN WATERMASTER

NOTICE OF MEETINGS

Thursday, September 12, 2024

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

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

CHINO BASIN WATERMASTER
APPROPRIATIVE POOL COMMITTEE MEETING
9:00 a.m. September 12, 2024
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

SAFETY MINUTE

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:

1. Minutes of the Appropriative Pool Committee Meeting held on August 8, 2024 *(Pg.1)*
2. Minutes of the Appropriative Pool Committee Special Meeting held on August 26, 2024 (*Pg.7)*

B. FINANCIAL REPORTS

Financials for the period July 1, 2024 through August 31, 2024 will be presented at the next regular meeting.

C. OBMP SEMI-ANNUAL STATUS REPORT 2024-1 *(Pg.21)*

Recommend to the Advisory Committee to recommend to the Watermaster Board to adopt the Semi-Annual OBMP Status Report 2024-1, and direct staff to file a copy with the Court, subject to any necessary non-substantive changes.

II. BUSINESS ITEMS

A. EMERGING CONTAMINANTS MONITORING PLAN (INFORMATION ONLY) *(Pg.42)*

III. REPORTS/UPDATES

A. WATERMASTER LEGAL COUNSEL

1. November 8, 2024, Court Hearing (Appropriative Pool Motion for Costs and Fees)
2. Court of Appeal Consolidated Cases No. E080457 and E082127 (City of Ontario appeal re: Fiscal Year 2021-22 and 2022-23 Assessment Packages)
3. Court of Appeal Case No. E080533 (Cities of Chino, Ontario appeal re: Fiscal Year 2022-23 Watermaster budget expenses to support CEQA analysis)
4. San Sevaine Basins – 60-day Clean Water Act Violation Notice Letter

B. ENGINEER
1. Ground-Level Monitoring Program
2. 2025 Safe Yield Reevaluation Workshops

C. GENERAL MANAGER
1. New Watermaster Staff Member Introduction
2. Other

IV. INFORMATION
RECHARGE INVESTIGATION AND PROJECTS COMMITTEE *(Pg. 90)*

V. POOL MEMBER COMMENTS

VI. OTHER BUSINESS
MR. DAVE CROSLEY'S RETIREMENT FROM THE CITY OF CHINO

VII. CONFIDENTIAL SESSION – POSSIBLE ACTION
A Confidential Session may be held during the Pool Committee meeting for the purpose of discussion and possible action.

1. Approve Egoscue Law Group, Inc. Invoice #14507 dated August 01, 2024, in the amount of $5,250.00 for services performed during July 2024.

VIII. FUTURE MEETINGS AT WATERMASTER

09/12/24	Thu	9:00 a.m.	Appropriative Pool Committee
09/12/24	Thu	11:00 a.m.	Non-Agricultural Pool Committee
09/12/24	Thu	1:30 p.m.	Agricultural Pool Committee
09/19/24	Thu	9:00 a.m.	Advisory Committee
09/26/24	Thu	9:30 a.m.	Watermaster Orientation*
09/26/24	Thu	11:00 a.m.	Watermaster Board
10/03/24	Thu	10:00 a.m.	Ground-Level Monitoring Committee

* The Watermaster Orientation series are held in person only with no remote access.

ADJOURNMENT

CHINO BASIN WATERMASTER
NON-AGRICULTURAL POOL COMMITTEE MEETING
11:00 a.m. September 12, 2024
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

SAFETY MINUTE

I. BUSINESS ITEMS – ROUTINE

A. MINUTES

Receive and File:
Minutes of the Non-Agricultural Pool Committee Meeting held on August 8, 2024 *(Pg.12)*

B. FINANCIAL REPORTS

Financials for period July 1, 2024 through August 31, 2024 will be presented at the next regular meeting.

C. OBMP SEMI-ANNUAL STATUS REPORT 2024-1 *(Pg. 21)*

Recommend to the Advisory Committee to recommend to the Watermaster Board to adopt the Semi-Annual OBMP Status Report 2024-1, and direct staff to file a copy with the Court, subject to any necessary non-substantive changes.

II. BUSINESS ITEMS

A. EMERGING CONTAMINANTS MONITORING PLAN (INFORMATION ONLY) *(Pg.42)*

B. 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. November 8, 2024 Court Hearing (Appropriative Pool Motion for Costs and Fees)
2. Court of Appeal Consolidated Cases No. E080457 and E082127 (City of Ontario appeal re: Fiscal Year 2021-22 and 2022-23 Assessment Packages)
3. Court of Appeal Case No. E080533 (Cities of Chino, Ontario appeal re: Fiscal Year 2022-23 Watermaster budget expenses to support CEQA analysis)
4. San Sevaine Basins – 60-day Clean Water Act Violation Notice Letter

B. ENGINEER

1. Ground-Level Monitoring Program
2. 2025 Safe Yield Reevaluation Workshops

C. GENERAL MANAGER

1. New Watermaster Staff Member Introduction
2. Other

IV. INFORMATION

A. RECHARGE INVESTIGATION AND PROJECTS COMMITTEE *(Pg. 90)*

V. POOL MEMBER COMMENTS

VI. OTHER BUSINESS

MR. DAVE CROSLEY'S RETIREMENT FROM THE CITY OF CHINO

VII. CONFIDENTIAL SESSION - POSSIBLE ACTION

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

1. Pool Legal Counsel Representation

VIII. FUTURE MEETINGS AT WATERMASTER

09/12/24	Thu	9:00 a.m.	Appropriative Pool Committee
09/12/24	Thu	11:00 a.m.	Non-Agricultural Pool Committee
09/12/24	Thu	1:30 p.m.	Agricultural Pool Committee
09/19/24	Thu	9:00 a.m.	Advisory Committee
09/26/24	Thu	9:30 a.m.	Watermaster Orientation*
09/26/24	Thu	11:00 a.m.	Watermaster Board
10/03/24	Thu	10:00 a.m.	Ground-Level Monitoring Committee

* The Watermaster Orientation series are held in person only with no remote access.

ADJOURNMENT

CHINO BASIN WATERMASTER
AGRICULTURAL POOL COMMITTEE MEETING
1:30 p.m. September 12, 2024
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

SAFETY MINUTE

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 August 8, 2024 *(Pg.12)*

B. FINANCIAL REPORTS

Financials for the period July 1, 2024 through August 31, 2024 will be presented at the next regular meeting.

C. OBMP SEMI-ANNUAL STATUS REPORT 2024-1 *(Pg. 21)*

Recommend to the Advisory Committee to recommend to the Watermaster Board to adopt the Semi-Annual OBMP Status Report 2024-1, and direct staff to file a copy with the Court, subject to any necessary non-substantive changes.

II. BUSINESS ITEMS

A. EMERGING CONTAMINANTS MONITORING PLAN (INFORMATION ONLY) *(Pg. 42)*

B. OLD BUSINESS

III. REPORTS/UPDATES

A. WATERMASTER LEGAL COUNSEL

1. November 8, 2024 Court Hearing (Appropriative Pool Motion for Costs and Fees)
2. Court of Appeal Consolidated Cases No. E080457 and E082127 (City of Ontario appeal re: Fiscal Year 2021-22 and 2022-23 Assessment Packages)
3. Court of Appeal Case No. E080533 (Cities of Chino, Ontario appeal re: Fiscal Year 2022-23 Watermaster budget expenses to support CEQA analysis)
4. San Sevaine Basins – 60-day Clean Water Act Violation Notice Letter

B. ENGINEER

1. Ground-Level Monitoring Program
2. 2025 Safe Yield Reevaluation Workshops

C. GENERAL MANAGER

1. New Watermaster Staff Member Introduction
2. Other

IV. INFORMATION

A. RECHARGE INVESTIGATION AND PROJECTS COMMITTEE *(Pg. 90)*

V. POOL DISCUSSION

VI. OTHER BUSINESS

MR. DAVE CROSLEY'S RETIREMENT FROM THE CITY OF CHINO

VII. CONFIDENTIAL SESSION - POSSIBLE ACTION

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

VIII. FUTURE MEETINGS AT WATERMASTER

09/12/24	Thu	9:00 a.m.	Appropriative Pool Committee
09/12/24	Thu	11:00 a.m.	Non-Agricultural Pool Committee
09/12/24	Thu	1:30 p.m.	Agricultural Pool Committee
09/19/24	Thu	9:00 a.m.	Advisory Committee
09/26/24	Thu	9:30 a.m.	Watermaster Orientation*
09/26/24	Thu	11:00 a.m.	Watermaster Board
10/03/24	Thu	10:00 a.m.	Ground-Level Monitoring Committee

* The Watermaster Orientation series are held in person only with no remote access.

ADJOURNMENT

DRAFT MINUTES
CHINO BASIN WATERMASTER
APPROPRIATIVE POOL COMMITTEE MEETING
August 8, 2024

The Appropriative Pool committee meeting was held at the Watermaster offices located at 9641 San Bernardino Road, Rancho Cucamonga, CA, and via Zoom (conference call and web meeting) on August 8, 2024.

APPROPRIATIVE POOL COMMITTEE MEMBERS PRESENT AT WATERMASTER

Chris Diggs, Chair	City of Pomona
Eduardo Espinoza	Cucamonga Valley Water District
Dave Crosley	City of Chino
Ron Craig	City of Chino Hills
Courtney Jones	City of Ontario
Megan Sims	Fontana Union Water Company
Cris Fealy	Fontana Water Company
Chris Berch	Jurupa Community Services District
Brian Lee	San Antonio Water Company

APPROPRIATIVE POOL COMMITTEE MEMBERS PRESENT ON ZOOM

Ben Lewis	Golden State Water Company
Justin Scott-Coe	Monte Vista Irrigation Company
Justin Scott-Coe	Monte Vista Water District
John Lopez	Santa Ana River Water Company

APPROPRIATIVE POOL COMMITTEE LEGAL COUNSEL PRESENT ON ZOOM

John J. Schatz	John J. Schatz, Attorney at Law

WATERMASTER BOARD MEMBERS PRESENT ON ZOOM

James Curatalo	Cucamonga Valley Water District
Jimmy Medrano	Agricultural Pool – State of CA
Mike Gardner	Western Water

WATERMASTER STAFF PRESENT

Todd Corbin	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.
Daniela Uriarte	Senior Accountant
Alexandria Moore	Executive Assistant I/Board Clerk
Alonso Jurado	Water Resources Associate
Ruby Favela Quintero	Administrative Assistant
Jordan Garcia	Senior Field Operations Specialist
Erik Vides	Field Operations Specialist

WATERMASTER CONSULTANTS PRESENT ON ZOOM

Laura Yraceburu	Brownstein Hyatt Farber Schreck, LLP
Garrett Rapp	West Yost

OTHERS PRESENT AT WATERMASTER

Natalie Avila	City of Chino
Hye Jin Lee	City of Chino
Chad Nishida	City of Ontario
Melissa Cansino	City of Pomona

OTHERS PRESENT ON ZOOM

Eunice Ulloa	Chino Basin Water Conservation District
Brett Godown	County of San Bernardino, Department of Airport
Rob Hills	Cucamonga Valley Water District
Jiwon Seung	Cucamonga Valley Water District
Peter Dopulos	Egoscue Law Group, Inc.
Shawnda M. Grady	Ellison Schneider Harris & Donlan
Derek Hoffman	Fennemore Law
Justin Castruita	Fontana Water Company
Eddie Lin	Inland Empire Utilities Agency
William McDonald	Inland Empire Utilities Agency[1]
John Russ	Inland Empire Utilities Agency
Michael Hurley	Inland Empire Utilities Agency
Jesse Pompa	Jurupa Community Services District
Bryan Smith	Jurupa Community Services District
Kevin O'Toole	Orange County Water District
Bill Wyat	Sheppard, Mullin, Richter & Hampton
Tariq Awan	State of CA (Agricultural Pool)
Diana Frederick	State of CA (Agricultural Pool)
David De Jesus	Three Valleys Municipal Water District
Joshua Aguilar	Western Water
Jim Van de Water	Thomas Harder & Company
Jake Loukeh	Western Water

CALL TO ORDER
Chair Diggs called the Appropriative Pool Committee meeting to order at 9:00 a.m.

ROLL CALL
(0:00:11) Ms. Nelson conducted the roll call and announced that a quorum was present.

AGENDA - ADDITIONS/REORDER
None

SAFETY MINUTE
(0:01:45) Mr. Corbin prefaced the item and announced Watermaster's evacuation plan.

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:

1. Minutes of the Appropriative Pool Committee Meeting held on June 13, 2024

2. Minutes of the Appropriative Pool Committee Special meeting held on July 15, 2024

B. FINANCIAL REPORTS
Receive and file as presented:
Monthly Financial Reports for the Periods Ended May 31, 2024 and June 30, 2024

C. APPLICATION: WATER TRANSACTION – 708.3 AF WEST END CONSOLIDATED WATER COMPANY TO CITY OF UPLAND
Provide advice and assistance to the Advisory Committee on the proposed transaction.

D. APPLICATION: WATER TRANSACTION – 66.4 AF WEST END CONSOLIDATED WATER COMPANY TO GOLDEN STATE WATER COMPANY
Provide advice and assistance to the Advisory Committee on the proposed transaction.

E. APPLICATION: WATER TRANSACTION – 270 AF CITY OF UPLAND TO GOLDEN STATE WATER COMPANY
Provide advice and assistance to the Advisory Committee on the proposed transaction.

(00:03:52)
Motion by Mr. Cris Fealy, seconded by Ms. Amanda Coker, there being no dissent, the item passed unanimously.

Moved to approve the Consent Calendar as presented.

II. BUSINESS ITEMS

A. 2022 SAFE YIELD METHODOLOGY (INFORMATION ONLY)

(00:04:15) Mr. Corbin invited Mr. Tellez Foster to give a presentation. A discussion ensued.

B. WATER RIGHTS AND REPLENISHMENT FORECASTING TOOL (INFORMATION ONLY)

(01:17:05) Mr. Corbin invited Mr. Garrett Rapp of West Yost to give a demonstration of the forecasting tool. The Pool expressed appreciation and support for the tool. A discussion ensued.

C. TASK ORDERS AND PROJECT MANAGEMENT FOR ENGINEERING SERVICES (INFORMATION ONLY)

(01:33:18) Mr. Corbin gave a report and presented the project matrix.

III. REPORTS/UPDATES

A. WATERMASTER LEGAL COUNSEL

1. August 22, 2024 Court Hearing (Appropriative Pool Motion for Costs and Fees)
2. Court of Appeal Consolidated Cases No. 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

(01:41:05) Ms. Yraceburu gave a report.

B. ENGINEER

1. Data Collection & Evaluation (Response to Comments)
2. 2025 Safe Yield Reevaluation

(01:41:40) Mr. Rapp of West Yost gave a presentation on item 1 and a report on item 2.

C. GENERAL MANAGER

1. Board Requested Recharge Analysis
2. Other

(02:15:40) Mr. Corbin prefaced and invited Mr. Nakano to report on item 1.

IV. INFORMATION

A. RECHARGE INVESTIGATION AND PROJECTS COMMITTEE

(02:16:45) Mr. Nakano gave a report.

V. POOL MEMBER COMMENTS

None

VI. OTHER BUSINESS

None

VII. CONFIDENTIAL SESSION – POSSIBLE ACTION

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

Chair Diggs called for a confidential session at 11:19 a.m. to discuss Pool business. Confidential session concluded at 12:45 p.m. with the following reportable actions as follows:

Motion 1: To accept the settlement agreement provided by Chino and to offer the same terms to Monte Vista and Ontario by the close of business on Friday, August 9, 2024. Monte Vista and Ontario must notify AP Chair Chris Diggs or Attorney John Schatz if they accept the settlement agreement by the close of business on Friday, August 9, 2024.

Revisions to the settlement agreement are as follows:

1. **Item 1: Settlement Payment**: Chino agrees to pay $31,380.51, and the second amount of $36,321.00 to the AP's general account for pool expenses, covering full payment of AP general expenses to date.
2. **Item 4: General Releases**: Attorney Jimmy Gutierrez and John Schatz will revise Item 4 of the General Release to include language from Ontario and Monte Vista, specifying that claims arising out of Watermaster issues being released are only those against the AP pool or its members pertaining to Watermaster issues or judgment issues.

The AP pool members to accept Chino's offer and incorporate the language suggested by Ontario, with John and Jimmy working on crafting this language. This offer will also be extended to Monte Vista until the close of business on Friday, August 9, 2024.

Motion made by Eduardo Espinoza (CVWD), seconded by Cris Fealy (FWC): Passed with 67.597% in favor.

Motion 2: Approval of the AG legal bill as outlined below:

$11,600.00 for general counsel – July 2024 Invoice (June 2024 billing)

Chris Berch (JCSD) initiated the motion, which was seconded by Chris Diggs (Pomona). The motion was unanimously approved, with 100% of the votes in favor.

ADJOURNMENT
Chair Diggs adjourned the Appropriative Pool Committee meeting at 12:50 p.m.

Secretary: _____

Approved: _____

Attachments:
1. 20240808 Appropriative Pool Committee Meeting (Reportable Action from Confidential Session as provided by Pool Leadership.)

2024 APPROPRIATIVE POOL VOLUME VOTE
Assessment Year 2023-2024 (Production Year 2022-2023)

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		2.071	0.000	0.000	0.000
CalMat Co. (Appropriative)	N		0.000	0.000	0.000	0.000
Chino Hills, City Of	N		35.552	0.000	0.000	0.000
Chino, City Of	Y	Y	60.087	60.087	60.087	60.087
Cucamonga Valley Water District	Y	Y	134.181	134.181	134.181	134.181
Fontana Union Water Company	Y	Y	58.285	58.285	58.285	58.285
Fontana Water Company	Y	Y	65.299	65.299	65.299	65.299
Fontana, City Of	N		0.000	0.000	0.000	0.000
Golden State Water Company	N		10.650	0.000	0.000	0.000
Jurupa Community Services District	Y	Y	72.381	72.381	72.381	72.381
Marygold Mutual Water Company	N		10.165	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	82.656	82.656	82.656	0.000
NCL Co, LLC	N		0.000	0.000	0.000	0.000
Niagara Bottling, LLC	N		10.492	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	197.785	197.785	197.785	0.000
Pomona, City Of	Y	Y	178.611	178.611	178.611	178.611
San Antonio Water Company	Y	Y	17.176	17.176	17.176	17.176
San Bernardino, County of (Shooting Park)	N		0.132	0.000	0.000	0.000
Santa Ana River Water Company	Y	Y	11.865	11.865	11.865	11.865
Upland, City Of	N		30.053	0.000	0.000	0.000
West End Consolidated Water Co	N		8.640	0.000	0.000	0.000
West Valley Water District	N		5.875	0.000	0.000	0.000
			1,000.000	**884.530**	**884.530**	**597.919**

CALCULATE QUORUM

CALCULATE VOTES

RESET ALL

RESET VOTES

"YES" VOTES
67.597%

"NO" VOTES
32.403%

PASSED

DRAFT MINUTES
CHINO BASIN WATERMASTER
APPROPRIATIVE POOL COMMITTEE – SPECIAL MEETING
August 26, 2024

The Appropriative Pool Committee special meeting was held via Zoom (conference call and web meeting) on August 26, 2024.

APPROPRIATIVE POOL COMMITTEE MEMBERS PRESENT ON ZOOM

Chris Diggs, Chair	City of Pomona
Natalie Avila	City of Chino
Ron Craig	City of Chino Hills
Courtney Jones	City of Ontario
Amanda Coker	Cucamonga Valley Water District
Marty Zvirbulis	Fontana Union Water Company
Josh Swift	Fontana Water Company
Justin Scott-Coe	Monte Vista Irrigation Company
Justin Scott-Coe	Monte Vista Water District
Marty Zvirbulis	Nicholson Family Trust
Hye Jin Lee	City of Chino
Chad Nishida	City of Ontario
Melissa Cansino	City of Pomona
Jiwon Seung	Cucamonga Valley Water District
Bryan Smith	Jurupa Community Services District
Chris Berch	Jurupa Community Services District
Brian Lee	San Antonio Water Company
John Lopez	Santa Ana River Water Company

OTHERS PRESENT ON ZOOM

Shawnda M. Grady	Ellison Schneider Harris & Donlan
John Schatz	John J. Schatz – Attorney at Law

CALL TO ORDER
Chair Diggs called the Appropriative Pool Committee special meeting to order at 4:00 p.m.

AGENDA - ADDITIONS/REORDER
None

I. BUSINESS ITEM

A. DISCUSSION OF SETTLEMENT AGREEMENT FROM ONTARIO AND MONTE VISTA WATER DISTRICT

The Appropriative Pool met in Confidential Session and discussed the settlement agreement.

Motion:
A motion was made by Brian Lee (SAWCo) and seconded by Justin Scott (MV): To approve the agreement submitted by Ontario, with the following amendments:

The appeal legal expenses will cover costs to date. Consequently, the 50% share will increase to approximately $102,500, instead of $80,000, based on the calculations presented.

Additionally, the general account used for full payment of AP general expenses to date will be removed. The $102,500 will be refundable to the remaining party members, excluding the AP members, as outlined in the agreement.

Alternate Motion:

An alternate motion was made by Chair Chris Diggs (Pomona) and seconded by Martin E. Zvirbulis (FUWC) to reject the settlement offer provided by Ontario and Monte Vista, to decline any additional offers, and to await the Court's decision on August 28, 2024. Motion Passed with 66.983% in favor.

ADJOURNMENT
Chair Diggs adjourned the Appropriative Pool Special Committee meeting at 4:26 p.m.

Secretary: _____

Approved: _____

Attachments:
1. 20240826 Appropriative Pool Committee Special Meeting (Reportable Action from Confidential Session as provided by Pool Leadership.)

Anna Nelson

From: Cansino, Melissa <Melissa.Cansino@pomonaca.gov>
Sent: Monday, August 26, 2024 5:54 PM
To: Ruby Favela Quintero
Cc: Anna Nelson; Diggs, Chris
Subject: Special Meeting: AP Closed Session: Review and Discussion of Settlement Agreement from Ontario & Monte Vista
Attachments: Zoom meeting attendance 8-26-24.pdf

Hi Ruby,

The AP held a special meeting in closed session this afternoon (August 26, 2024) from 4:00 pm to 4:26 pm. I've attached the attendees for your reference.

Motion:
A motion was made by Brian Lee (SAWC) and seconded by Justin Scott (MV): To approve the agreement submitted by Ontario, with the following amendments:

1. The appeal legal expenses will cover costs to date. Consequently, the 50% share will increase to approximately $102,500, instead of $80,000, based on the calculations presented.
2. Additionally, the general account used for full payment of AP general expenses to date will be removed. The $102,500 will be refundable to the remaining party members, excluding the AP members, as outlined in the agreement.

Alternative Motion:
An alternative motion was made by Chair Chris Diggs (Pomona) and seconded by Martin E. Zvirbulis (FUWC) to reject the settlement offer provided by Ontario and Monte Vista, to decline any additional offers, and to await the Court's decision on August 28, 2024. Motion Passed with 66.983% in favor.

2024 APPROPRIATIVE POOL VOLUME VOTE
Assessment Year 2023-2024 (Production Year 2022-2023)

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		2.071	0.000	0.000	0.000
CalMat Co. (Appropriative)	N		0.000	0.000	0.000	0.000
Chino Hills, City Of	Y	Y	35.552	35.552	35.552	35.552
Chino, City Of	Y	Y	60.087	60.087	60.087	60.087
Cucamonga Valley Water District	Y	Y	134.181	134.181	134.181	134.181
Fontana Union Water Company	Y	Y	58.285	58.285	58.285	58.285
Fontana Water Company	Y	Y	65.299	65.299	65.299	65.299
Fontana, City Of	N		0.000	0.000	0.000	0.000
Golden State Water Company	N		10.650	0.000	0.000	0.000
Jurupa Community Services District	Y	Y	72.381	72.381	72.381	72.381
Marygold Mutual Water Company	N		10.165	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	82.656	82.656	82.656	0.000
NCL Co, LLC	N		0.000	0.000	0.000	0.000
Niagara Bottling, LLC	N		10.492	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	197.785	197.785	197.785	0.000
Pomona, City Of	Y	Y	178.611	178.611	178.611	178.611
San Antonio Water Company	Y	N	17.176	17.176	17.176	0.000
San Bernardino, County of (Shooting Park)	N		0.132	0.000	0.000	0.000
Santa Ana River Water Company	Y	Y	11.865	11.865	11.865	11.865
Upland, City Of	N		30.053	0.000	0.000	0.000
West End Consolidated Water Co	N		8.640	0.000	0.000	0.000
West Valley Water District	N		5.875	0.000	0.000	0.000
			1,000.000	920.082	920.082	616.296

CALCULATE QUORUM | CALCULATE VOTES | RESET ALL | RESET VOTES

"YES" VOTES 66.983%

"NO" VOTES 33.017%

PASSED

Thank you,
Melissa Cansino
Water Conservation Specialist | Water Resources Department
752 W. Commercial St., Pomona, CA 91768
T: (909) 620-2236 | **M:** (909) 630-4985
Melissa.Cansino@pomonaca.gov

CITY OF POMONA
Water Resources Department

Name (Original Name)	User Email	Join Time
Melissa Cansino	melissa.cansino@pomonaca.gov	8/26/2024 0:00
Amanda Coker		8/26/2024 0:00
brianlee		8/26/2024 0:00
Bryan’s iPhone		8/26/2024 0:00
Chad Nishida - Ontario		8/26/2024 0:00
chris		8/26/2024 0:00
Chris Berch		8/26/2024 0:00
Courtney Jones - City of Ontario		8/26/2024 0:00
Cris Fealy (Josh Swift)		8/26/2024 0:00
HYE JIN LEE (Chino) (HYE JIN LEE)		8/26/2024 0:00
Jiwon Seung (CVWD)		8/26/2024 0:00
John Schatz Attorney at Law		8/26/2024 0:00
Josh Swift		8/26/2024 0:00
Justin Scott-Coe, Monte Vista Water District		8/26/2024 0:00
Marty Zvirbulis		8/26/2024 0:00
NATALIE AVILA		8/26/2024 0:00
Ron C		8/26/2024 0:00
Santa Ana River Water Company		8/26/2024 0:00
Shawnda Grady		8/26/2024 0:00

DRAFT MINUTES
CHINO BASIN WATERMASTER
NON-AGRICULTURAL POOL COMMITTEE MEETING
August 8, 2024

The Non-Agricultural Pool committee meeting was held at the Watermaster offices located at 9641 San Bernardino Road, Rancho Cucamonga, CA, and via Zoom (conference call and web meeting) on August 8, 2024

NON-AGRICULTURAL POOL COMMITTEE MEMBERS PRESENT AT WATERMASTER

Brian Geye, Chair	California Speedway Corporation
Bob Bowcock, Vice-Chair	CalMat Company

NON-AGRICULTURAL POOL COMMITTEE MEMBERS PRESENT ON ZOOM

Kathleen Brundage	California Steel Industries, Inc.
Alexis Mascarinas	City of Ontario
Michael Adler for Natalie Costaglio	Hamner Park Associates

WATERMASTER BOARD MEMBERS PRESENT ON ZOOM

Mike Gardner	Western Water

WATERMASTER STAFF PRESENT AT WATERMASTER

Todd Corbin	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.
Daniela Uriarte	Senior Accountant
Alonso Jurado	Water Resources Associate
Ruby Favela Quintero	Administrative Assistant
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.

NON-AGRICULTURAL POOL LEGAL COUNSEL PRESENT ON ZOOM

Allen Hubsch	Law Office of Allen Hubsch

CALL TO ORDER
(00:00:10) Chair Geye called the Non-Agricultural Pool committee meeting to order at 11:14 a.m.

ROLL CALL
(00:00:15) Ms. Nelson conducted the roll call.

AGENDA – ADDITIONS/REORDER
None

SAFETY MINUTE
(00:01:35) Mr. Tellez Foster prefaced the item and announced Watermaster's evacuation plan.

I. BUSINESS ITEMS – ROUTINE

A. MINUTES
Receive and File:
Minutes of the Non-Agricultural Pool Committee Meeting held on June 13, 2024

(00:02:20)
Motion by Vice-Chair Bob Bowcock, seconded by Ms. Alexis 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 Periods Ended May 31, 2024 and June 30, 2024

(00:02:43)
Motion by Vice-Chair Bob Bowcock, seconded by Ms. Alexis 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: WATER TRANSACTION – 708.3 AF WEST END CONSOLIDATED WATER COMPANY TO CITY OF UPLAND
Provide advice and assistance to the Advisory Committee on the proposed transaction.

D. APPLICATION: WATER TRANSACTION – 66.4 AF WEST END CONSOLIDATED WATER COMPANY TO GOLDEN STATE WATER COMPANY
Provide advice and assistance to the Advisory Committee on the proposed transaction.

E. APPLICATION: WATER TRANSACTION – 270 AF CITY OF UPLAND TO GOLDEN STATE WATER COMPANY
Provide advice and assistance to the Advisory Committee on the proposed transaction.

(00:03:18)
Motion by Ms. Alexis Mascarinas, seconded by Mr. Michael Adler. 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. – I.E., and to direct the Pool representatives to support at the Advisory Committee and Watermaster Board meetings subject to changes which they deem appropriate.

II. BUSINESS ITEMS

A. 2022 SAFE YIELD METHODOLOGY (INFORMATION ONLY)

(00:03:53) Mr. Tellez Foster provided a report.

B. WATER RIGHTS AND REPLENISHMENT FORECASTING TOOL (INFORMATION ONLY)
(00:05:01) The Pool deferred this item to the Advisory Committee meeting.

C. TASK ORDERS AND PROJECT MANAGEMENT FOR ENGINEERING SERVICES (INFORMATION ONLY)

(00:06:22) Mr. Tellez Foster provided a report.

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.

(00:07:26) Ms. Nelson reported that on June 25, 2024, Watermaster staff was informed that Mr. Greg Zarco, Chino Airport Manager will be replacing Mr. Kyle Benoit on the Non-Agricultural Pool Committee. Mr. Zarco's email is greg.zarco@airports.sbcounty.gov.

III. REPORTS/UPDATES

A. WATERMASTER LEGAL COUNSEL

1. August 22, 2024 Court Hearing (Appropriative Pool Motion for Costs and Fees)
2. Court of Appeal Consolidated Cases No. 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

(00:09:05) Ms. Yraceburu gave a report.

B. ENGINEER

1. Data Collection & Evaluation (Response to Comments)
2. 2025 Safe Yield Reevaluation

(00:12:45) The Pool deferred Item 1 to the Advisory Committee. Mr. Rapp reported on Item 2.

C. GENERAL MANAGER

1. Board Requested Recharge Analysis
2. Other

(00:14:54) Mr. Corbin prefaced Item 1 and asked Mr. Nakano to give a report.

IV. INFORMATION

A. RECHARGE INVESTIGATION AND PROJECTS COMMITTEE

(00:17:28) Mr. Corbin gave a report.

V. POOL MEMBER COMMENTS

(00:18:25) Chair Geye thanked Mr. Allen Hubsch for his many years of service and congratulated him on his retirement.

VI. OTHER BUSINESS

None

VII. 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 Geye adjourned the Non-Agricultural Pool Committee meeting at 11:34 a.m.

Secretary: _____

Approved: _____

DRAFT MINUTES
CHINO BASIN WATERMASTER
AGRICULTURAL POOL COMMITTEE MEETING
August 8, 2024

The Agricultural Pool committee meeting was held at the Watermaster offices located at 9641 San Bernardino Road, Rancho Cucamonga, CA, and via Zoom (conference call and web meeting) on August 8, 2024.

AGRICULTURAL POOL COMMITTEE MEMBERS PRESENT AT WATERMASTER

Bob Feenstra, Chair	Dairy
Ruben Llamas	Crops
Gino Filippi for Ron LaBrucherie	Crops
Tariq Awan	State of California - CDCR
Jimmy Medrano	State of California – CDCR

AGRICULTURAL POOL COMMITTEE MEMBERS PRESENT ON ZOOM

Jeff Pierson, Vice-Chair	Crops
Nathan deBoom	Dairy
Henry DeHaan	Dairy
John Huitsing	Dairy
Imelda Cadigal	State of California – CDCR
Diana Frederick	State of California – CDCR
Noah Golden-Krasner	State of California – DOJ

WATERMASTER BOARD MEMBERS PRESENT ON ZOOM

Mike Gardner	Western Water

WATERMASTER STAFF PRESENT

Todd Corbin	General Manager
Edgar Tellez Foster	Water Resources Mgmt. & Planning Dir.
Justin Nakano	Water Resources Technical Manager
Frank Yoo	Data Services and Judgment Reporting Mgr.
Daniela Uriarte	Senior Accountant
Alonso Jurado	Water Resources Associate
Ruby Favela Quintero	Administrative Assistant
Jordan Garcia	Senior Field Operations Specialist
Erik Vides	Field Operations Specialist

WATERMASTER CONSULTANTS PRESENT AT WATERMASTER

Andy Malone	West Yost

WATERMASTER CONSULTANTS PRESENT ON ZOOM

Laura Yraceburu	Brownstein Hyatt Farber Schreck, LLP
Garrett Rapp	West Yost

AGRICULTURAL POOL COMMITTEE LEGAL COUNSEL PRESENT AT WATERMASTER

Tracy Egoscue	Egoscue Law Group, Inc.

OTHERS PRESENT AT WATERMASTER

Paul Hofer	Crops
Rick Rees	WSP USA

OTHERS PRESENT ON ZOOM

John Russ	Inland Empire Utilities Agency

CALL TO ORDER
Chair Feenstra called the Agricultural Pool committee meeting to order at 1:32 p.m.

ROLL CALL
(00:01:03) Mr. Tellez Foster conducted the roll call and announced that a quorum was present.

AGENDA - ADDITIONS/REORDER
None

SAFETY MINUTE

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 June 13, 2024

B. FINANCIAL REPORTS
Receive and file as presented:
Monthly Financial Reports for the Periods Ended May 31, 2024 and June 30, 2024

C. APPLICATION: WATER TRANSACTION – 708.3 AF WEST END CONSOLIDATED WATER COMPANY TO CITY OF UPLAND
Provide advice and assistance to the Advisory Committee on the proposed transaction.

D. APPLICATION: WATER TRANSACTION – 66.4 AF WEST END CONSOLIDATED WATER COMPANY TO GOLDEN STATE WATER COMPANY
Provide advice and assistance to the Advisory Committee on the proposed transaction.

E. APPLICATION: WATER TRANSACTION – 270 AF CITY OF UPLAND TO GOLDEN STATE WATER COMPANY
Provide advice and assistance to the Advisory Committee on the proposed transaction.

(00:025:26)
Motion by Jimmy Medrano, seconded by Mr. Jeff Pierson, and passed by unanimous roll call vote as attached to these minutes.
Moved to approve the Consent Calendar as presented.

II. BUSINESS ITEMS

A. 2022 SAFE YIELD METHODOLOGY (INFORMATION ONLY)
(00:28:25) Mr. Corbin provided explanation. Mr. Tellez Foster gave a presentation on the methodology. A discussion ensued.

B. WATER RIGHTS AND REPLENISHMENT FORECASTING TOOL (INFORMATION ONLY)
(01:27:06) Mr. Tellez Foster demonstrated tool and provided report. A discussion ensued.

C. TASK ORDERS AND PROJECT MANAGEMENT FOR ENGINEERING SERVICES (INFORMATION ONLY)
(01:28:15) Mr. Rapp provided a presentation. A discussion ensued.

D. OLD BUSINESS
None

III. REPORTS/UPDATES

A. WATERMASTER LEGAL COUNSEL

1. August 22, 2024 Court Hearing (Appropriative Pool Motion for Costs and Fees)
2. Court of Appeal Consolidated Cases No. 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

(01:41:25) Ms. Yraceburu gave a report.

B. ENGINEER

1. Data Collection & Evaluation (Response to Comments)
2. 2025 Safe Yield Reevaluation

(01:44:24) Mr. Rapp gave a report and analysis.

C. GENERAL MANAGER

1. Board Requested Recharge Analysis
2. New Staff Member Introduction
3. Other

(02:19:08) Mr. Corbin gave a report.

IV. INFORMATION

A. RECHARGE INVESTIGATION AND PROJECTS COMMITTEE

V. POOL DISCUSSION

None

VI. OTHER BUSINESS

None

VII. CONFIDENTIAL SESSION - POSSIBLE ACTION

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

(02:22:00) The Pool convened into Confidential Session to discuss Pool business. The Pool concluded at 4:29 p.m. with no reportable action. There being no further business, the Pool did not reconvene into open session and the adjournment is shown in Attachment 1 below.

ADJOURNMENT
Chair Feenstra adjourned the Agricultural Pool Committee at 4:29 p.m.

Secretary: _____

Approved: _____

Attachments:
1. 20240808 Adjournment as provided by Pool Counsel.

From: Ruby Favela Quintero
To: Anna Nelson
Subject: FW: Ag Pool Closed Session
Date: Thursday, August 8, 2024 5:12:24 PM
Attachments: image001.png

From: Tracy Egoscue <tracy@egoscuelaw.com>
Sent: Thursday, August 8, 2024 4:30 PM
To: Ruby Favela Quintero <RFavelaQuintero@cbwm.org>; Todd Corbin <tcorbin@cbwm.org>
Subject: Ag Pool Closed Session

The Ag Pool Closed Session ended at 4:29pm with no reportable action. No need to reconvene in open session.

Thank you.

Tracy J. Egoscue (she/her)
Egoscue Law Group, Inc.
562.988.5978 office
562.981.4866 cell
tracy@egoscuelaw.com
www.egoscuelaw.com

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CHINO BASIN WATERMASTER

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

TODD M. CORBIN
General Manager

STAFF REPORT

DATE: September 12, 2024

TO: AP/ONAP/OAP Committee Members

SUBJECT: OBMP Semi-Annual Status Report 2024-1 (Consent Calendar Item I.C.)

SUMMARY:

Issue: Pursuant to the September 28, 2000 Court Order under *Periodic Reporting Requirements*, Watermaster produces the Semi-Annual Optimum Basin Management Program (OBMP) Status Reports. The report for the period January to June 2024 is presented for review, advice and assistance of the Pools.
[Discretionary Function]

Recommendation: Recommend to the Advisory Committee to recommend to the Watermaster Board to adopt the Semi-Annual OBMP Status Report 2024-1, and direct staff to file a copy with the Court, subject to any necessary non-substantive changes.

Financial Impact: None.

Actions and Future Considerations
Appropriative Pool – September 12, 2024: Advice and assistance.
Non-Agricultural Pool – September 12, 2024: Advice and assistance.
Agricultural Pool – September 12, 2024: Advice and assistance.
Advisory Committee – September 19, 2024: Advice and assistance.
Watermaster Board – September 26, 2024: Adopt and file with the Court.

BACKGROUND

The OBMP Semi-Annual Status Report 2024-1 covers the period from January to June 2024. The report describes work conducted, and the status of the nine Program Elements of the Optimum Basin Management Program during the six-month period.

DISCUSSION

OBMP Semi-Annual Status Report 2024-1 has been drafted (Attachment 1). Once adopted by the Watermaster Board, a copy of the OBMP Semi-Annual Status Report 2024-1 will be filed with the Court.

ATTACHMENTS

1. OBMP Semi-Annual Status Report 2024-1

Optimum Basin Management Program

Staff Status Report 2024-1: January to June 2024

CHINO BASIN WATERMASTER

Highlighted Activities

- About 300 manual water level measurements from 35 private and 15 municipal supply wells were taken; two quarterly data downloads were conducted from 130 pressure transducers installed at various well sites; groundwater quality samples from three near river wells and four quarterly surface water quality samples from two sites were taken.
- Pursuant to the requirement of the Peace II Subsequent Environmental Impact Report (SEIR), Watermaster, the Inland Empire Utilities Agency (IEUA), and the Orange County Water District (OCWD) continued to implement the Prado Basin Habitat Sustainability Program (PBHSP). Watermaster conducted two quarterly downloads of pressure transducers at the 18 PBHSP monitoring wells and collections of water quality parameters at four sites; prepared the annual report for water year 2023; developed the PBHSP scope and budget for the fiscal year 2024/25; and conducted two meetings of the Prado Basin Habitat Sustainability Committee (PBHSC).
- Pursuant to the Chino Basin Subsidence Management Plan, Watermaster continued to implement the Ground-Level Monitoring Program (GLMP) for the MZ-1 and Northwest MZ-1 areas. Watermaster collected, processed, and checked groundwater level data and aquifer-system deformation data from the Ayala Park, Chino Creek, and Pomona extensometer facilities, and groundwater production data from wells in Northwest MZ-1; continued high-resolution water-level monitoring at about 30 wells within the MZ-1 Managed Area and the Areas of Subsidence Concern; conducted Spring-2024 ground-elevation surveys at established benchmarks across the Managed Area and Northwest MZ-1 Area; performed InSAR analyses of vertical ground motion across all Areas of Subsidence Concern for the periods 2022-23 and 2023-24; and prepared the draft and final technical memoranda on the Recommended Scope and Budget for the GLMP for FY 2024/25.
- Watermaster finalized the 1D Model Simulation of Subsidence in Northwest MZ-1— Subsidence Management Alternative #1, which included a recommend "Northwest MZ-1 Guidance Level" to slow down rates of compaction and subsidence in Northwest MZ-1 area; began work on constructing and calibrating the new 1D Models and published draft and final Technical Memoranda on Proposed Locations and Data for Construction and Calibration of Additional 1D Models.
- Watermaster and the IEUA continued to implement the 2013 Amendment to the 2010 Recharge Master Plan Update (2013 RMPU). Construction of the Wineville/Jurupa/RP3 and Lower Day projects continued, and the Lower Day project is substantially complete. The agreements for the Montclair Basins were obtained in preparation for the start of construction; the updated project completion date is fall 2025. Watermaster and the IEUA recharged a total of 24,509 acre-feet of water: 11,482 acre-feet of stormwater, 4,961 acre-feet of recycled water, and 8,066 acre-feet of imported water.
- Watermaster and the IEUA continued to implement the Maximum Benefit Salt and Nutrient Management Plan and provide support to the Santa Ana Water Board staff on the Basin Plan amendment to update the commitments and requirements for the Maximum Benefit Salt and Nutrient Management Plan.
- Watermaster continued to implement elements of the 2017 Court Order, including the continuation of the annual data collection and evaluation process covering the period through fiscal year 2022/23, and the continuation of the process to reevaluate the Safe Yield of the Chino Basin for the period of fiscal year 2021 through 2030.
- In February 2024, IEUA certified the final SEIR to support decision-making, investment, and grant applications for ongoing and new management actions under the Optimum Basin Management Program (OBMP).
- Two new management activities in the 2020 OBMP Update began in fiscal year 2023/24: (i) development of a Storage and Recovery Master Plan (SRMP); and (ii) preparation of a WQMP.
- Watermaster and its stakeholders conducted two Water Quality Committee meetings in which meeting attendees were asked to provide feedback on the Emerging Contaminants Monitoring Plan (ECMP), and a framework and scope for a Water Quality Management Program (WQMP).

Important Court Hearings and Orders

- **FEBRUARY 2, 2024:**
  HEARING AND ORDER GRANTING WATERMASTER'S NOTICE OF MOTION AND MOTION FOR COURT TO: 1) RECEIVE AND FILE THE 2022/2023 ANNUAL REPORT OF THE GROUND-LEVEL MONITORING COMMITTEE; 2) RE-APPOINT NINE-MEMBER WATERMASTER BOARD
- **MAY 31, 2024:**
  HEARING AND ORDER GRANTING WATERMASTER'S NOTICE OF MOTION AND MOTION FOR COURT TO: 1) RECEIVE AND FILE 46TH ANNUAL REPORT; 2) RECEIVE AND FILE WATERMASTER SEMI-ANNUAL OBMP STATUS REPORT 2023-2

Program Element 1: Develop and Implement a Comprehensive Monitoring Program

Fundamental to the implementation of the OBMP Program Elements are the monitoring and data collection efforts performed in accordance with Program Element 1, including monitoring basin hydrology, production, recharge, groundwater levels, groundwater quality, and ground-level movement. Various monitoring programs have and will continue to be refined over time to satisfy the evolving needs of Watermaster and the IEUA, such as new regulatory requirements and improved data coverage. Monitoring is performed by basin pumpers, Watermaster staff, and other cooperating entities as follows.

Groundwater Level Monitoring

Watermaster's basin-wide groundwater-level monitoring program supports the periodic reassessment of Safe Yield, the monitoring and management of ground-level movement, the impact analysis of desalter pumping on private wells, the impact analysis of the implementation of the Peace II Agreement on groundwater levels and riparian vegetation in the Prado Basin, the triennial re-computation of ambient water quality mandated by the Water Quality Control Plan for the Santa Ana River Basin (Basin Plan), and the assessment of Hydraulic Control—a maximum-benefit commitment in the Basin Plan. The data are also used to update and recalibrate Watermaster's computer-simulated groundwater flow model in order to assess groundwater flow directions, to compute storage changes, to support interpretations of water quality data, and to identify areas of the basin where recharge and discharge are not in balance.

WM Staff Taking a Groundwater Level Measurement

The current groundwater-level monitoring program is comprised of approximately 1,150 wells. At about 960 of these wells, groundwater levels are measured by well owners, which include municipal water agencies, the California Department of Toxic Substances Control (DTSC), the Counties, and various private consulting firms. Watermaster collects these groundwater level data semi-annually from the well owners. At the remaining 190 wells, groundwater levels are measured monthly by Watermaster staff using manual methods or by pressure transducers that record data on a 15-minute interval. These wells are mainly Agricultural Pool wells or dedicated monitoring wells located south of the 60 freeway.

All groundwater-level data are checked and uploaded to a centralized database management system that can be accessed online through HydroDaVE℠. During this reporting period, Watermaster measured approximately 300 groundwater levels at about 35 private wells and 15 municipal supply wells throughout the Chino Basin and conducted two quarterly downloads of 130 pressure transducers installed in private, municipal, and monitoring wells. Additionally, Watermaster compiled all available groundwater-level data from well owners in the basin for the October 2023 to March 2024 period.

Groundwater Quality Monitoring

Watermaster initiated a comprehensive groundwater-quality monitoring program in which the obtained data may be used for: the biennial *Chino Basin OBMP State of the Basin* report, the triennial re-computation of ambient water quality, the demonstration of Hydraulic Control, monitoring of nonpoint-source groundwater contamination and plumes associated with point-source contamination, and assessing the overall health of the groundwater basin. Groundwater-quality data are also used in conjunction with numerical models to assist Watermaster and other parties in evaluating proposed salinity management and groundwater remediation strategies. The details of the groundwater-quality monitoring programs as of fiscal year 2023/24 are described below.

Chino Basin Data Collection (CBDC). Watermaster routinely and proactively collects groundwater-quality data from well owners including municipal and governmental agencies. Groundwater quality data are also obtained from special studies and monitoring required by orders of the Santa Ana Regional Water Quality Control Board (Santa Ana Water Board)—such as for landfills and other groundwater quality investigations, the DTSC, the US Geological Survey (USGS), and others. These data are collected semi-annually from well owners and monitoring entities. Data are collected for approximately 860 wells as part of the CBDC program. During this reporting period, Watermaster compiled data collected for the CBDC program for the July to December 2023 period.

Watermaster Field Groundwater Quality Monitoring Programs. Watermaster monitors groundwater quality at privately owned wells and dedicated monitoring wells on a routine basis as follows:

1. *Private Wells*. About 65 private wells, located predominantly in the southern portion of the basin, are sampled at various frequencies based on their proximity to known point-source contamination plumes. Seven wells near contaminant plumes are sampled annually, and the remaining 58 wells are sampled triennially.

Program Element 1: Develop and Implement a Comprehensive Monitoring Program (Continued)

2. *Watermaster Monitoring Wells*. Watermaster collects groundwater-quality samples from a total of 49 multi-nested monitoring wells at 21 well sites located throughout the Chino Basin. These monitoring well sites include: nine HCMP sites constructed to support the demonstration of Hydraulic Control in the southern Chino Basin, nine sites constructed to support the PBHSP in the Prado Basin region, and three sites that fill spatial data gaps near contamination plumes in MZ-3. Each nested well site contains up to four wells in the borehole. Additionally, Watermaster samples one single-casing well in MZ-3. Currently, the HCMP MZ-3, and Kaiser monitoring wells are sampled annually, and the PBHSP wells are sampled triennially.
3. *Other Wells*. Watermaster collects quarterly samples from three near-river wells to characterize the interaction of the Santa Ana River and groundwater. These shallow wells along the Santa Ana River consist of two former USGS National Water Quality Assessment Program wells (Archibald 1 and Archibald 2) and one Santa Ana River Water Company (SARWC) well (active Well 9). Until early 2023, there was a fourth near-river well, SARWC well 10, that was part of this monitoring program. SARWC well 10 is no longer able to be sampled because it is an old well that has deteriorated and filled in.

During this reporting period, Watermaster collected quarterly groundwater quality samples from three near river wells. All groundwater quality data are checked by Watermaster staff and uploaded to a centralized database management system that can be accessed online through HydroDaVE℠.

Groundwater Production Monitoring

As of the end of this reporting period, there were a total of 427 producing wells, 228 of which were for agricultural uses. The number of agricultural wells has been decreasing in recent years due to urbanization and development. Many of the remaining active agricultural production wells are metered, and Watermaster reads the meters on a quarterly basis. Meter reads and production data are then entered into Watermaster's relational database, which can be accessed online through HydroDaVE℠.

Meter Vendor Testing a Well's Inline Meter for Accuracy

Surface Water Monitoring in the Santa Ana River

Watermaster collects grab water quality samples at two sites along the Santa Ana River (Santa Ana River at River Road and Santa Ana River at Etiwanda) on a quarterly basis. Sample data from these surface water sites and from the near-river wells are used to characterize the interaction between the Santa Ana River and nearby groundwater. During this reporting period, Watermaster collected four quarterly surface water-quality samples from the two surface water sites.

Prado Basin Habitat Sustainability Program (PBHSP)

Mitigation Measure 4.4-3 from the Peace II SEIR requires that Watermaster and the IEUA, in collaboration with the OCWD, form a committee, the Prado Basin Habitat Sustainability Committee, to develop and implement an Adaptive Management Plan for the PBHSP. The PBHSC is open to all interested participants, including the Watermaster Parties, IEUA member agencies, the OCWD, and other interested stakeholders. The objective of the PBHSP is to ensure that riparian habitat in the Prado Basin is not adversely impacted by the implementation of Peace II activities. Currently, the PBHSP consists of a monitoring program and the annual reporting on its results. The monitoring program includes an assessment of the riparian habitat and factors that could potentially impact the riparian habitat, including those factors affected by Peace II activities such as changes in groundwater levels. Sixteen monitoring wells at nine sites were constructed in 2015 to support the PBHSP. Two existing wells are also monitored as part of the PBHSP. The PBHSC developed the Adaptive Management Plan of the PBHSP to describe an initial monitoring program and a process to modify the monitoring program and/or implement mitigation strategies, as necessary.

During this reporting period, Watermaster performed the following tasks:

- Conducted the groundwater monitoring program, which included quarterly downloads in March and June 2024 of transducers that measure groundwater levels and temperature at eight PBHSP monitoring wells, and transducers that measure electrical conductivity (EC), temperature, and groundwater levels at ten PBHSP monitoring wells.

Program Element 1: Develop and Implement a Comprehensive Monitoring Program (Continued)

- Conducted the surface-water monitoring program at four surface water sites, which included quarterly collection of field parameters for EC and temperature in March and June 2024.
- Prepared a memorandum titled: "Recommended Scope and Budget of the Prado Basin Habitat Sustainability Program for Fiscal Year 2024/25". This memorandum was used by Watermaster and the IEUA to develop and approve their respective fiscal year 2024/25 budgets.
- Prepared the eighth annual report: *Annual Report of the Prado Basin Habitat Sustainability Program for Water Year 2023*. The main conclusion of the annual report was that the quality of the riparian habitat remained stable or increased across most of the Prado Basin from 2022-2023 and at the same time there was above average precipitation and stream discharge conditions. Groundwater levels have changed throughout most of the study area by up to +/- 5 feet, and the notable declines of about nine feet near the top of Mill Creek have come back up in 2023 (by four feet). No mitigation measures are proposed at this time.
- Conducted two meetings of the PBHSC:
    - On March 21, 2024 to present the Recommended Scope and Budget of the PBHSP for fiscal year 2024/25.
    - On May 8, 2024 to present the draft Annual Report of the PBHSP for water year 2023.

Chino Basin Groundwater Recharge Monitoring Program

Watermaster, the IEUA, the Chino Basin Water Conservation District, and the San Bernardino County Flood Control District jointly sponsor the Chino Basin Groundwater Recharge Program. This is a comprehensive water supply program to enhance water supply reliability and improve groundwater quality in local drinking water wells by increasing the recharge of storm, imported, and recycled waters. The recharge program is regulated under the IEUA and Watermaster's recycled water recharge permit— Santa Ana Water Board Order No. R8-2007-0039 and Monitoring and Reporting Program No. R8-2007-0039.

Storm Water Captured in San Sevaine Basins

Watermaster and the IEUA measure the quantity of storm, imported, and recycled water that enters recharge basins using pressure transducers or staff gauges. The IEUA also conducts water-quality monitoring for all required parameters in Order No. R8-2007-0039 for recycled water, diluent water (storm water, dry-weather flow, and imported water), and groundwater. The IEUA staff samples for recycled water quality data: daily and weekly for the RP-1 and RP-4 effluent; quarterly and annually at two recycled water locations representative of recharge quality; and monthly from lysimeters at recharge basins. Most of the recycled water recharge basins have alternative compliance plans for total organic carbon (TOC) and total nitrogen (TN) using the results from the recycled water samples and the application of a correction factor for soil aquifer treatment. The IEUA also collects samples at about 15 surface water locations for stormwater and dry-weather flows. Imported water quality data for State Water Project water are obtained from the Metropolitan Water District of Southern California (MWDSC). The flow and quality data is used to calculate: 120-month blended water quality for total dissolved solids (TDS) and nitrate of all recharge sources in each recharge basin to assess adequate dilution of recycled water as required by the recycled water recharge permits held with the Division of Drinking Water (DDW); and 5-year blended water quality for TDS and nitrate for all recharge sources in all recharge basins in the Chino Basin as required by the Maximum Benefit Salinity Management Plan (see the Program Element 7 update in this status report).

The IEUA also collects quarterly and annual groundwater quality samples at a network of about 35 dedicated monitoring wells and production wells that are downgradient of the recharge basins.

Monitoring Activities. During this reporting period, the IEUA performed its ongoing monitoring program to measure and record recharge volumes and to collect water quality samples for recycled water, diluent water, and groundwater pursuant to IEUA and Watermaster's permit requirements. This included collecting approximately 110 recycled water quality samples, 2 lysimeter samples, 7 diluent water quality samples, and 72 groundwater quality samples for analytical analyses. Daily composite water quality data was also collected at the RP-1 and RP-4 effluent.

Program Element 1: Develop and Implement a Comprehensive Monitoring Program (Continued)

Reporting. Watermaster and the IEUA completed the following compliance reports concerning the recharge program during this reporting period:

- 4Q-2023 Quarterly Report, which was submitted to the Santa Ana Water Board on February 15, 2024
- 1Q-2024 Quarterly Report, which was submitted to the Santa Ana Water Board on May 15, 2024

Ground Level Monitoring

To address the historical occurrence of land subsidence and ground fissuring in the Chino Basin, Watermaster prepared and submitted a subsidence management plan (known as the MZ-1 Plan) to the Court for approval and in November 2007, the Court ordered its implementation (see Program Element 4 in this report for more on MZ-1 Plan implementation). The MZ-1 Plan required several monitoring and mitigation measures to minimize or abate the future occurrence of land subsidence and ground fissuring. These measures and activities included:

- Continuing the scope and frequency of monitoring within the so-called Managed Area that was conducted during the period when the MZ-1 Plan was being developed.
- Expanding the monitoring of the aquifer system and ground-level movement into other areas of MZ-1 and the Chino Basin where data indicate concern for future subsidence and ground fissuring (Areas of Subsidence Concern).
- Monitoring of horizontal strain across the historical zone of ground fissuring.
- Conducting additional testing and monitoring to refine the MZ-1 Guidance Criteria for subsidence management (e.g., the Long-Term Pumping Test).
- Developing alternative pumping plans for the MZ-1 producers impacted by the MZ-1 Plan.
- Constructing and testing a lower-cost cable extensometer facility at Ayala Park.
- Evaluating and comparing ground-level surveying and Interferometric Synthetic Aperture Radar (InSAR) and recommending future monitoring protocols for both techniques.
- Conducting an aquifer storage recovery (ASR) feasibility study at a City of Chino Hills production well (Well 16) within the MZ-1 Managed Area.

Since the initial MZ-1 Plan was adopted in 2007, Watermaster has conducted the Ground-Level Monitoring Program. The main results from the GLMP show that very little permanent land subsidence has occurred in the MZ-1 Managed Area, indicating that subsidence is being successfully managed in this area, but land subsidence has been occurring in Northwest MZ-1. One concern is that land subsidence in Northwest MZ-1 has occurred differentially across the San Jose Fault, following the same pattern of differential subsidence that occurred in the MZ-1 Managed Area during the time of ground fissuring.

Based on these observations, Watermaster determined that the subsidence management plan needed to be updated to include a Subsidence Management Plan for Northwest MZ-1, with the long-term objective of minimizing or abating the occurrence of the differential land subsidence. Thus, Watermaster expanded the GLMP into Northwest MZ-1 and prepared an updated Chino Basin Subsidence Management Plan, which included the Work Plan to Develop a Subsidence Management Plan for Northwest MZ-1 (Work Plan) as an appendix.

During this reporting period, Watermaster undertook the following Chino Basin Subsidence Management Plan activities:

- Continued high-resolution water-level monitoring at approximately 30 wells within the MZ-1 Managed Area and within the Areas of Subsidence Concern. All monitoring equipment was inspected at least quarterly and was repaired and/or replaced as necessary. The data collected were checked and analyzed to assess the functionality of the monitoring equipment and for compliance with the Chino Basin Subsidence Management Plan.
- Performed monthly routine maintenance, data collection, and verification at the Ayala Park, Chino Creek, and Pomona extensometer facilities. This included two special efforts: (i) develop plans and cost estimates to automate data collection at the extensometer facilities and (ii) improve the extensometer monitoring at the Pomona Extensometer.
- Conducted Spring-2024 ground-elevation surveys at established benchmarks across the Managed Area and Northwest MZ-1 Area.

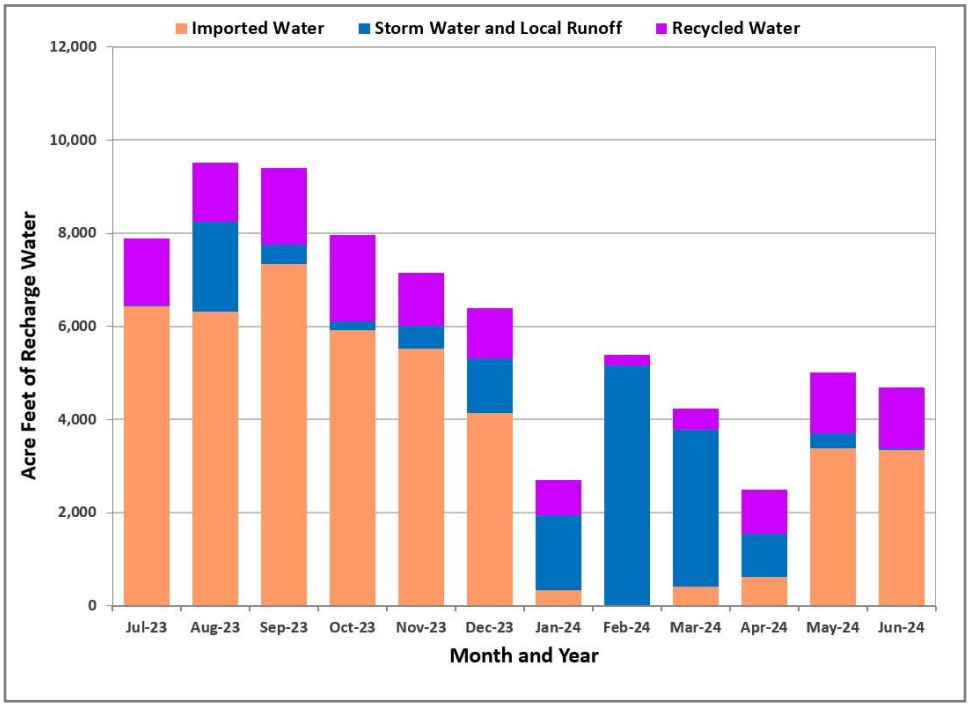
Program Element 1: Develop and Implement a Comprehensive Monitoring Program (Continued)

- Performed InSAR analyses of vertical ground motion across all areas of subsidence concern for the periods 2022-23 and 2023-24.
- Continued monitoring of Northwest MZ-1 pursuant to the Work Plan:
    - Collected, processed, and checked groundwater level and production data from wells in Northwest MZ-1 on a monthly basis.

Program Element 2: Develop and Implement a Comprehensive Recharge Program

The objectives of the comprehensive recharge program include: enhancing the yield of the Chino Basin through the development and implementation of a Recharge Master Plan to improve, expand, and construct recharge facilities that enable the recharge of storm, recycled, and imported waters; ensuring a balance of recharge and discharge in the Chino Basin management zones; and ensuring that sufficient storm and imported waters are recharged to comply with the recycled water dilution requirements in Watermaster and the IEUA's recycled water recharge permits.

Pursuant to Program Element 2 of the OBMP, Watermaster and the IEUA partnered with the San Bernardino County Flood Control District and the Chino Basin Water Conservation District to construct and/or improve 18 recharge sites. This project is known as the Chino Basin Facilities Improvement Project (CBFIP). The average annual stormwater recharge of the CBFIP facilities is approximately 10,000 acre-feet per year, the supplemental "wet"[1] water recharge capacity is about 56,600 acre-feet per year, and the in-lieu supplemental water recharge capacity ranges from 17,700 to 49,900 acre-feet per year. In addition to the CBFIP facilities, the Monte Vista Water District (MVWD) has four ASR wells with a well injection capacity of 5,500 acre-feet per year. The current total supplemental water recharge capacity ranges from 90,310 to 118,310 acre-feet per year, which is greater than the projected supplemental water recharge capacity required by Watermaster.



In 2008, Watermaster began preparing the *2010 Recharge Master Plan Update* (2010 RMPU) pursuant to the December 21, 2007 Court Order (the Peace II Agreement) to complete a Recharge Master Plan Update by July 1, 2010. In October 2010, the Court accepted the 2010 RMPU as satisfying the condition and ordered that certain recommendations of the 2010 RMPU be implemented. In November 2011, Watermaster reported its progress to the Court pursuant to the October 2010 Court Order, and in December 2011, the Court issued an order directing Watermaster to continue with its implementation of the 2010 RMPU per its October 2010 order but with a revised schedule. On December 15, 2011, the Watermaster Board moved to:

> "approve that within the next year there will be the completion of [a] Recharge Master Plan Update, there will be the development of an Implementation Plan to address balance issues within the Chino Basin subzones, and the development of a Funding Plan, as presented."

[1] The modifier "wet" means actual physical water is being recharged in spreading basins as opposed to the dedication of water from storage or in-lieu recharge.

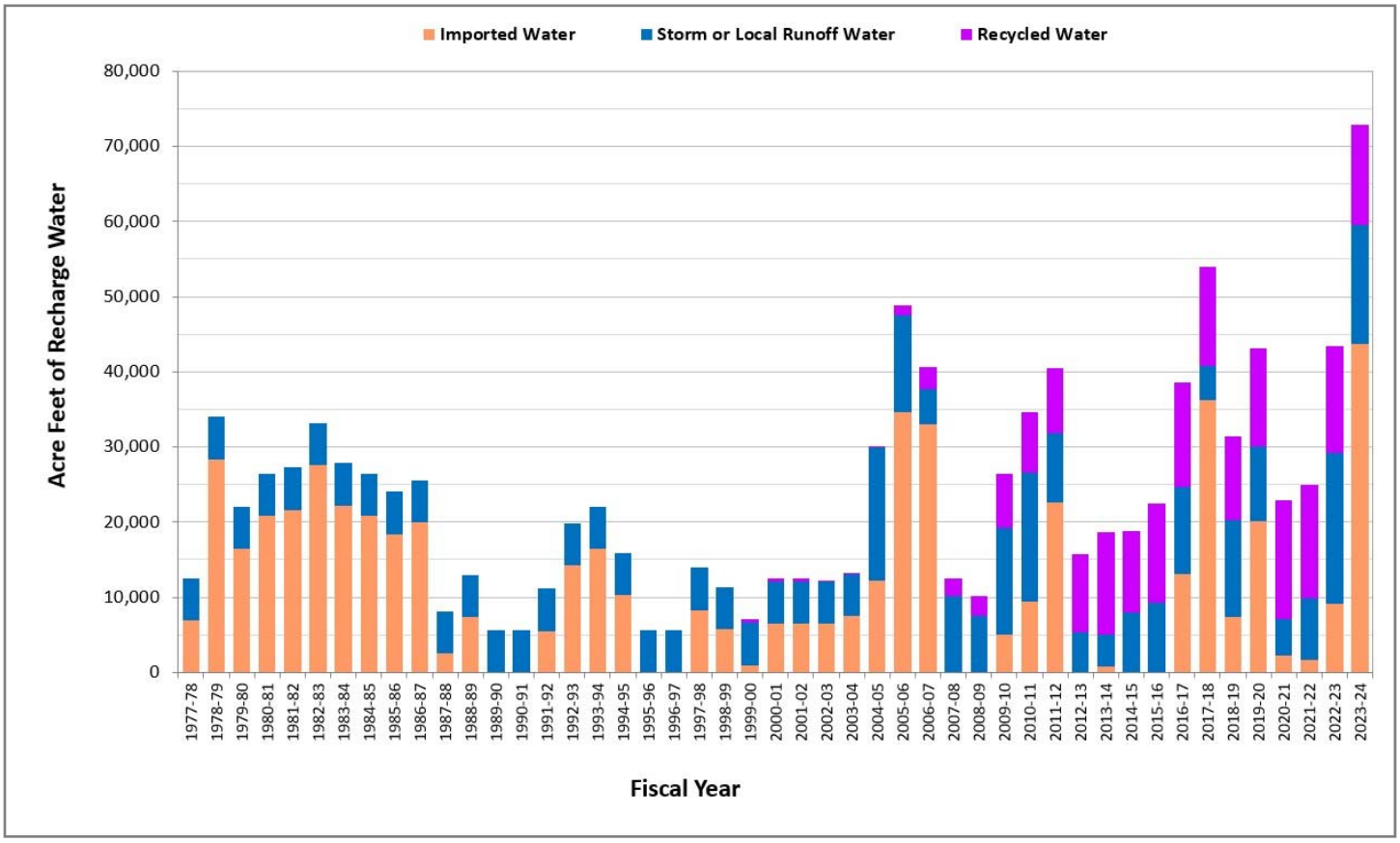
Program Element 2: Develop and Implement a Comprehensive Recharge Program (Continued)

This motion led to the development of an update to the 2010 RMPU and in 2012, Watermaster staff sent out a "call for projects" to the Watermaster Parties, seeking their recommendations for recharge improvement projects that should be considered in the update. The *2013 Amendment to the 2010 Recharge Master Plan Update* (2013 RMPU) outlines the recommended projects to be implemented by Watermaster and the IEUA and lays out the implementation and financing plans. The 2013 RMPU report was approved by the Watermaster Board in September 2013 and filed with the Court in October 2013. In December 2013, the Court approved the 2013 RMPU except for Section 5, which dealt with the accounting for new recharge from Municipal Separate Stormwater Sewer Systems; Section 5 was later approved by the Court in April 2014.

In September 2018, Watermaster completed the 2018 Recharge Master Plan Update (2018 RMPU) and submitted it to the Court in October 2018. On December 28, 2018, the Court approved the 2018 RMPU.

In September 2023, Watermaster completed the 2023 Recharge Master Plan Update (2023 RMPU) and submitted it to the Court in October 2023. The Court approved the 2023 RMPU on December 6, 2023.

2013 RMPU Implementation. Watermaster and the IEUA are continuing to carry out the October 2013 Court Order, which authorizes them to implement the 2013 RMPU. Construction of the San Sevaine Basin improvements was completed in September 2018 and the construction of the Victoria Basin improvements was completed in December 2018. During this reporting period, the construction work for the Wineville/Jurupa/RP3 and Lower Day projects continued. The Lower Day project is substantially complete, pending a check list and final systems test. IEUA finalized the required regulatory agreement with California Department of Fish and Wildlife, which has delayed the project bidding and construction for the Montclair Basins project. The updated project completion date for Montclair Basins is fall 2025.



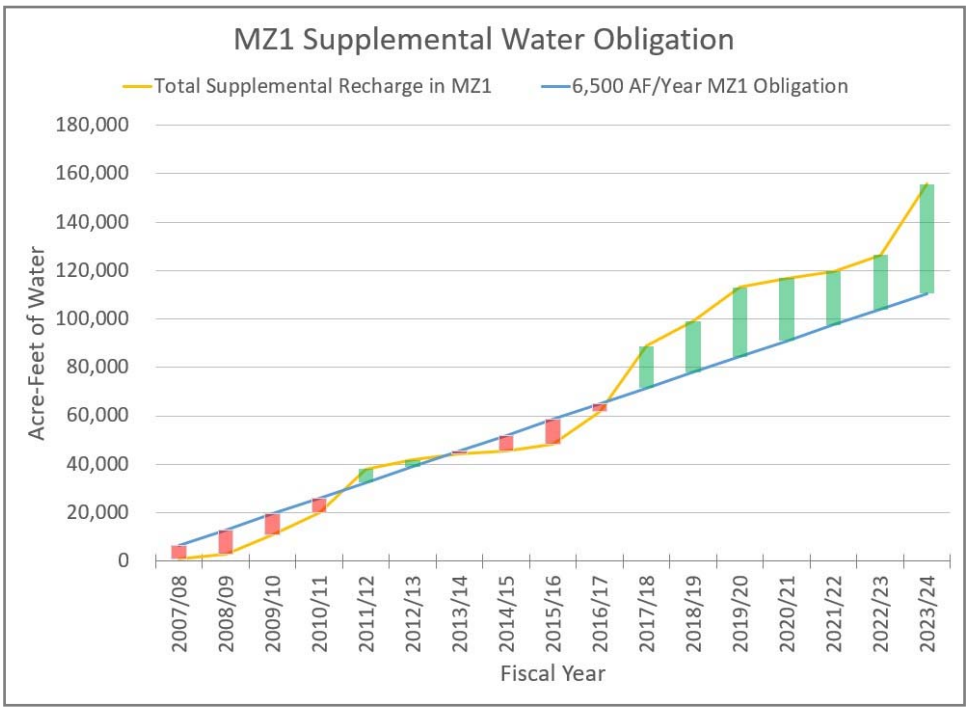
Program Element 2: Develop and Implement a Comprehensive Recharge Program (Continued)

Additionally, Watermaster and the IEUA continue to collaborate in the development of projects outside of the 2013 RMPU effort that will increase and/or facilitate stormwater and supplemental water recharge and have jointly funded these projects, including monitoring upgrades and habitat conservation. During this reporting period, no projects were completed.

The Recharge Investigation and Projects Committee met two times during this reporting period on the progress of implementing the 2013 RMPU Projects and other recharge-related projects.

Recharge for Dilution of Recycled Water. In fiscal year 2009/10, Watermaster and the IEUA's recycled water recharge permit was amended to allow for existing underflow dilution and extended the period for calculating dilution from a running 60-month to a running 120-month period. Additionally, the IEUA has worked with the DDW to obtain approval to increase the allowable recycled water contribution (RWC) at wells to 50 percent. These permit amendments allow for increased recycled water recharge without having to increase the amount of imported and storm waters required for dilution. The IEUA projects its dilution requirements as part of its annual reporting to the Santa Ana Water Board. Based on the latest Annual Report (May 2024)[2], the IEUA projects that dilution requirements will be met through 2031 even if no imported water is available for dilution.

Recharge Activities. During this reporting period, ongoing recycled water recharge occurred in the Brooks, 8th Street, Turner, Victoria, San Sevaine, Hickory, Banana, RP-3, and Declez Basins; stormwater was recharged at 18 recharge basins across all Chino Basin management zones; and imported water was recharged at MVWD's ASR wells, Upland, College Heights, Montclair, Lower Day, Etiwanda, San Sevaine, Hickory, RP-3, and Jurupa Basins. From January 1 through June 30, 2024, Watermaster and the IEUA recharged a total of 24,509 acre-feet of water: 11,482 acre-feet of stormwater, 4,961 acre-feet of recycled water, and 8,066 acre-feet of imported water.



Balance of Recharge and Discharge in MZ-1. The total amount of supplemental water recharged in MZ-1 since the Peace II Agreement through June 30, 2024 was approximately 155,712 acre-feet, which is about 45,212 acre-feet more than the 110,500 acre-feet required by June 30, 2024 (annual requirement of 6,500 acre-feet). The amount of supplemental water recharged into MZ-1 during the reporting period was approximately 6,330 acre-feet.

[2] https://www.ieua.org/wp-content/uploads/2024/05/CBRW-GRP-2023-Annual-Report-Final.pdf

Program Element 3: Develop and Implement Water Supply Plan for the Impaired Areas of the Basin; and Program Element 5: Develop and Implement Regional Supplemental Water Program

As stated in the OBMP, "the goal of Program Elements 3 and 5 is to develop a regional, long range, cost effective, equitable, water supply plan for producers in the Chino Basin that incorporates sound basin management." One element of the water supply plan is the development of a way to replace the decline in agricultural groundwater production to prevent significant amounts of degraded groundwater from discharging to the Santa Ana River and violating the Basin Plan. Replacing the decline in agricultural groundwater production will mitigate the reduction of the Safe Yield of the basin and allow for more flexibility in the basin's supplemental water supplies if the produced groundwater is treated. This is achieved through the operation of the Chino Basin Desalter facilities, which comprise a series of wells and treatment facilities in the southern Chino Basin that are designed to replace the decline of the agricultural groundwater producers and to treat and serve this groundwater to various Appropriative Pool members.

The Chino I Desalter expansion and the Chino II Desalter facilities were completed in February 2006, bringing the total Chino Basin Desalter capacity to 29 million gallons per day (MGD) (32,480 acre-feet per year). Development and planning continued between the Chino Desalter Authority (CDA) and Watermaster to expand the production and treatment capacity of the Chino Basin Desalters by about 10 MGD. More than $77 million in grant funds were secured toward this expansion. As currently configured, the Chino I Desalter treats about 14,500 acre-feet of groundwater per year (12.9 MGD) pumped from 14 wells (I-1 through I-11, I-13 through I-18, I-20, and I-21). This water is treated through air stripping (volatile organic compound [VOC] removal), ion exchange (nitrate removal), and/or reverse osmosis (for nitrate and TDS removal). The Chino II Desalter produces about 25,500 acre-feet of groundwater per year (22.7 MGD) from pumping at eleven wells (II-1 through II-4 and II-6 through II-12). This water is treated through ion exchange and/or reverse osmosis. Well I-18 came online for the first time in 2023 as part of the remedial solution for the Chino Airport (see Chino Airport Plumes section under PE 6 in this report).

The most recently completed expansion of the Chino Basin Desalters included adding three wells (Wells II-10, II-11, and II-12) to Chino II Desalter. These wells provide additional raw water to the Chino II Desalter to meet the maximum-benefit commitment to produce a total of 40,000 acre-feet per year from the combined desalter well fields. These wells are also being utilized as part of the remediation action plan to clean up the South Archibald Plume (see the Program Element 6 update in this status report). Construction of wells II-10 and II-11 was completed in late 2015, equipping of the wells was completed in August 2018, and production at the wells commenced soon after. Construction of well II-12 was completed in November 2020. Construction of the dedicated pipeline to convey groundwater from wells II-12, II-10, II-11, and I-11 to the Chino II Desalter was completed in August 2021 and well II-12 began pumping soon after. The Chino Bain Desalters reached the 40,000 acre-feet per year of pumping capacity in June 2020, prior to the commencement of pumping at well II-12. During the reporting period, the Chino Basin Desalters maintained the pumping rate of 40,000 acre-feet per year.

Program Element 4: Develop and Implement a Comprehensive Groundwater Management Plan for Management Zone 1

Because of the historical occurrence of pumping induced land subsidence and ground fissuring in southwestern Chino Basin (Managed Area), the OBMP required the development and implementation of an Interim Management Plan (IMP) for MZ-1 that would:

- Minimize subsidence and fissuring in the short-term.
- Collect the information necessary to understand the extent, rate, and mechanisms of subsidence and fissuring.
- Formulate a management plan to reduce to tolerable levels or abate future subsidence and fissuring.

From 2001-2005, Watermaster developed, coordinated, and conducted an IMP under the guidance of the MZ-1 Technical Committee (referred to now as the Ground-Level Monitoring Committee or GLMC). The investigation provided enough information for Watermaster to develop Guidance Criteria for the MZ-1 producers in the investigation area that, if followed, would minimize the potential for subsidence and fissuring during the completion of the MZ-1 Plan. The Guidance Criteria included a list of Managed Wells and their owners subject to the criteria, a map of the so-called Managed Area, and an initial threshold water level (Guidance Level) of 245 feet below the top of the PA-7 well casing. The MZ-1 Summary Report and the Guidance Criteria were adopted by the Watermaster Board in May 2006. The Guidance Criteria formed the basis for the MZ-1 Plan, which was approved by Watermaster in October 2007. The Court approved the MZ-1 Plan in November 2007 and ordered its implementation. Watermaster has implemented the MZ-1 Plan since that time, including the ongoing Ground-Level Monitoring Program called for by the MZ-1 Plan (refer to in Program Element 1).

Program Element 4: Develop and Implement a Comprehensive Groundwater Management Plan for Management Zone 1 (Continued)

The MZ-1 Plan states that if data from existing monitoring efforts in the so-called Areas of Subsidence Concern indicate the potential for adverse impacts due to subsidence, Watermaster will revise the MZ-1 Plan pursuant to the process outlined in Section 3 of the MZ-1 Plan. In early 2015, Watermaster prepared an update to the MZ-1 Plan, which included a name change to the *2015 Chino Basin Subsidence Management Plan*, and a *Work Plan to Develop the Subsidence Management Plan for Northwest MZ-1* (Work Plan) as an appendix. The Chino Basin Subsidence Management Plan and the Work Plan were adopted through the Watermaster Pool process in July 2015.

The data, analysis, and reports generated through the implementation of the MZ-1 Plan, Chino Basin Subsidence Management Plan, and Work Plan are reviewed and discussed by the GLMC, which meets on a periodic basis throughout the year. The GLMC is open to all interested participants, including the Watermaster Parties and their consultants. During this reporting period, Watermaster undertook the following data analysis and reporting tasks:

- Finalized the technical memorandum: *1D Model Simulation of Subsidence in Northwest MZ—Subsidence Management Alternative #1*. This work was performed to understand the potential future rates of subsidence in Northwest MZ-1 through 2050 under the pumping/recharge plans of the parties as simulated for the 2020 Safe Yield Reset. The recommendation from this work is that Watermaster should establish a "Northwest MZ-1 Guidance Level" of 630 ft above-mean sea level (amsl) for hydraulic heads in Layers 3 and 5 at the PX location. The Guidance Level approximates the current and projected heads in Layer 1 where the current and projected rates of compaction are the lowest. The Guidance Level would be an aspirational Watermaster recommendation that, if achieved, would likely slow the rates of compaction and subsidence to more tolerable levels over time.
- Began work in preparing figures and tables for the *2023-24 Annual Report for the Ground-Level Monitoring Program*.
- Prepared draft and final technical memoranda on the *Recommended Scope and Budget for the GLMP for FY 2024/25*. This memorandum was prepared with input from the GLMC and was used to inform the Watermaster's budgeting process for FY 2024-25.
- Prepared draft and final technical memoranda on the *Locations and Data for the Construction and Calibration of Additional 1D Compaction Models*. This memorandum was prepared with input from the GLMC. These new 1D Models will be used to estimate the potential for future land subsidence associated with future projections of pumping and recharge in the Chino Basin, such as in future Safe Yield resets and reevaluations.
- Began work on constructing and calibrating the new 1D Models.

One GLMC meeting was conducted during the reporting period on March 7, 2024. The meeting presentation and agenda packet were posted to the Watermaster's website. The meeting agenda included:

- Responses to GLMC Comments: *1D Model Simulation of Subsidence in Northwest MZ-1—Subsidence Management Alternative #1*.
- Draft Technical Memorandum: *Proposed Locations and Data for Construction and Calibration of Additional 1D Models*.
- Draft Technical Memorandum: *Recommended Scope of Work and Budget for the Ground Level Monitoring Program for Fiscal Year 2024/25*.

Program Element 6: Develop and Implement Cooperative Programs with the Regional Water Quality Control Board, Santa Ana Region and Other Agencies to Improve Basin Management

Program Elements 6 and 7 are necessary to address the water quality management problems in the Chino Basin. During the development of the OBMP, it was identified that Watermaster did not have sufficient information to determine whether point and non-point sources of groundwater contamination were being adequately addressed, including the various Chino Basin contaminant plumes. With the Santa Ana Water Board and other agencies, Watermaster has worked to address the following major point source contaminant plumes in the Chino Basin:

South Archibald Plume

In July 2005, the Santa Ana Water Board prepared draft Cleanup and Abatement Orders (CAOs) for six parties who were tenants on the Ontario Airport regarding the South Archibald Trichloroethene (TCE) Plume in the southern portion of the Chino Basin. The draft

Program Element 6: Develop and Implement Cooperative Programs with the Regional Water Quality Control Board, Santa Ana Region and Other Agencies to Improve Basin Management (Continued)

CAOs required the parties to "submit a work plan and time schedule to further define the lateral and vertical extent of the TCE and related VOCs that are discharging, have been discharged, or threaten to be discharged from the site" and to "submit a detailed remedial action plan, including an implementation schedule, to cleanup or abate the effects of the TCE and related VOCs." Four of the six parties (Aerojet-General Corporation, The Boeing Company, General Electric, and Lockheed Martin) voluntarily formed a group known as ABGL to work jointly on a remedial investigation. Northrop Grumman declined to participate in the group. The US Air Force, in cooperation with the US Army Corps of Engineers, funded the installation of one of the four clusters of monitoring wells installed by the ABGL Parties.

In 2008, Santa Ana Water Board staff conducted research pertaining to the likely source of the TCE contamination and identified discharges of wastewater that may have contained TCE to the RP-1 treatment plant and associated disposal areas as a potential source. The Santa Ana Water Board identified several industries, including some previously identified tenants of the Ontario Airport property, that likely used TCE solvents before and during the early-1970s, and discharged wastes to the Cities of Ontario and Upland's sewage systems and subsequently to the RP-1 treatment plant and disposal areas. In 2012, an additional Draft CAO was issued by the Santa Ana Water Board jointly to the City of Ontario, City of Upland, and IEUA as the previous and current operators of the RP-1 treatment plant and disposal area (collectively, the RP-1 Parties). In part, the draft CAOs required that RP-1 Parties "supply uninterrupted replacement water service […] to all residences south of Riverside Drive that are served by private domestic wells at which TCE has been detected at concentrations at or exceeding 5 µg/L […]" and to report this information to the Santa Ana Water Board. In addition, the RP-1 Parties are to "prepare and submit [a] […] feasibility study" and "prepare, submit and implement the Remedial Action Plan" to mitigate the "effects of the TCE groundwater plume."

Under the Santa Ana Water Board's oversight, the ABGL Parties and/or the RP-1 Parties conducted four sampling events at private residential wells and taps between 2007 and 2014 in the region where groundwater is potentially contaminated with TCE. By 2014, all private wells and/or taps in the region of the plume had been sampled at least once. Alternative water systems (tanks) have been installed at residences in the area where well or tap water contains TCE at or above 80 percent of the maximum contaminant level (MCL) of 5 µg/L. Watermaster has also been sampling at the private wells.

In July 2015, the RP-1 Parties completed the Draft Feasibility Study Report for the South Archibald Plume (Feasibility Study). The Feasibility Study established cleanup objectives for both domestic water supply and plume remediation and evaluated alternatives to accomplish these objectives. In November 2015, a revised Draft Feasibility Study, Remedial Action Plan, and Responses to Comments were completed to address input from the public, the ABGL, and others. In September 2016, the Santa Ana Water Board issued the Final CAO R8-2016-0016 collectively to the RP-1 Parties and the ABGL Parties. The Final CAO was adopted by all parties in November 2016, thus approving the preferred plume remediation and domestic water supply alternatives identified in the Remedial Action Plan. The parties also reached a settlement agreement that aligns with the Final CAO and authorizes funding to initiate implementation of the plume remediation alternative.

The plume remediation alternative involves the use of CDA production wells and facilities. The RP-1 Parties reached a Joint Facility Development Agreement with the CDA for the implementation of a project designed in part to remediate the South Archibald Plume. The project, termed the Chino Basin Improvement and Groundwater Clean-up Project, includes the operation of three newly constructed CDA wells (II-10, II-11, and II-12) and a dedicated pipeline connecting the three wells and the existing CDA well I-11 to the Desalter II treatment facility. It also includes the addition of an air stripping system at the treatment facility to remove TCE and other VOCs. Construction of two of the three wells (II-10 and II-11) were completed and became operational in 2018 and construction of an onsite monitoring well near the proposed location of CDA well II-12 (II-MW-3) was completed in 2019. The construction of well II-12 was completed in November 2020. In the first half of 2021, the RP-1 Parties and the CDA submitted the final *Monitoring and Reporting Plan for the Chino Basin Improvement and Groundwater Clean-up Project* to the Santa Ana Water Board and completed the construction of five multi-depth monitoring wells at two locations in the South Archibald Plume (II-MW-4 and II-MW-5). In 2021, the CDA completed the equipping of well II-12, the modification to the decarbonator, and the construction of the raw water pipeline, and the project became operational in August of 2021. The Monitoring and Reporting plan stipulates ongoing quarterly sampling at the CDA production and monitoring wells within and near the plume and at nearby agency-owned wells.

The domestic water supply alternative for the private residences affected by TCE groundwater contamination is a hybrid between the installation of tank systems for some residences, where water is delivered from the City of Ontario potable supply via truck deliveries, and the installation of a temporary pipeline to connect some residences to the City of Ontario potable water system. Residences without a tank system or pipeline connection receive bottled water. The Cities of Ontario and Upland have assumed responsibility for implementing the domestic water supply alternative. In February 2017, the Cities of Ontario and Upland submitted the Domestic Water Supply Work Plan to the Santa Ana Water Board to outline the approach to monitoring and supplying alternative water

Program Element 6: Develop and Implement Cooperative Programs with the Regional Water Quality Control Board, Santa Ana Region and Other Agencies to Improve Basin Management (Continued)

supplies for affected residences. The City of Ontario will continue to monitor for potentially affected residences to ensure that an alternative water supply is offered and provided to any residences with TCE concentrations greater than 80% of the MCL for TCE. During the last reporting period the City of Ontario completed the annual water supply sampling event at private residences pursuant to the Domestic Water Supply Plan and prepared and submitted an annual monitoring report of the results to the Santa Ana Water Board in December 2023. As of the end of 2023, there are 30 affected residences that are being supplied water by tank systems, and five affected residences that remain on bottled water. There was no sampling for the domestic water supply alternative during this reporting period.

Watermaster delineates the spatial extent of the plume using data collected from their own sampling at private wells in the area and data collected as part of their data collection program. Watermaster completed its most recent characterization of the plume in June 2023 for the 2022 Chino Basin OBMP State of the Basin Report. In April of this reporting period, Watermaster prepared a semi-annual status report on the South Archibald Plume for Watermaster Parties.

Chino Airport Plume

In 1990, the Santa Ana Water Board issued CAO No. 90-134 to the County of San Bernardino, Department of Airports (County) to address groundwater contamination originating from Chino Airport. During 1991 to 1992, ten underground storage tanks and 310 containers of hazardous waste were removed, and 81 soil borings were drilled and sampled on the airport property. From 2003 to 2005, nine onsite monitoring wells were installed and used to collect groundwater quality samples. In 2007, the County conducted its first offsite monitoring effort, and in 2008, the Santa Ana Water Board issued CAO No. R8-2008-0064, requiring the County to define the lateral and vertical extent of the plume and prepare a remedial action plan. From 2009 to 2015, Tetra Tech, consultant to the County, constructed 66 monitoring wells and conducted several off-site and on-site plume characterization studies to delineate the areal and vertical extent of the plume and determined that there were both east and west TCE and 1,2,3-TCP plumes.. In August 2016, the County completed a Draft Feasibility Study to identify remedial action objectives and evaluate remediation alternatives for mitigation. In January 2017, the Santa Ana Water Board issued CAO R8-2017-0011, which requires the County to prepare a Final Feasibility Study that incorporates comments from the Santa Ana Water Board and to prepare, submit, and implement a Remedial Action Plan. The County submitted a Final Feasibility Study on June 6, 2017, and it was approved by the Santa Ana Water Board on June 7, 2017. On December 18, 2017, the County submitted the *Draft Interim Remedial Action Plan* with the remediation alternative of a groundwater pump-and-treat system to provide hydraulic containment and treatment of the Chino Airport plumes. The system consists of ten extraction wells that will produce approximately 1,700 gallons per minute along with groundwater produced from CDA's I-16 through I-18. CDA's I-20 and I-21 will be added to the system as needed. The groundwater extracted will be conveyed to a new granular activated carbon (GAC) system constructed by the CDA and funded by the County (South GAC System). An additional treatment system (North GAC System) constructed by CDA treats water from four CDA wells (I-I through I-4) that produce from the lower aquifer in the plume; however, this system is not associated with the County's remedial action. Once treated at the South GAC system, water will be conveyed to the existing Chino I Desalter that uses reverse osmosis and ion exchange to treat for nitrate and TDS and will be discharged for use as potable municipal water supply.

Since 2018, the County constructed five extraction wells, 12 piezometers, and 14 monitoring wells to assist with the design for the remedial solution and delineation of the plumes. In 2022, the County completed the final *Remedial Action Work Plan* which divides the construction of the pump and treat system into two phases. The first Phase (1) is in progress and includes the construction of the onsite extraction wells, conveyance pipeline, and additional monitoring wells. From July to December 2023, the remaining onsite extraction wells were constructed and construction of the conveyance pipeline begin during this reporting period in March 2024 with the final construction expected to be complete by July 2024. The remainder of Phase 1 should be completed by 2025. Phase 2 is expected to commence in 2025 with the construction of the offsite extraction wells. In April 2023, CDA wells I-17 (offline for 5 years) and I-18 (never been online) within the Chino Airport plume began pumping and conveyed groundwater for treatment at the South GAC System. The North GAC System began operation in April 2023. During this reporting period in June 2024, the County submitted the Groundwater Extraction and Treatment System Monitoring and Reporting Plan to the Santa Ana Water Board which outlines the monitoring and reporting that will be performed to meet the requirements of CAO R8-2017-0011 for implementation of the remedial action. This plan includes quarterly Remedial Action Operation and Monitoring Reports.

Watermaster has commitments to this area within the vicinity of the Chino Airport to maintain Hydraulic Control and to avoid impacts to the groundwater dependent riparian habitat in the Prado Basin, and in 2018 Watermaster used the Chino Basin groundwater flow model to analyze how increased groundwater production for the remedial solution will affect groundwater levels within the vicinity. Watermaster completed the modeling and prepared a technical memorandum to describe the results, which concluded that operation

Program Element 6: Develop and Implement Cooperative Programs with the Regional Water Quality Control Board, Santa Ana Region and Other Agencies to Improve Basin Management (Continued)

of the remedial solution would improve Hydraulic Control in this area. In January 2022, the County completed construction of six piezometers near the riparian habitat along Chino Creek and initiated monitoring of groundwater levels for potential impacts from pumping at the remedial solution.

The County conducts quarterly and/or annual monitoring events at all 89 of their monitoring wells constructed to date, as well as four onsite agricultural wells. The conclusions from this monitoring program can be found in reports posted on the State Water Board's GeoTracker website. The most recent monitoring report submitted to the Santa Ana Water Board is the *Semiannual Groundwater Monitoring Report Summer and Fall 2023 Chino Airport, San Bernardino County, California*, which was submitted to the Santa Ana Water Board during this reporting period in April 2024 and presents the results from the July 2023 and October 2023 sampling events. Watermaster also samples for water quality at private and monitoring wells in the area and uses this and other data obtained from its data collection programs to independently delineate the spatial extent of the plumes. In June 2023, Watermaster completed its most recent characterization of the plumes for the *2022 Chino Basin OBMP State of the Basin Report*. In April of this reporting period, Watermaster prepared a semi-annual status report on the Chino Airport Plume for Watermaster Parties.

Other Plumes

Watermaster continues to track the monitoring programs and mitigation measures associated with other point sources in the Chino Basin, including: Alumax Aluminum Recycling, Alger Manufacturing Facility, the Former Crown Coach Facility, General Electric Test Cell and Flatiron, Former Kaiser Steel Mill, Milliken Landfill, Upland Landfill, and the Stringfellow National Priorities List sites. In October 2023 Watermaster prepared the most recent annual status reports for the GE Test Cell, GE Flatiron, Milliken Landfill, California Institution for Men, Stringfellow Plumes, and the former Kaiser Steel Mill site. The most current Watermaster delineations of the extent of these plumes were completed in June 2023 for the 2022 Chino Basin OBMP State of the Basin Report.

Water Quality Management Program

Through the collaborative stakeholder process to update the OBMP in 2020 (see 2020 OBMP Update section of this report), the parties identified a new management action under PE 6 to develop a Water Quality Management Program that addresses contaminants of emerging regulations of concern to better prepare the parties for addressing compliance with new State and Federal drinking water regulations, and provide for the long-term maximum beneficial use of the basin. It was identified that reconvening the Water Quality Committee (WQC) that met historically from 2003 to 2010 to implement PE 6 of the 2000 OBMP would be the ideal approach to guide the development and implementation of the WQMP. Watermaster held a kick-off meeting in October 2023 to reconvene the WQC. . During this reporting period two WQC meetings were conducted on January 31, 2024 and May 2, 2024. The January 2024 meeting attendees were asked to provide feedback on an initial Emerging Contaminants Monitoring Plan, and a framework and scope for a WQMP. The May 2024 meeting attendees provided feedback on the final ECMP for voluntary monitoring during fiscal year 2024/25.

Program Element 7: Develop and Implement a Salt Management Program

Maximum Benefit Salt and Nutrient Management Plan

In January 2004, the Santa Ana Water Board amended the Basin Plan to incorporate an updated TDS and nitrogen (N) management plan. The Basin Plan amendment includes both "antidegradation" and "maximum-benefit" objectives for TDS and nitrate as N (nitrogen) for the Chino-North and Cucamonga groundwater management zones (GMZs). The maximum-benefit objectives allow for recycled water reuse and recharge of recycled and imported waters without the immediate need for mitigation; these activities are an integral part of the OBMP. The application of the maximum-benefit objectives is contingent on the implementation of specific projects and requirements termed the maximum-benefit commitments by Watermaster and IEUA. The status of compliance with each commitment is reported to the Santa Ana Water Board annually in April. The nine maximum-benefit commitments include:

1. The development and implementation of a surface water monitoring program.
2. The development and implementation of a groundwater monitoring program.
3. The expansion of the Chino I Desalter to a capacity of 10 MGD and the construction of the Chino II Desalter with a design capacity of 10 MGD.
4. The additional expansion of desalter capacity (to 40 MGD) pursuant to the OBMP and the Peace Agreement (tied to the IEUA's agency-wide effluent TDS concentration).

Program Element 7: Develop and Implement a Salt Management Program (Continued)

5. The completion of the recharge facilities included in the Chino Basin Facilities Improvement Program.
6. The management of recycled water quality to ensure that the IEUA agency-wide, 12-month volume-weighted running average TDS and TIN concentrations do not exceed 550 mgl and 8 mgl, respectively.
7. The management of basin-wide, volume-weighted TDS and nitrogen concentrations in artificial recharge to less than or equal to the maximum-benefit objectives of 420 mgl and 5 mgl, respectively, on a five-year volume-weighted basis.
8. The achievement and maintenance of the "Hydraulic Control" of groundwater outflow from the Chino-North GMZ to protect Santa Ana River water quality and downstream beneficial uses.
9. The determination of ambient TDS and nitrate concentrations of Chino Basin groundwater every three years.

Filtration System at the CDA II Treatment Facility

Monitoring Programs. Pursuant to maximum-benefit commitment numbers 1 and 2, Watermaster and the IEUA submitted a surface water and groundwater monitoring program work plan to the Santa Ana Water Board in May 2004. On April 15, 2005, the Santa Ana Water Board adopted resolution R8-2005-0064, approving Watermaster and the IEUA's surface and groundwater monitoring programs (2005 Work Plan). These monitoring programs were implemented pursuant to the 2005 Work Plan from 2004 to 2012. On February 12, 2012, the Santa Ana Water Board adopted an amendment to the Basin Plan to remove all references to the specific monitoring locations and sampling frequencies required for groundwater and surface water monitoring. The Basin Plan amendment allows the monitoring programs to be modified over time, subject to the approval of the Executive Officer of the Santa Ana Water Board. On December 6, 2012, the State Office of Administrative Law finalized the approval of the Basin Plan amendment. In place of specific monitoring requirements, the Basin Plan amendment required that Watermaster and the IEUA submit (i) a new surface water monitoring program work plan by February 25, 2012, and (ii) a new groundwater monitoring program work plan by December 31, 2013 to the Santa Ana Water Board for approval. Pursuant to (i), Watermaster and the IEUA submitted the *2012 Hydraulic Control Monitoring Program Work Plan*, which was approved by the Santa Ana Water Board in March 2012. Pursuant to (ii), Watermaster and the IEUA submitted the *2014 Maximum-Benefit Monitoring Program Work Plan* (2014 Work Plan) which was approved by the Santa Ana Water Board in April 2014. The 2014 Workplan describes the questions to be answered by the monitoring program, the methods that will be employed to address each question, the monitoring and data collection that will be performed to implement the methods, and a reporting schedule. The monitoring pursuant to the 2014 Work Plan is incorporated as part of the groundwater level, groundwater quality, and surface water monitoring programs described in Program Element 1. During this reporting period, Watermaster continued to implement the monitoring programs (see Program Element 1 for details).

Hydraulic Control and Chino Basin Desalters. Pursuant to maximum-benefit commitment number 8, to achieve and maintain Hydraulic Control, the Chino Basin Desalters were expanded (maximum-benefit commitments numbers 3 and 4) to increase production in the southern portion of the Chino Basin. The Chino Basin Desalters are designed to replace the decreased agricultural production that previously prevented the outflow of high TDS and nitrate groundwater to the Santa Ana River and the Prado Basin surface water management zone (PBMZ). Hydraulic Control is defined in the Basin Plan as the elimination of groundwater discharge from the Chino-North GMZ to the Santa Ana River to a *de minimis* level. Pursuant to commitment number 8, Watermaster and the IEUA submitted a mitigation plan (2005 Mitigation Plan) to the Santa Ana Water Board in March 2005. This plan demonstrated how Watermaster and the IEUA would address the mitigation for any temporary loss of Hydraulic Control. In October 2011, the Santa Ana Water Board defined the *de minimis* discharge of groundwater from the Chino-North GMZ to the PBMZ as 1,000 acre-feet per year or less. The construction and operation of the Chino Creek Well Field (CCWF) in the west (wells I-16, I-17, I-18, I-20, and I-21) is intended to achieve Hydraulic Control, per the definition above, at the area west of Chino I Desalter Well 5. The CCWF began full operation in 2016. Watermaster and the IEUA recalibrate the Chino Basin groundwater-flow model every five years to estimate groundwater discharge from the Chino-North GMZ to the PBMZ (i.e., annual underflow past the CCWF) to determine whether Hydraulic Control has been achieved in the west. Watermaster and the IEUA have demonstrated that complete Hydraulic Control has been achieved at and east of Chino I Desalter Well 20, based on groundwater elevation contour analyses, and underflow past the CCWF is below the de minimis level of 1,000 acre-feet per year based on the model analyses.

Program Element 7: Develop and Implement a Salt Management Program (Continued)

In February 2016, the CCWF commenced full-scale operation with production at wells I-16, I-17, I-20, and I-21 to achieve and maintain Hydraulic Control at the area west of Chino I Desalter Well 5. Production at the CCWF has decreased since 2017 as a result of the new MCL for 1,2,3-TCP, which required Well I-17 to cease operation until April 2023, when it was restarted with additional treatment. In 2020, the Chino Basin groundwater-flow model was used to estimate the historical (fiscal year 2004-2018) and projected (fiscal year 2019-2050) volume of groundwater discharge past the CCWF under revised pumping conditions at the CCWF. The model results indicate that both the estimated historical and projected discharge past the CCWF area are always below the *de minimis* threshold level of 1,000 acre-feet per year. The model assumes an annual average pumping volume at the CCWF of 992 acre-feet per year from fiscal year 2019 through 2050.

Future agricultural groundwater production in the southern part of the basin is expected to continue to decline, necessitating future expansion of the desalters to sustain Hydraulic Control. In a letter dated January 23, 2014, the Santa Ana Water Board required that Watermaster and the IEUA submit a plan detailing how Hydraulic Control will be sustained in the future as agricultural production in the southern region of Chino-North continues to decrease—specifically, how the Chino Basin Desalters will achieve the required total groundwater production level of 40,000 acre-feet per year. On June 30, 2015, Watermaster and the IEUA submitted a final plan and schedule for the construction and operation of three new desalter wells (II-10, II-11, and II-12). Well II-10 and II-11 were constructed and began operation in mid-2018, and Well II-12 was constructed in 2020 and began operation in mid-2021. The Chino Basin Desalters officially reached the pumping capacity necessary to meet the 40,000 acre-feet per year required for Hydraulic Control in June 2020. This pumping capacity was achieved without the inclusion of Well II-12, which was operational in August 2021 and was part of the final expansion plan designed to meet the 40,000 acre-feet per year. A full status report on the desalter expansion facilities is described in Program Element 3.

Watermaster prepared an update to the 2005 Mitigation Plan to formally revise the (i) plan and schedule for the mitigation of any temporary loss of Hydraulic Control, (ii) definition of the required minimum pumping at the CCWF to maintain outflows from the Chino-North GMZ to the PBMZ to *de minimis* level, and (iii) definition of operational flexibility around the 40,000 acre-feet per year requirement for the aggregate pumping at the CDA facilities. The draft updated mitigation plan was submitted to the Santa Ana Water Board on June 30, 2022. Following input from the Santa Ana Water Board staff, Watermaster, IEUA, and CDA submitted the final mitigation plan to the Santa Ana Water Board on December 11, 2023. The updated mitigation plan removed the definition of the minimum pumping requirement at the CCWF to maintain Hydraulic Control, provided definition of operational flexibility for desalter production fluctuations on the order of plus or minus 2,100 acre-feet a year that maintain a five-year average pumping of about 40,000 acre-feet a year, and updated protocol for mitigation of temporary loss of Hydraulic Control.

Recycled Water Quality. Pursuant to the maximum-benefit commitment number 6, Watermaster and the IEUA manage the recycled water quality to ensure that the 12-month volume-weighted running average IEUA agency-wide, wastewater effluent quality does not exceed the permit limits of 550 mgl and 8 mgl for TDS and TIN, respectively. Additionally, Watermaster and the IEUA must submit a plan and schedule to the Santa Ana Water Board for the implementation of measures to ensure long-term compliance with these permit limits when either the 12-month volume-weighted running average IEUA agency-wide effluent TDS concentration exceeds 545 mgl for three consecutive months or the TIN concentration exceeds 8 mgl in any one month (action limits). The IEUA calculates and reports the 12-month volume-weighted running average agency-wide effluent TDS and TIN concentrations in the *Groundwater Recharge Program Quarterly Monitoring Reports*.

Since the initiation of recycled water recharge in July 2005, the 12-month running average TDS and TIN concentrations have ranged between 456 and 534 mgl and 3.8 and 7.6 mgl, respectively, and have never exceeded the permit limits. During the statewide drought in mid-2015, a historical high 12-month running average IEUA agency-wide effluent TDS concentration of 534 mgl was calculated for three consecutive months: June, July, and August. This 12-month running average IEUA agency-wide effluent TDS concentration of 534 mgl was only 11 mgl below the action limit. The 12-month running average agency-wide TDS concentration has decreased since mid-2015. As of June 2024, the 12-month running average IEUA agency-wide effluent TDS concentration was 468 mgl.

Through analysis of water supply and wastewater data, Watermaster and the IEUA concluded that drought conditions have a meaningful impact on the short-term TDS concentration of the water supplies available to IEUA agencies and that future droughts similar to the 2012-2016 period could lead to short-term exceedances of the 12-month running average IEUA agency-wide effluent TDS concentration. For this reason, in October 2016, Watermaster and the IEUA petitioned the Santa Ana Water Board to consider modifying the TDS compliance metric for recycled water to a longer-term averaging period. The Santa Ana Water Board agreed that an evaluation of the compliance metric was warranted and directed Watermaster and the IEUA to develop a technical scope of work to support the adoption of a longer-term averaging period for incorporation into the Basin Plan. The proposed technical scope

Program Element 7: Develop and Implement a Salt Management Program (Continued)

of work to support a Basin Plan amendment to revise the recycled water compliance metric was submitted to the Santa Ana Water Board in May 2017. The proposed scope of work which was approved by the Santa Ana Water Board includes the following tasks:

- Develop numerical modeling tools (R4, Hydrus 2D, MODFLOW, MT3D) to evaluate the projected TDS and nitrate concentrations of the Chino Basin.
- Define a baseline (status-quo) scenario and evaluate it with the new modeling tools.
- Define salinity management planning scenarios and evaluate them with the new modeling tools to compare the projected TDS and nitrate concentrations against the baseline scenario.
- Use the results to develop a draft regulatory compliance strategy that includes a longer-term average period for recycled water TDS concentrations.
- Collaborate with the Santa Ana Water Board to review and finalize the regulatory strategy.
- Support the Santa Ana Water Board in the preparation of a Basin Plan amendment upon approval of the regulatory strategy.

Watermaster and the IEUA began implementing the scope of work in July 2017 and worked collaboratively with the Santa Ana Water Board staff to review interim work products. In December 2021, Watermaster and the IEUA completed and submitted the documentation of the technical work, *Total Dissolved Solids and Nitrate Concentrations Projections for the Chino Basin*, to the Santa Ana Water Board. Watermaster and the IEUA presented the technical work and received approval from the Santa Ana Water Board staff in July 2022 to proceed with the work to amend the Basin Plan. Specifically, the amendment to the Basin Plan will, in part, modify the TDS compliance metrics and action limit for IEUA's recycled water supply under maximum-benefit commitment number 6 to a 10-year volume-weighted running average of the agency-wide supply.

During this reporting period, Watermaster and the IEUA provided support to the Santa Ana Water Board staff on the Basin Plan amendment, including preparing documents to comply with California Environmental Quality Act (CEQA) and other requirements needed to amend the Basin Plan.

Recycled Water Recharge. Pursuant to the maximum-benefit commitment number 5, Watermaster and the IEUA completed the construction of the recharge facilities and began artificial recharge of stormwater and recycled water in the Chino Basin in 2005. Additionally, pursuant to maximum-benefit commitment number 7, Watermaster and the IEUA limit recycled water for artificial recharge to the amount that can be blended on a volume-weighted basis with other sources of recharge to achieve five-year running average concentrations of no more than the maximum-benefit objectives (420 and 5 mgl for TDS and nitrate, respectively). This data is analyzed and reported to the Santa Ana Water Board annually in April . During this reporting period, Watermaster and the IEUA continued their monitoring programs to collect the data required for analysis and reporting to the Santa Ana Water Board. Since recycled water recharge began in July 2005, the five-year volume-weighted running average TDS and nitrate concentrations have ranged from 203 to 354 mgl and from 1.1 to 3.0 mgl, respectively, and have never exceeded the maximum-benefit objectives. As of December 2023,, the five-year volume-weighted running average TDS and nitrate concentrations of these three recharge sources were 265 and 1.4 mgl respectively.

As part of the Basin Plan amendment, the TDS and nitrate compliance metrics for the artificial recharge under maximum-benefit commitment number 5 are proposed to be modified to 10-year volume-weighted running average. During this reporting period, Watermaster and the IEUA continued to provide support to the Santa Ana Water Board staff for the Basin Plan amendment.

Ambient Groundwater Quality. Pursuant to the maximum-benefit commitment number 9, Watermaster and the IEUA are required to recompute the current ambient TDS and nitrate concentrations for the Chino Basin and Cucamonga GMZs every three years (due by June 30). The re-computation of ambient water quality is performed for the entire Santa Ana River Watershed, and the technical work is contracted, managed, and directed by the Santa Ana Watershed Project Authority's (SAWPA's) Basin Monitoring Program Task Force (Task Force). Watermaster and the IEUA have participated in each watershed-wide ambient water quality computation as members of the Task Force.

The most recent ambient water quality, which covers the 20-year period of 2002 to 2021 (2021 ambient water quality), was completed by the Task Force in October 2023. As part of this computation, Watermaster and the IEUA provided requested groundwater quality data, inputs on interim findings, and reviewed draft documentation to support the computation of the 2021

Program Element 7: Develop and Implement a Salt Management Program (Continued)

ambient water quality. Pursuant to the 2021 Basin Plan Amendment (R8-2021-0025), the Task Force is required to recompute the current ambient water quality every five years after October 1, 2023. The Santa Ana Water Board is currently preparing an amendment to the Basin Plan to ensure that the ambient water quality computation for GMZs with maximum-benefit Salt and Nutrient Management Plans is consistent with the schedule defined in the 2021 Basin Plan Amendment.

Program Element 8: Develop and Implement a Groundwater Storage Management Program; and Program Element 9: Develop and Implement a Storage and Recovery Program

Groundwater storage is critical to the Chino Basin stakeholders. The OBMP outlines Watermaster's commitments to investigate the technical and management implications of Local Storage Agreements, improve related policies and procedures, and then revisit all pending Local Storage Agreement applications.

The existing Watermaster/IEUA/MWDSC/Three Valleys Municipal Water District Dry-Year Yield (DYY) program was initiated in the early 2000's and is the only Storage and Recovery Program that is being implemented in the Chino Basin. By April 30, 2011, all DYY program construction projects and a full "put" and "take" cycle had been completed, leaving the DYY storage account with a zero balance. Another DYY cycle began in June 2017 and was completed in June 2022. In response to the heavy precipitation in early 2023, MWDSC began recharging imported water in the Chino Basin in spring 2023. During the reporting period, MWDSC recharged about 6,086 acre-feet of imported water in the Chino Basin through the DYY program.

Safe Yield Recalculation

The Basin's Safe Yield was initially set by the Judgment at 140,000 acre-feet per year. The Safe Yield was based on the hydrology for the period of 1965 through 1974. Pursuant to the Judgment, the Chino Basin Safe Yield is to be recalculated periodically but not for at least ten years following 1978.

Pursuant to the OBMP Implementation Plan and Watermaster's Rules and Regulations, in fiscal year 2010/11 and every ten years thereafter, Watermaster is to recalculate the Safe Yield. The 2011 Safe Yield recalculation began in 2011 and after significant technical and legal process, on April 28, 2017, the Court issued a final order (2017 Court Order), resetting the Safe Yield to 135,000 acre-feet per year effective July 1, 2010.

In July 2018, Watermaster's Engineer began the technical work necessary for the Safe Yield recalculation for 2020 pursuant to the OBMP Implementation Plan using the approved methodology in the 2017 Court Order. After substantial technical process and stakeholder engagement, the Watermaster Board adopted recommendations to the Court to update the Safe Yield for the period 2021 through 2030 to 131,000 acre-feet per year. In July 2020, the Court approved Watermaster's recommendation and reset the Safe Yield to 131,000 acre-feet per year for the period commencing on July 1, 2020 and ending on June 30, 2030.

The 2017 Court Order i) requires that the Safe Yield be reevaluated no later than June 30, 2025, ii) allows for supplementation of the current Safe Yield Reset methodology, and iii) requires annual collection and evaluation of data regarding cultural conditions of the Chino Basin. The annual data collection and evaluation process includes determining whether "there has been or will be a material change from existing and projected conditions or threatened undesirable results" as compared to the conditions evaluated in the 2020 Safe Yield Recalculation. If evaluation of the data suggests that any of these criteria are met, then Watermaster's Engineer is required to undertake "a more significant evaluation" to model the impacts of the existing and projected cultural conditions on the Chino Basin.

In 2022, Watermaster's Engineer completed a process to supplement the current Safe Yield Reset methodology to address comments received during the peer review process of the 2020 Safe Yield recalculation regarding uncertainty in the groundwater model and the data used in future projections. As a result of this process, which was supported by extensive peer review, Watermaster submitted an updated Safe Yield Reset methodology (2022 Safe Yield Reset methodology) to the Court. The Court approved the 2022 Safe Yield Reset methodology in December 2022.

During this reporting period, Watermaster's Engineer continued the annual data collection and evaluation process covering the period through fiscal year 2022/23 and continued the process to reevaluate the Safe Yield of the Chino Basin for the period of fiscal year 2021 through 2030 (the 2025 Safe Yield Reevaluation). The 2025 Safe Yield Reevaluation process includes updating Watermaster's groundwater-flow model and implementing the 2022 Safe Yield Reset methodology. Watermaster hosted three workshops during the reporting period to gather stakeholder and peer review input to support the 2025 Safe Yield Reevaluation.

Program Element 8: Develop and Implement a Groundwater Storage Management Program; and Program Element 9: Develop and Implement a Storage and Recovery Program (Continued)

Groundwater Storage Management

Addendum to PEIR. The original OBMP storage management program consists of managing groundwater production, replenishment, recharge, and storage such that the total storage within the basin lies within the range known as the Safe Storage Capacity (SSC), which is the difference between the Safe Storage[3] and the Operational Storage Requirement[4]. The allocation and use of storage space in excess of the Safe Storage Capacity will preemptively require mitigation: mitigation must be defined, and resources must be committed to mitigation prior to allocation and use.

Water occupying the SSC includes Local Storage Account Water, Carryover Water, and water anticipated to be stored in future groundwater Storage and Recovery programs. This storage management program was evaluated in the OBMP programmatic environmental impact report (PEIR) in 2000.

After the OBMP PEIR, Watermaster and the Watermaster Parties revised the OBMP based on new monitoring and borehole data collected since 1998, an improved hydrogeologic conceptualization of the basin, new numerical models that have improved the understanding of basin hydrology since 2000, and the need to expand the Chino Basin Desalters (desalters) to the 40,000 acre-feet per year of groundwater production required in the OBMP Implementation Plan. These investigations included a recalculation of the total water in storage in the basin, based on the improved hydrogeologic understanding. The total storage in the Chino Basin for 2000 was estimated to be about 5.9 million acre-feet[5], about 100,000 acre-feet greater than the estimated Safe Storage at the time.

The Watermaster Parties negotiated the Peace II Agreement to implement, among other things, the expansion of the desalters, the dedication of 400,000 acre-feet of groundwater in storage to desalter replenishment (i.e., approved overdraft), and changes in the Judgment to implement the Peace II Agreement. However, the storage management plan was not changed in light of the approved overdraft and the fact that the estimated storage in the basin exceeded the Safe Storage. The IEUA completed and subsequently adopted a supplemental environmental impact report for the Peace II Agreement in 2010.

As basin storage continued to grow following the implementation of the desalters and the Peace II Agreement, Watermaster and the IEUA proposed a temporary increase in the Safe Storage Capacity, which was analyzed through an addendum to the 2000 PEIR. On March 15, 2017, the IEUA adopted an addendum to the 2000 PEIR, increasing the Safe Storage Capacity from 500,000 acre-feet to 600,000 acre-feet for the period July 1, 2017 through June 30, 2021. This temporary increase in Safe Storage Capacity was found to not cause material physical injury (MPI) and/or loss of Hydraulic Control, and it provided Watermaster, with assistance from the Parties, time to develop a new storage management plan and agreements to implement it.

2020 Storage Management Plan. In 2019, Watermaster initiated a process with the Watermaster Parties and Board to develop the 2020 Storage Management Plan (2020 SMP) that would update the SMP currently included in the OBMP implementation plan. In that effort, Watermaster prepared a white paper that outlined the need and requirements of the 2020 SMP and presented it to the Watermaster Parties and other interested stakeholders in June 2019. This work built upon the findings of the 2018 Storage Framework Investigation, where Watermaster's Engineer evaluated the use of storage space in the range of 700,000 acre-feet to 1,000,000 acre-feet for potential Storage and Recovery programs. Watermaster and its Engineer published a final SMP report on December 19, 2019. This report was included in the 2020 OBMP Update Report, which the Watermaster Board adopted in full in October 2020. The SMP may be incorporated into the implementation plan for the 2020 OBMP Update.

Local Storage Limitation Solution. The temporary increase in Safe Storage Capacity to 600,000 acre-feet was set to expire on June 30, 2021, after which it would have declined to 500,000 acre-feet absent a new Court-approved storage agreement. At the end of Production Year 2020, the total volume of Managed Storage was about 588,000 acre-feet. Anticipating the expiration of the temporary increase in Safe Storage, Watermaster Parties recommended expanding environmental documentation and analysis to cover the use of Managed Storage above 500,000 acre-feet beyond June 30, 2021. The Parties' projected behavior and the operations of the DYY program were called the Local Storage Limitation Solution (LSLS). During fiscal year 2020/21, Watermaster's Engineer completed an investigation to assess the potential MPI for the LSLS using the updated groundwater-flow model that was used to recalculate the Safe Yield. The conclusions of the investigation were that there would be no unmitigable significant adverse impacts attributable to the LSLS. This work supported CEQA documentation to increase the Safe Storage Capacity after June 30, 2021. The LSLS allows the Safe Storage Capacity to increase to 700,000 acre-feet through June 30, 2030, and 620,000 acre-feet from

[3] Safe Storage is an estimate of the maximum storage in the basin that will not cause significant water quality and high groundwater related problems. Safe Storage was estimated in the development of the OBMP to be about 5.8 million acre-feet based on the then-current understanding of the basin.

[4] The Operational Storage Requirement is the storage or volume in the Chino Basin that is necessary to maintain the Safe Yield. This is an average value with the storage oscillating around this value due to dry and wet periods in precipitation. The Operational Storage Requirement was estimated in the development of the OBMP to be about 5.3 million acre-feet. This storage value was set at the estimated storage in the basin in 1997.

[5] The most recent modeling of the Chino Basin estimates the total water in storage to be about 12 million acre-feet.

Program Element 8: Develop and Implement a Groundwater Storage Management Program; and Program Element 9: Develop and Implement a Storage and Recovery Program (Continued)

July 1, 2030 through June 30, 2035. The CEQA documentation formed Addendum No. 2 to the OBMP PEIR, which was adopted by the IEUA Board on March 17, 2021. The Court granted Watermaster's motion to implement the LSLS, which became effective on July 1, 2021.

2020 OBMP Update

OBMP implementation began in 2000. By 2019, many of the projects and management programs envisioned in the 2000 OBMP have been implemented. The understanding of the hydrology and hydrogeology of the Chino Basin has improved since 2000 and new water-management issues have been identified that necessitate that the OBMP be adapted to protect the collective interests of the Watermaster Parties and their water supply reliability. For these reasons, the Watermaster, with input from the Parties, prepared a 2020 OBMP Update to set the framework for the next 20 years of basin-management activities.

During 2019, Watermaster convened a collaborative stakeholder process to prepare the 2020 OBMP Update similar to the process employed for the development of the 2000 OBMP. The final 2020 OBMP Scoping Report (Scoping Report) was published in November 2019 to document the results of the first four Listening Sessions that Watermaster conducted with the stakeholders. The Scoping Report summarized (1) the need to update the OBMP, (2) the issues, needs, and wants of the stakeholders, (3) the goals for the 2020 OBMP Update, and (4) the recommended scope of work to implement seven stakeholder-defined basin-management activities that could be included in the 2020 OBMP Update.

Through the listening session process, it became apparent that the 2000 OBMP goals remain unchanged, and the nine Program Elements (PEs) defined in the 2000 OBMP are still relevant today as the overarching program elements of a basin management program. Each of the seven activities in the Scoping Report had objectives and tasks that were directly related to one or more of the 2000 OBMP PEs. Based on this finding, the nine PEs defined in the 2000 OBMP were retained for the 2020 OBMP Update. Each of the seven activities were mapped to one of the existing PEs.

In January 2020, the Watermaster published the 2020 OBMP Update Report, which described: (1) the 2020 OBMP Update process; (2) the OBMP goals and new activities for the 2020 OBMP Update; (3) the status of the OBMP PEs and ongoing activities within them; and (4) the recommended 2020 OBMP management plan – inclusive of ongoing and new activities. The management plan will form the foundation for the Watermaster Parties to develop a 2020 OBMP Implementation Plan and the agreements necessary to implement it. After several workshops and comprehensive review and comments by Watermaster Parties, the final 2020 OBMP Update Report was adopted by the Watermaster Board on October 22, 2020.

Additionally, in January 2020, Watermaster and IEUA (as the lead agency) began preparing a new subsequent Environmental Impact Report (SEIR) to support the OBMP Update. The updated SEIR will support decision-making, investment, and grant applications for ongoing and new management actions under the OBMP. Based on input from the Parties, the certification of the SEIR was postponed to a later time. Watermaster and IEUA re-initiated the process to update and certify the SEIR in 2022, hosting three workshops to solicit input from the Watermaster Parties on updates to the OBMP Update's project description and discuss the potential updates. IEUA released the draft SEIR for public review in September 2023. The comment period for the draft SEIR extended through November 9, 2023 and IEUA certified the final SEIR in February 2024 during this reporting period.

Two new management activities in the 2020 OBMP Update began in fiscal year 2023/24: (1) development of a Storage and Recovery Master Plan (SRMP); and (2) preparation of a WQMP. During the reporting period, Watermaster and its stakeholders continued convening the WQC to develop the WQMP. The activities of the WQC were to continue to define the objectives and refine the scope of work for the WQMP, including providing input on the development of a monitoring plan for emerging contaminants in the Chino Basin (see Groundwater Quality Management Program section under PE 6 in this report). The SRMP Committee (SRMPC) initially convened in November 2023 to define the objectives of the SRMP and refine the scope of work for its development, including defining desired benefits of Storage and Recovery Programs in the Chino Basin. The SRMPC did not meet during this reporting period but is expected to reconvene in fiscal year 2024/25.

CHINO BASIN WATERMASTER

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TODD M. CORBIN
General Manager

STAFF REPORT

DATE: September 12, 2024

TO: AP/ONAP/OAP Committee Members

SUBJECT: Emerging Contaminants Monitoring Plan (Business Item II.A.)

SUMMARY:

Issue: The Chino Basin Water Quality Management Program – Emerging Contaminants Monitoring Plan is attached as an informational item for the parties [Within WM Duties and Powers]

Recommendation: Information Only

Financial Impact: None

Future Consideration
Appropriative Pool – September 12, 2024: Information Only
Non-Agricultural Pool – September 12, 2024: Information Only
Agricultural Pool – September 12, 2024: Information Only
Advisory Committee – September 19, 2024: Information Only
Watermaster Board – September 26, 2024: Information Only

BACKGROUND

As part of the Optimum Basin Management Program, Program Element 6 contemplates ways to develop and implement cooperative programs with the Regional Board and other agencies to improve Basin management. While Program Element 6 provides a strategy to address groundwater contamination cleanup in the Chino Basin, there are also emerging contaminants with regulatory water quality standards set by the Department of Drinking Water that can impact the beneficial uses of groundwater. The Emerging Contaminants Monitoring Plan (ECMP) was developed through Watermaster's Water Quality Committee as part of the Groundwater Quality Management Program.

DISCUSSION

The ECMP defines an initial plan for monitoring and assessing water quality in the Chino Basin during fiscal year 2024/25 with respect to contaminants of emerging regulatory concern. The data collected through the implementation of the ECMP will support the understanding and distribution and concentration of emerging contaminants in the Chino Basin, which may impact basin operations and management.

The plan was brought to the Pool committee meetings on March 14, 2024 under the Engineer's report but has been revised since that time to include comments received and updates to the timeline for monitoring.

Agency or party participation in the ECMP implementation remains voluntary. The results of the compiled data from existing utility datasets and the additional sampling approved in certain areas of the basin will result in a report and presentation to Pools, Advisory and Board to discuss and evaluate conditions and next steps, as needed.

ATTACHMENTS

1. Revised Emerging Contaminants Monitoring Plan

FINAL REPORT | September 2024

Chino Basin Water Quality Management Program - Emerging Contaminants Monitoring Plan

PREPARED FOR

Chino Basin Watermaster

PREPARED BY

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LIST OF ACRONYMS AND ABBREVIATIONS

1,2,3-TCP	1,2,3-Trichloroethene
CCL	Federal EPA Contaminant Candidate List
Chino-North GMZ	Chino-North Groundwater Management Zone
DDW	California State Water Resources Control Board Division of Drinking Water
ECMP	Emerging Contaminants Monitoring Plan
EPA	Environmental Protection Agency
FY	Fiscal Year
FRB	Field Reagent Blank
GE	General Electric
GenX	Hexafluoropropylene oxide dimer acid GenX Chemicals
HCMP	Hydraulic Control Monitoring Program
HBWCs	Health-based water concentrations
HPC	Health-protective concentration
IEUA	Inland Empire Utilities Agency
MCL	Maximum Contaminant Level
MCLG	Maximum Contaminant Level Goal
MZ-3	Management Zone 3
NAWQA	National Water Quality Assessment
NDMA	N- Nitrosodimethylamine
ngl	Nanograms per liter
Nitrate	Nitrate As Nitrogen
NL	Notification Levels
OBMP	Optimum Basin Management Program
OBMPU	Optimum Basin Management Program Update
OEHHA	Office of Environmental Health Hazard Assessment
PBHSP	Prado Basin Habitat Sustainability Program
PE	Program Element

PFAS	Per and poly-fluoroalkyl substances
PFBS	Perfluorobutane sulfonic acid
PFNA	Perfluorononanoic acid
PFHxS	Perfluorohexane sulfonic acid
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctanesulfonic Acid
PHG	Public Health Goals
Regional Board	California Regional Water Quality Control Board, Sant Ana Region
RL	Response Level
Santa Ana Water Board	Santa Ana Regional Water Quality Control Board
SARWC	Santa Ana River Water Company
SB	Senate Bill
SNMP	Salt and Nutrient Management Plan
TCA	1,1,1-trichloroethane
TCE	Trichloroethene
TDS	Total Dissolved Solids
TIN	Total Inorganic Nitrogen
UCMR	EPA Unregulated Contaminant Monitoring Rule
µgl	Micrograms per liter
Watermaster	Chino Basin Watermaster
WEI	Wildermuth Environmental, Inc.
WQC	Water Quality Committee

1.0 INTRODUCTION AND BACKGROUND

1.1 Emerging Contaminants in Drinking Water

Emerging contaminants are naturally occurring or manmade chemicals that have been detected in water supplies that are known or suspected to pose risk to human health but are not yet regulated under existing environmental laws. They are termed "emerging" because their presence in the environment and potential health effects are not fully understood, and they may pose risks that are not yet adequately addressed by current regulations. The federal and state drinking water regulators, the United States Environmental Protection Agency (EPA), and the California State Water Resources Control Board Division of Drinking Water (DDW), both identify lists of emerging contaminants through scientific research and monitoring programs that indicate its presence in water supplies and potential risk to human health. List of emerging contaminants are updated as needed and responsive to new findings and health assessments. The EPA and DDW both have processes to further research emerging contaminants and determine the need or not to established health and/or regulatory standards for drinking water. An emerging contaminant can be removed from the list of emerging contaminants if further research and monitoring indicate that it does not pose a significant risk to public health.

If further monitoring and research indicate that there is potential risk to public health through drinking water, there is further consideration of setting health and/or regulatory standards. In California, the DDW collaborates with the California Office of Environmental Health Hazard Assessment (OEHHA) to research and establish potential Public Health Goals (PHGs) and Maximum Contaminant Levels (MCLs) for contaminants. The process begins with OEHHA conducting a thorough review of scientific data to determine PHGs, which represent contaminant concentrations in drinking water that pose no significant health risk if consumed over a lifetime. If a contaminant is found to pose significant health risks, the DDW may establish regulatory limits, such as MCLs for drinking water. The DDW evaluates the feasibility of setting MCLs as close to these PHGs as possible, considering factors such as detectability, treatability, and treatment costs. Throughout this process, the DDW and OEHHA work with the EPA to ensure that federal guidelines and standards are integrated into their assessments. The DDW also conducts risk management analyses and engages with the public and water utilities to finalize MCLs, ensuring they are both technologically and economically feasible while prioritizing public health protection.

1.2 Purpose and Report Organization

This Emerging Contaminants Monitoring Plan (ECMP) is part of the Water Quality Management Program (WQMP), which is an adaptive and flexible framework for understanding water quality issues in the Chino Basin and how they could potentially effect basin management. The WQMP, led by the Water Quality Committee (WQC), is a framework that is being reestablished under Program Element (PE) 6 of the Chino Basin Optimum Basin Management Program (OBMP), similar to the process implemented from 2003 to 2010. This ECMP was developed for the Chino Basin Watermaster (Watermaster) with advice from the WQC.

The purpose of the ECMP is to define a plan for monitoring and assessing water quality in the Chino Basin during fiscal year (FY) 2024/25 with respect to contaminants of emerging regulatory concern (termed herein as "emerging contaminants"). Data collected through implementation of the ECMP will support the understanding of the distribution and concentration of emerging contaminants in the Chino Basin (which have the potential to impact basin operations and management) and inform WQC discussions and

objectives of the WQMP. This initial ECMP establishes a framework for the future consideration and potential monitoring of identified priority emerging contaminants, in alignment with and adapting to, evolving water quality issues, trends, and concerns.

This ECMP is organized into the following Sections:

- **1.0 Introduction and Background** – This section provides background on the 2000 OBMP and 2020 OBMP Update (2020 OBMPU) as they relate to water quality and the opportunities to develop an enhanced WQMP that supports overall Basin management.
- **2.0 Identification of Emerging Contaminants**– This section describes the process to identify the emerging contaminants that should be considered for monitoring as part of the initial ECMP.
- **3.0 Current Monitoring of Emerging Contaminants** – This section characterizes the extent of recent monitoring of the emerging contaminants identified in Section 2 and identifies the priority emerging contaminants for monitoring in the Chino Basin in FY 2024/25.
- **4.0 Emerging Contaminant Monitoring and Analysis Plan** – This section describes the recommended monitoring of emerging contaminants for FY 2024/25, including the schedule, coordination efforts, and costs. And, it provides the plan for analyzing the data, including use of the information.
- **5.0 References** – This section lists the references cited in the ECMP.

1.3 Water Quality Management Under OBMP PE 6: 2000 to 2022

Watermaster, at the Court's direction, developed the 2000 OBMP through a collaborative stakeholder process ([Wildermuth Environmental [WEI], 1999). The 2000 OBMP established basin management goals, identified the impediments to achieving the goals, and defined the necessary actions to remove the impediments to achieve the goals. The management actions were grouped into logical sets of coordinated activities called Program Elements (PEs). One of the goals of the 2000 OBMP was to "Protect and Enhance Water Quality" to ensure the protection of the long-term beneficial uses of Chino Basin groundwater. The 2000 OBMP included multiple PEs with actions to protect and enhance water quality, including:

- PE 1—Develop and Implement Comprehensive Monitoring Program. PE 1 is a comprehensive monitoring program, including the collection of basin-wide water quality data, to collect the data necessary to characterize Basin conditions and support the implementation of the other PEs.
- PE 3—Develop and Implement a Water Supply Plan for Impaired Areas. PE 3 provided for the construction and operation of regional groundwater desalters—the Chino Basin Desalters—to pump and treat high-salinity groundwater in the southern part of the Basin to meet increasing municipal water demands and protect and enhance the Basin safe yield
- PE 6—Develop and Implement Cooperative Programs with the Regional Board and Other Agencies to Improve Basin Management. PE 6 was designed to assess groundwater quality trends in the Basin, evaluate the impact of OBMP implementation on groundwater quality, determine whether point and non-point contamination sources are being addressed by regulators, and enable collaboration with water quality regulators, in particular the Santa Ana Regional Water Quality Control Board (Santa Ana Water Board), to identify and facilitate the cleanup of soil and groundwater contamination.
- PE 7—Develop and Implement Salt Management Plan. PE 7 included actions to characterize current and future salt and nutrient conditions in the Basin and to subsequently develop and implement a plan to manage them under planned increases on loading from recycled water use (direct and indirect). The Chino Basin Desalters constructed pursuant to PE 3 became an integral management strategy of the Chino Basin Salt and Nutrient Management Plan developed under PE 7.

To support the development and implementation of the 2000 OBMP, Watermaster conducted a comprehensive basin-wide water quality monitoring program from 1999-2001 to characterize the spatial distribution of key water quality constituents. The comprehensive water quality monitoring program included compiling water quality data collected by Appropriators (and other cooperators) in the Chino Basin and adjacent basins and performing water quality sampling at all accessible private wells in the southern portion of the basin. During this time, Watermaster performed water quality sampling at 602 private wells. Data from this comprehensive water quality monitoring program established a baseline on the state of groundwater quality at the start of OBMP implementation. These data also became the foundation for achieving the objectives of PE 6: to assess water quality trends in the basin, to evaluate the impact of OBMP implementation on water quality, and to determine whether point and non-point contamination sources are being addressed by water quality regulators.

Since 2000, Watermaster's groundwater quality monitoring efforts under PE 1 have periodically been refined, as needed, to: assess trends over time for key constituents (such as total dissolved solids [TDS] and nitrate); support the detection and delineation of water quality plumes; and define the spatial distribution of contaminants of concern, such as perchlorate, hexavalent chromium, and 1,2,3-trichloroethene (1,2,3- TCP), and collaborate with the Santa Ana Regional Water Quality Control Board (Santa Ana Water Board) in its efforts to work with dischargers to facilitate the cleanup of groundwater contamination.

In 2003, the WQC was convened to coordinate the activities performed under PE 6, including the review of water quality conditions in the Chino Basin and development of cooperative strategies and plans to improve water quality in the basin in collaboration with the Santa Ana Water Board. The WQC was comprised of representatives from interested parties and stakeholders that can guide the development and implementation of a WQMP and make recommendations to the Pools, Advisory Committee, and Board. The WQC met intermittently through 2010. The main activities of the WQC during that time included (1) investigations to characterize and address point and non-point sources of groundwater contamination in the Chino Basin, and (2) collaboration with the Santa Ana Water Board in its efforts to facilitate the cleanup of groundwater contamination. Some of the significant groundwater quality investigations performed under the guidance of the committee included:

- Characterization of groundwater contamination in OBMP management zone 3 (MZ-3) near the former Kaiser Steel Mill and Alumax facilities.
- Tracking investigations and actions to define the source, extent, and responsible party of the Chino Airport trichloroethylene (TCE) plume.
- Identification of potential sources and responsible parties for the South Archibald TCE plume.
- Characterization of perchlorate concentrations in the Chino Basin and identification of legacy sources of perchlorate contamination.

After the WQC discontinued its meetings in 2010, Watermaster continued to assist the Santa Ana Water Board with the investigation and regulation of point source contaminant sites in the Chino Basin and performed monitoring and analysis for contaminants related to point-source and non-point source contamination, as needed. The ongoing water quality monitoring and analysis performed by Watermaster as of 2023 includes:

- Conducting annual water quality sampling at key monitoring wells and private wells.
- Preparing annual or semiannual status reports on the monitoring and remediation of point-source contaminant sites, including the Chino Airport plume, South Archibald plume, General Electric (GE) Test Cell plume, GE Flatiron plume, former Kaiser Steel Mill Facility, CIM plume, Stringfellow plume, and Milliken Landfill plume.
- Preparing updated delineations of the spatial extent of the contaminant plumes every two years.
- Reporting on water quality trends and findings in the OBMP State of the Basin Reports, which are prepared every two years.

1.4 Water Quality Management Under OBMPU PE 6

In 2020, Watermaster completed the 2020 OBMPU through a collaborative stakeholder process to review and refine the goals, impediments, actions, and PEs of the OBMP (WEI, 2020). Through the 2020 OBMPU development process, the Watermaster with input from the stakeholders concluded that the goals and PEs defined in the 2000 OBMP are still relevant today and identified additional management activities necessary to achieve the goals of the 2020 OBMPU. Two of the 2020 OBMPU activities address groundwater quality related to emerging contaminants:

- Develop and implement a water-quality management plan to address current and future water-quality issues and protect beneficial uses.
- Develop strategic regulatory-compliance solutions that achieve multiple benefits in managing water quality.

The specific action identified to encapsulate these activities within the 2020 OBMPU for PE 6, is the development of a WQMP that addresses emerging contaminants to better prepare the parties for addressing compliance with new State and Federal drinking water regulations and provides for the long-term maximum beneficial use of the basin. It was proposed that reconvening the WQC would be the ideal approach to guide the development and implementation of the WQMP, following the model used from 2003 to 2010 for the 2000 OBMP implementation.

Watermaster held a kick-off meeting to reconvene the WQC on October 18, 2023. The objectives of the first WQC meeting were to educate the participants on historical water quality activities performed by Watermaster pursuant to the 2000 OBMP and introduce the opportunity and proposed scope and schedule for developing a WQMP, including development of an initial ECMP for implementation in FY 2024/25. At the October 18, 2023 WQC meeting, attendees were asked to provide initial feedback of goals and objectives for a WQMP and the WQC, and on the emerging contaminants to monitor for the ECMP (Watermaster 2024a). A second WQC meeting held on January 31, 2024 continued stakeholder engagement on the objectives for a WQMP and the WQC, and the process to develop the initial ECMP (Watermaster 2024b).

Informed by stakeholder recommendations and feedback received during the WQC meetings held in October 2023 and January 2024, the WQMP is proposed as an adaptive and flexible program informed by the WQC to address some or all the following objectives: (1) inform stakeholders on the available data and information on water quality; (2) provide a forum for regular education and information sharing regarding potential future water quality regulations; (3) implement an ECMP to characterize contaminant occurrence in the Chino Basin where data is not available; (4) track available grant funding and loan opportunities; (5) identify opportunities for multi-agency and/or multi-benefit projects; (6) enhance ability to identify potential impacts to the Chino Basin resulting from operational/management responses to water quality regulations; (7) conduct other activities of interest to the stakeholders to address water quality management or concerns; (8) establish annual scope of work and budgets for WQC activities.

The development of this ECMP is a first step to providing the data and information needed to understand the implications of potential water quality regulations on Chino Basin groundwater operations and management.

2.0 IDENTIFICATION OF EMERGING CONTAMINANTS

This section describes the process to identify emerging contaminants to consider for inclusion of the initial ECMP. The process included the identification and review of various resources and references that discuss contaminants that are being reviewed and evaluated for potential regulation. Most of the resources identified are from federal and state drinking water regulators, including the EPA and the DDW. Each reference identified was reviewed to develop a comprehensive list of emerging contaminants under consideration for regulation that should be considered for monitoring as part of the initial ECMP. The resources reviewed include:

a. **Feedback provided by the attendees at the October 18, 2023 WQC meeting**. At the October WQC meeting two interactive live polls were conducted that asked attendees to provide input on emerging contaminants. The polls asked the following questions: (1) What contaminants come to mind when you hear "emerging contaminants of concern?" and (2) Are you aware of the following ten emerging contaminants of concern? The PowerPoint documenting the results of the polls at the October 2023 meeting is available on the Watermaster website (Watermaster 2024a) at this link: https://www.cbwm.org/docs/speccommit/WQC/presentations/20231018_Presentation_WQC_Kickoff.pdf

b. **CA DDW - Drinking Water Programs "News" webpage.** The DDW posts announcements and links on the latest information related to drinking water regulations, including announcement of new or proposed drinking water regulations. The webpage (State of California 2024a) can be accessed at: https://www.waterboards.ca.gov/drinking_water/programs/.

c. **CA State Water Resources Control Board (State Water Board) Resolution Number *2023-0007 Adopting the Proposed Prioritization of Drinking Water Regulations for Calendar Year 2023.*** The State Water Board adopted Resolution 2023-0007 in June 2023 to direct the DDW to prioritize actions in 2023 for the development of drinking water regulations (State Water Board, 2023). The DDW priority actions include considering eight contaminants for regulation under new or revised primary MCL[1] and three contaminants for regulation under notification levels (NL)[2] or response levels (RL)[3]. The resolution is available for download on the State Water Board website (State of California, 2024a) at: https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2023/rs2023-0007.pdf

d. **CA DDW "Emerging Contaminants" and "Contaminants in Drinking Water" webpages.** The DDW "emerging contaminants" webpage contains links and information about new and emerging contaminants that pertain to drinking water and recycled water (State of California 2024b, 2024c). The DDW "contaminants in drinking water" webpage contains

[1] Primary MCLs are enforceable drinking water standards set by the DDW and/or EPA to protect the public from potential negative health effects associated with contaminants. Secondary MCLs are drinking water standards set by the DDW and/or EPA based on undesirable aesthetic, cosmetic, or technical effects caused by a respective contaminant.

[2] NLs are set by the DDW as a health advisory level for unregulated contaminants with the potential for negative health impacts. Drinking water suppliers are required to make notification to customers if monitoring results indicate that the contaminant concentration is above the NL. Contaminants with an NL may eventually become regulated with an MCL after a formal regulatory review.

[3] RLs are the level at which the DDW recommends the drinking water system remove the affected water source from the system. RLs range from 10 to 100 times the NL.

links and information on the regulated contaminants with MCLs and/or NLs, contaminants with PHG[4], and unregulated contaminants[5]. The webpages can be accessed at: https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/EmergingContaminants.html and https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Chemicalcontaminants.html

e. **CA DDW webpage on "Drinking Water Notification Levels".** The DDW provides various links and information on the contaminants with existing NLs. There are 32 chemicals with NLs in CA. Contaminants with NLs are candidates to go through the formal regulatory process to set MCLs for drinking water. The webpage (State of California 2024d) can be accessed at: https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/NotificationLevels.html

f. **Federal EPA Unregulated Contaminant Monitoring Rule (UCMR**). The Safe Drinking Water Act requires the EPA to establish a list of priority unregulated contaminants that public water systems are required to monitor every five years. EPA uses the UCMR to collect data for contaminants that are suspected to be present in drinking water and do not have MCLs. The two most recent UCMR cycles were UCMR 4 (2017-2021) and UCMR 5 (2022-2026). The UCMR program information is available at EPA's website (EPA 2024a, 2024b): https://www.epa.gov/dwucmr/learn-about-unregulated-contaminant-monitoring-rule and https://www.epa.gov/dwucmr

g. **Federal EPA Analytical Methods Developed by EPA for Analysis of Unregulated Contaminants webpage.** The EPA develops analytical methods for the analysis of unregulated contaminants. This webpage contains links to documentation for each of the methods listed (EPA 2024c). The webpage can be accessed at**:** https://www.epa.gov/dwanalyticalmethods/analytical-methods-developed-epa-analysis-unregulated-contaminants

h. **Federal EPA Contaminant Candidate Lists (CCL).** The EPA develops a drinking water CCL every five years pursuant to the Safe Drinking Water Act. The CCL is a list of contaminants that are currently not subject to any proposed or promulgated national primary drinking water regulations, but are known or anticipated to occur in public drinking water systems. Contaminants listed on the CCL may be regulated in drinking water in the future. The most recent CCL is CCL 5, which was finalized in 2022. The CCL website (EPA 2024d) can be accessed at: https://www.epa.gov/ccl

i. **Federal EPA Drinking Water Regulations Under Review webpage.** This webpage contains information on potential drinking water regulations the EPA is reviewing or developing, and the opportunity for public review and comment during the EPA's rulemaking process (EPA 2024e). The webpage can be accessed at**:** https://www.epa.gov/sdwa/drinking-water-regulations-under-development-or-review

[4] PHGs are set by the State of California OEHHA pursuant to Health & Safety Code §116365 and are the concentrations in drinking water that pose no significant health risk if consumed for a lifetime . PHGS are set for contaminants with MCLs or that will have an MCL adopted in the future.

[5] Unregulated contaminants in drinking water do not have MCLs. Unregulated contaminants often have NLs and RLs and are considered for future regulation.

Upon review of these resources, an initial list of 15 emerging contaminants was developed for further consideration for monitoring as part of the ECMP. Table 1 is a comprehensive summary of these 15 emerging contaminants and identifies which resources listed above (bullets a. through i.) include references to the emerging contaminants. Table 1 also includes the following information:

- The NL, RL, Primary or Secondary MCL, and PHG, if they exist.
- A brief description of the existing advisory or regulatory limits and any recent regulatory actions or noted intent by regulators to go through a rulemaking process.
- Whether the emerging contaminant should be considered (yes/no) for monitoring for the initial ECMP and the reason why.

Eleven of the emerging contaminants in Table 1 were selected for consideration for monitoring. These 11 emerging contaminants are identified in multiple resources as likely candidates for regulation such that regulators have identified the intent and/or process to establish or revise health-based drinking water limits (PHG, NL, RL, and proposed MCL). The 11 emerging contaminants are:

- Manganese
- 1,4-Dioxane
- Hexavalent Chromium
- Arsenic
- Perfluorooctanoic acid (PFOA) and Perfluorooctanesulfonic acid (PFOS)
- Other Per- and Polyfluorinated Substances (PFAS)
- N- Nitrosodimethylamine (NDMA)
- Styrene
- Mercury
- Cadmium
- Perchlorate

The remaining four emerging contaminants in Table 1 are not recommended for further consideration for monitoring as part of the initial ECMP. The reasons to exclude these constituents at this time include that the contaminants are typically only a concern in non-groundwater supplies or that the studies for health effects and potential health limits are in the early stages of development.

Table 1. Summary of 15 Emerging Contaminants Identified for Consideration for Monitoring for the ECMP

Contaminant	NL µgl	RL µgl	Primary MCL µgl	PHG µgl	Resource									Description of Regulatory Limits and Recent Regulatory Actions/Intent for Rulemaking	Further Consideration for Monitoring	
					a	b	c	d	e	f	g	h	i	j		yes/no	reason
Manganese	20	200			X	X	X	X	X		X	X			California passed bill in 2022 to set in motion the development of a primary MCL. In February 2023 the state issued revised lower NL of 20 µgl and RL of 200 µgl as part of this process. A NL and RL for manganese is in the State DDWs prioritization of drinking water regulations development for 2023 (State Water Board, 2023).	Yes	Newly established NL and RL. Potential for future State MCL
1,4 - Dioxane	1	35						X			X	X			California NL of 1 µgl set in 2010 (revised from 3 µgl). In 2019 the State Board ask the California Office of Environmental Health Hazard Assessment (OEHHA) to set a PHG for 1,4-dioxane. The State Board indicated intent to begin a rulemaking process to set a MCL based on the PHG set for 1,4-dioxane.	Yes	Potential for future State MCL
Hexavalent Chromium			10 (proposed)	0.02	X	X	X	X					X		California issued notice of rulemaking for an MCL in June 2023 with a proposed MCL of 10 µgl. A revised MCL for hexavalent chromium is in the State DDW's prioritization of drinking water regulations development for 2023 (State Water Board, 2023).	Yes	Proposed State MCL
Arsenic			10	0.004	X	X	X								California has a MCL of 10 µgl established in 2008 (Federal in 2006). The PHG is 0.004 µgl. The CA DDW is investigating the technological and economic feasibility of lowering the MCL closer to the PHG. A MCL for hexavalent chromium is in the State DDW's prioritization of drinking water regulations development for 2023 (State Water Board, 2023).	Yes	Potential for future revised State MCL
PFOA/PFOS	0.0051/ 0.0065	0.01/ 0.04	0.004/ 0.004 (proposed)	0.000007/ 0.001 (proposed)	X			X	X	X		X	X		The Federal EPA issued proposed MCLs in 2023 of 4 ngl (0.004 µgl) individually for PFOA and PFOS, which are anticipated to go into effect in 2024. The current California NLs are 5.1 ngl and 6.4 ngl (0.0051 and 0.0065 µgl), respectively for PFOA and PFOS. MCLs for both PFOA and PFOS are in the State Board's prioritization of drinking water regulations development for 2023 (State Water Board, 2023).	Yes	Proposed Federal MCLs and potential for future State MCL
Other PFAS	0.003, 0.5 [a]	0.02, 5 [a]	Hazard Index = 1 [(b)]		X		X		X	X		X	X		The Federal EPA has issued proposed MCLs for other PFAS besides PFOA and PFOS; this includes: GenX, PFBS, PFNA, and PFHxS. The proposed MCL for these four PFAS compounds is a Hazard Index of 1.0 for them combined. California issued a NL for PFHxS of 3 ngl (0.003 µgl) in 2020 and a NL for PFBS of 0.5 ngl (0.0005 µgl) PFBS in 2022. NLs and RLs for other PFAS are in the State DDW's prioritization of drinking water regulations development for 2023 (State Water Board, 2023).	Yes	Proposed Federal MCLs and potential for future State MCLs and NLs
NDMA	0.01	0.3		0.003			X	X			X				California set a NL of 10 ngl (0.01 µgl) in 2002, and OEHHA established a PHG of 3 ngl (0.003 µgl). In 2020, OEHHA announced they were initiating the process to update the PHG. A MCL for NDMA is in the State DDW's prioritization of drinking water regulations development for 2023 (State Water Board, 2023).	Yes	Potential for future State MCL
Styrene			100	0.5			X								California and the Federal EPA have a MCL of 100 µgl for Styrene. OEHHA established a PHG of 0.5 µgl. There is intent by the CA DDW to update the MCL and they have set up a proposed rulemaking page for this indicating that "This rulemaking is in progress." A MCL for Styrene is in the State DDW's prioritization of drinking water regulations development for 2023 (State Water Board, 2023).	Yes	Potential revised State MCL in the future
Mercury			2	1.2			X								California and the Federal EPA have a MCL of 2 µgl for Mercury. There is intent by the CA DDW to update the MCL and they have set up a proposed rulemaking page for this indicating that "This rulemaking is in progress." A MCL for Mercury is in the State DDW's prioritization of drinking water regulations development for 2023 (State Water Board, 2023).	Yes	Potential revised State MCL in the future
Cadmium			5	0.04			X								California and the Federal EPA have a MCL of 5 µgl for Cadmium. There is intent by the CA DDW to update the MCL and they have set up a proposed rulemaking page for this indicating that "This rulemaking is in progress." A MCL for Cadmium is in the State DDW's prioritization of drinking water regulations development for 2023 (State Water Board, 2023).	Yes	Potential revised State MCL in the future
Perchlorate			6	1	X			X			X		X		California established an MCL of 6 µgl in 2007. In 2015 OEHHA revised the PHG from 6 µgl to 1 µgl, prompting the review of the perchlorate MCL. In 2017 the DDW began the process to investigate, develop, and propose revisions to the perchlorate detection limit for reporting (DLR) to gather data to support the revision to the MCL if warranted. Per an adopted resolution the DLR changed in phases and deceased to 1 µgl in January 2024. The Federal EPA has committed to issue a proposed MCL for perchlorate by November 21, 2025.	Yes	Potential revised State MCL in the future
Lithium					X					X		X			No regulatory or health limits for drinking water developed. Lithium is included on the EPA UCMR 5 list for the purpose of informing research and determine whether it poses health risks to people through drinking water from public water systems. The science on lithium's effects on human health, and at what levels, is still evolving.	No	Health effects and proposed health limits are being studied and considered. Some monitoring is already being done for UCMR 5.
Microplastics								X							No regulatory or health limits for drinking water developed. Pursuant to a 2018 State Bill the State Board adopted a definition of microplastics in drinking water in 2020 and in 2021 developed a policy handbook of the standard methodology for testing and reporting for microplastics. Currently the method available is expensive, with limited resources to perform, and the science is rapidly evolving. The policy outlines a two-phase approach for monitoring to obtain information to estimate risk through drinking water exposure. Each phase is two years along with an interim period between to "allow for DDW staff to assess results from the first phase and plan the second phase of monitoring accordingly." The policy was unanimously approved in September 2022.	No	Health effects and proposed health limits are being studied and considered. Some monitoring will be done through State Orders
Cyanotoxins							X		X	X		X			In 2021, the California DDW initiated the process to develop NL and RL for four cyanotoxins: microcystins, cylindrospermopsin, anatoxin-a, and saxitoxin. NLs and RLs for cyanotoxins are in the State DDW's prioritization of drinking water regulations development for 2023 (State Water Board, 2023). Concern for high levels in lakes, streams, ponds, and other surface water bodies. Cyanotoxins were on the UCMR 4 and 5.	No	This is a contaminant found in surface water bodies. The 2024 ECMP will focus on the groundwater supplies.
Disinfection Byproducts			80, 60, 10, 1,000	0.06 to 50			X					X	X		Disinfection byproducts (DBPs) are formed when disinfectants like chlorine interact with natural organic materials in water, such as in chlorinated drinking water. The federal EPA has set some MCLs for DBPs: trihalomethanes (THMs), haloacetic acids (HAAs), chlorite, and bromate. MCLs for DBPs is in the State DDW's prioritization of drinking water regulations development for 2023 (State Water Board, 2023), but there is has been no action or other information since the release of this prioritization. The formation of DBPs is usually a greater concern for water systems that use surface water, such as rivers, lakes, and streams.	No	This is a contaminant found in chlorinated drinking water. The 2024 ECMP will focus on the groundwater supplies.

(a) PFHxS has a NL of 0.003 µgl and RL of 0.02 µgl and PFBS has a NL of 0.5 µgl and RL of 5 µgl.
(b) The proposed MCL is Hazard Index of 1.0; Hazard Index is calculated as = ([GenX ngl]/10 ngl]+[PFBS ngl/2000 ngl]+[PFNA ngl/10 ngl]+[PFHxS ngl/9 ngl])

3.0 CURRENT MONITORING OF EMERGING CONTAMINANTS

This section describes the current state of monitoring for each of the 11 emerging contaminants recommended for consideration for monitoring under the ECMP and recommends the monitoring that should be included the initial ECMP.

Watermaster's current water quality monitoring program under PE 1 relies on municipal producers (Appropriators), government agencies and others (cooperators) to supply water-quality data on a cooperative basis. Watermaster supplements these data through its own sampling and analysis of private wells and monitoring wells in the basin. Watermaster routinely collects all known groundwater and surface water quality data sampled in the basin and processes into standard format, uploads into the database, and reviews for QA/QC. Most of the water quality data for the Appropriators is collected from the State DDW water quality database. This means to utilize the State DDW database over collecting data directly from the Appropriators evolved over time as it was validated to be complete data set and sometimes more robust, a more efficient process, and it is in a consistent format. The same approach is used to collect the water quality data for many cooperators where most of the data is collected from publicly available databases such as the State Board GeoTracker website.

Watermaster's comprehensive groundwater database was used to characterize the current state of monitoring for each of the 11 emerging contaminants in the Chino and Cucamonga Basins over the last five years, from July 2018 to June 2023. Cucamonga Basin is included because it is tributary to Chino Basin and the groundwater pumpers in the Cucamonga Basin are all Chino Basin Appropriators. Figure 1 is a map that shows the network of wells in the Chino and Cucamonga Basins where groundwater quality sampling was performed between July 2018 to June 2023. Figure 1 symbolizes each well by well type. The well types used in this characterization are defined in Table 2. Table 2 also denotes the number of wells of each type that were sampled between 2018 to June 2023.

Table 2. Well Type Categorization for Monitoring Locations in Figure 1

Well Type	Description	Well Count
Appropriator Wells	Active or inactive pumping wells owned and operated by the Chino Basin Watermaster Appropriators. These wells used for municipal water supply, either potable or non-potable. Water quality monitoring is performed by well owners.	190
Watermaster/IEUA Monitoring Wells	Dedicated monitoring wells that are part of various Watermaster and IEUA monitoring programs for basin management. Watermaster collects water quality samples at 52 wells to comply with requirements of the Chino maximum-benefit SNMP (e.g. demonstrate hydraulic control and compute ambient water quality) and the Prado Basin Habitat Sustainability Program. IEUA collects water quality samples at 27 wells to comply with the requirements of the groundwater recharge program.	79
Cleanup Site Monitoring Wells	Dedicated monitoring wells that are part of a monitoring program to assess point-source groundwater contamination (i.e. Chino Airport; Stringfellow, etc.). This monitoring is performed by the responsible parties for the contamination sites.	751
Private Wells	Active privately owned and operated pumping wells used for private water supply uses such as domestic drinking water, irrigation, or other commercial uses. Watermaster performs sampling at the private wells.	80

Wells Sampled for Water Quality in the Chino and Cucamonga Basins Between July 2018 and June 2023

- Appropriator (180 wells)
- Monitoring - Watermaster/IEUA (79 wells)
- Monitoring - Cleanup Site (751 wells)
- Private (130 wells)

Base Map Features
* This figure is a reference for base map features of the other figures in this plan

Chino Basin Hydrologic Boundary

Streams & Flood Control Channels

Flood Control & Conservation Basins

Geology

Water-Bearing Sediments

Quaternary Alluvium

Consolidated Bedrock

Undifferentiated Pre-Tertiary to Early Pleistocene Igneous, Metamorphic, and Sedimentary Rocks

Faults

Location Certain

Location Approximate

Location Concealed

Location Uncertain

Approximate Location of Groundwater Barrier

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Wells Sampled for Water Quality
July 2018 to June 2023

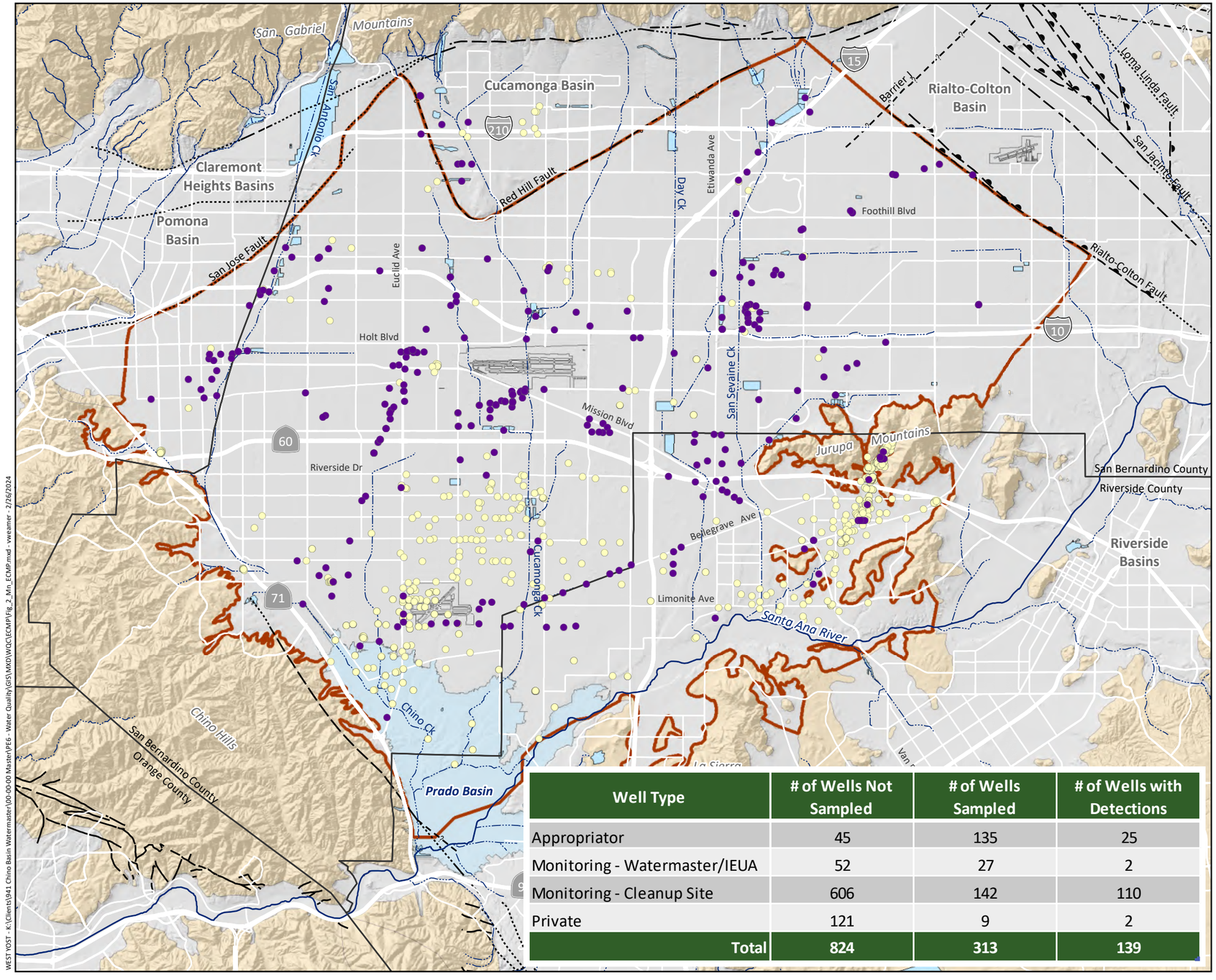
Figure 1

Figures 2 through 12 are maps characterizing the spatial distribution of sampling for each emerging contaminant for the July 2018 to June 2023 period. In each map, the wells are symbolized to demonstrate where the well was sampled or not sampled for the contaminant, and there is a summary table of the number of wells sampled by well type. Also provided in Figures 2 through 12 is a summary narrative describing each contaminant, the typical sources of the contaminant in groundwater, the identified health concerns related to drinking water, and any regulatory actions or considerations.

Each map was reviewed to understand the current state of monitoring and identify data gaps. Areas with data gaps will be recommended for sampling as part of the ECMP.

Table 3 summarizes the number and percentage of wells, by type, that have not been sampled in the last five years for each of the 11 emerging contaminants. Table 3 also includes the recommended monitoring action(s) based on review of current monitoring efforts and locations as shown in Figures 2 through 12. The recommendation identifies whether or not to sample the contaminant, including any exceptions by well type. If a contaminant is not recommended for sampling, Table 3 provides the rationale. Eight of the 11 emerging contaminants in Table 3 are recommended for monitoring for the ECMP at one or more well types. PFOA, PFOS, and other PFAS are grouped together under “PFAS” compounds since analysis for these compounds is done together with one laboratory method. Section 4 describes the monitoring plan for these seven emerging contaminants based on well type:

- Manganese
- 1,4-Dioxane
- PFAS (including PFOA/PFOS)
- NDMA
- Mercury
- Cadmium
- Perchlorate (using a low-level method)



Well Type	# of Wells Not Sampled	# of Wells Sampled	# of Wells with Detections
Appropriator	45	135	25
Monitoring - Watermaster/IEUA	52	27	2
Monitoring - Cleanup Site	606	142	110
Private	121	9	2
Total	**824**	**313**	**139**

Sampling for Manganese in Chino and Cucamonga Basins

- Well Sampled
- Well Not Sampled

* Other key map features are described in the legend of Figure 1.

Manganese is currently regulated in California with a secondary MCL of 50 micrograms per liter (µgl). In 2022, California Senate Bill (SB) 1124 established a timeline and funding mechanisms to evaluate the need to develop a health-based drinking water limit for manganese. SB 1124 requires development of a revised NL and a PHG. The PHG will provide the scientific basis for determining a primary MCL concentration for manganese in California. In February 2023, the State DDW EPA issued a proposed, revised, lower NL of 20 µgl and an RL of 200 µgl.

Manganese can enter groundwater through natural and anthropogenic inputs. Anthropogenic inputs can include runoff from industrial activities or landfill leaching. Natural processes include partitioning from soils containing manganese through weathering of primary minerals that contain manganese (II) or reductive dissolution of manganese (III)/(IV). Elevated manganese concentrations are typically associated with suboxic conditions where reductive dissolution of manganese (III/IV) minerals transforms to more soluble manganese (II). For this reason the fate and transport of manganese is strongly dependent on groundwater chemistry.

Research on the health effects of manganese exposure from drinking water has identified adverse health effects including neurotoxicity and irreversible learning and motor skill impairment in children. Based on this research, in 2021 the World Health Organization established a new provisional guideline value for manganese in drinking water of 80 µgl to be protective of these neurological effects. Manganese does not currently have a federal primary MCL, but does have a CA secondary MCL of 50 µgl that was established to address non-health related issues of water discoloration. Manganese was listed in CCL 4 in 2016 as a drinking water contaminant that is known or anticipated to occur in public water systems and is not currently subject to enforceable EPA drinking water regulations.

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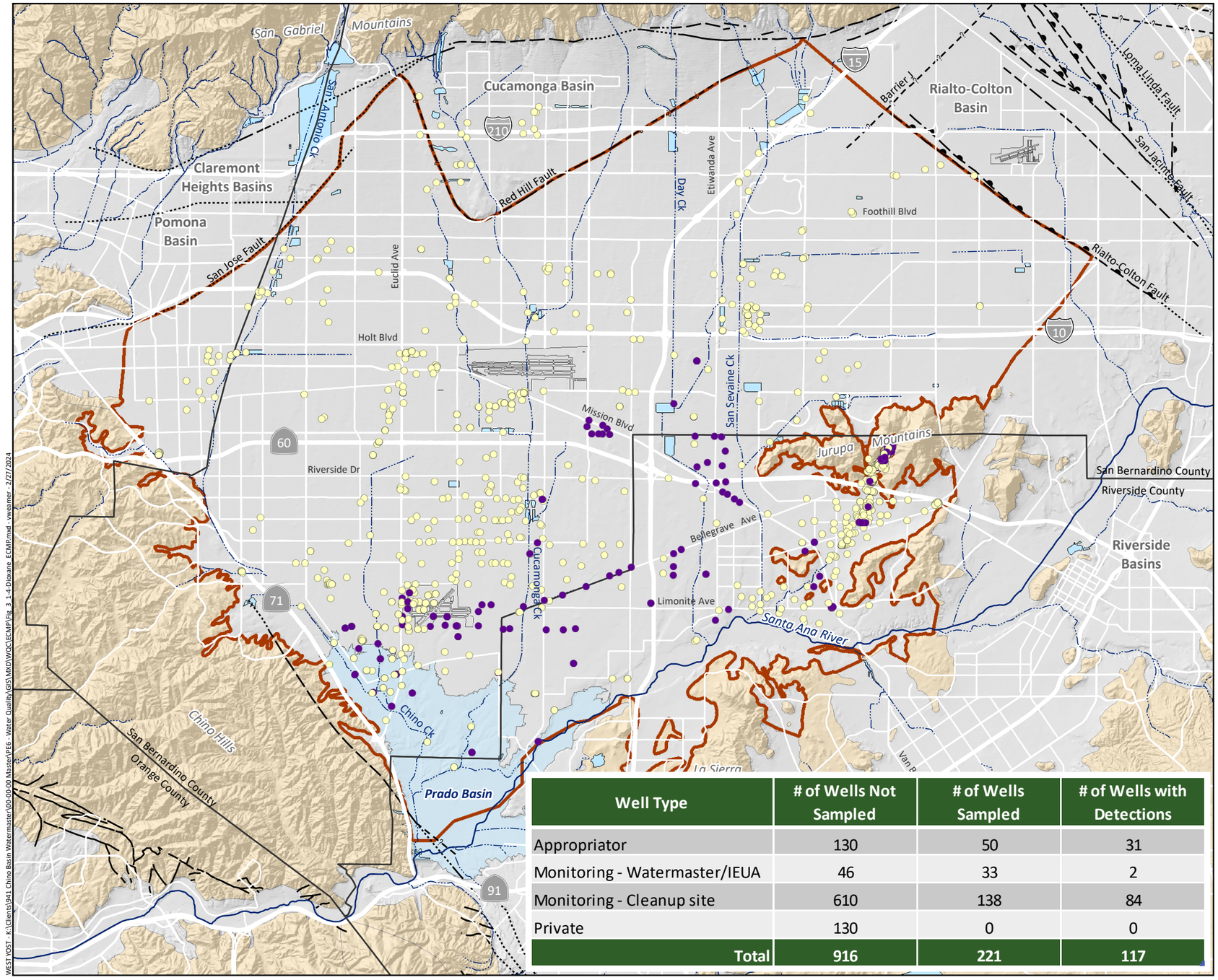
Sampling for Manganese in Groundwater
July 2018 to June 2023

Figure 2



Well Type	# of Wells Not Sampled	# of Wells Sampled	# of Wells with Detections
Appropriator	130	50	31
Monitoring - Watermaster/IEUA	46	33	2
Monitoring - Cleanup site	610	138	84
Private	130	0	0
Total	**916**	**221**	**117**

Sampling for 1,4-Dioxane in Chino and Cucamonga Basins

- Well Sampled
- Well Not Sampled

* Other key map features are described in the legend of Figure 1.

1,4-Dioxane does not currently have a California or Federal MCL. In November 2010, the State DDW set a NL of 1 µgl in drinking water. On January 22, 2019, the DDW required California OEHHA to establish a PHG for 1,4-dioxane. Once a PHG is determined, DDW will set an MCL for 1,4-dioxane in drinking water as close as economically and technologically feasible to the PHG. 1,4-Dioxane was listed on the CCL 4 in 2016 as a drinking water contaminant that is known or anticipated to occur in public water systems.

1,4-Dioxane is a manmade industrial solvent commonly used as a stabilizer for other solvents, in particular 1,1,1-tricholorethane (TCA). It enters wastewater and groundwater though industrial discharge and contributions from commercial products. 1,4-dioxane does not readily degrade in the environment and is highly soluble in water. These properties result in relatively rapid movement through soil to groundwater and limited removal through standard wastewater and drinking water treatment processes. Recycled water may contain elevated concentrations of 1,4-dioxane due to lack of removal in standard wastewater treatment processes. Advanced oxidation processes such as peroxide and ultraviolet light /ozone can effectively destroy 1,4-dioxane, but chlorination can result in the formation of toxic byproducts. State Water Board data from 2009 to 2019 showed that 194 out of 1,539 active and standby wells in California had at least one detection of 1,4-dioxane above the NL, with the majority in Los Angeles and Orange Counties.

1,4-Dioxane is classified as a group B2 likely human carcinogen by EPA and a known carcinogen to the State of California. Long-term exposure through inhalation, dermal contact, and oral ingestion via drinking water have been shown to result in adverse effects to the liver and kidneys. As of January 2017, recycled water for groundwater recharge using subsurface application must achieve 0.5-log (i.e. 69%) removal of 1,4-dioxane through their water treatment systems, and as of April 2019 the Recycled Water Policy (State Water Board EPA, 2019) requires quarterly monitoring of 1,4-dioxane in recycled water for groundwater recharge and reservoir augmentation.

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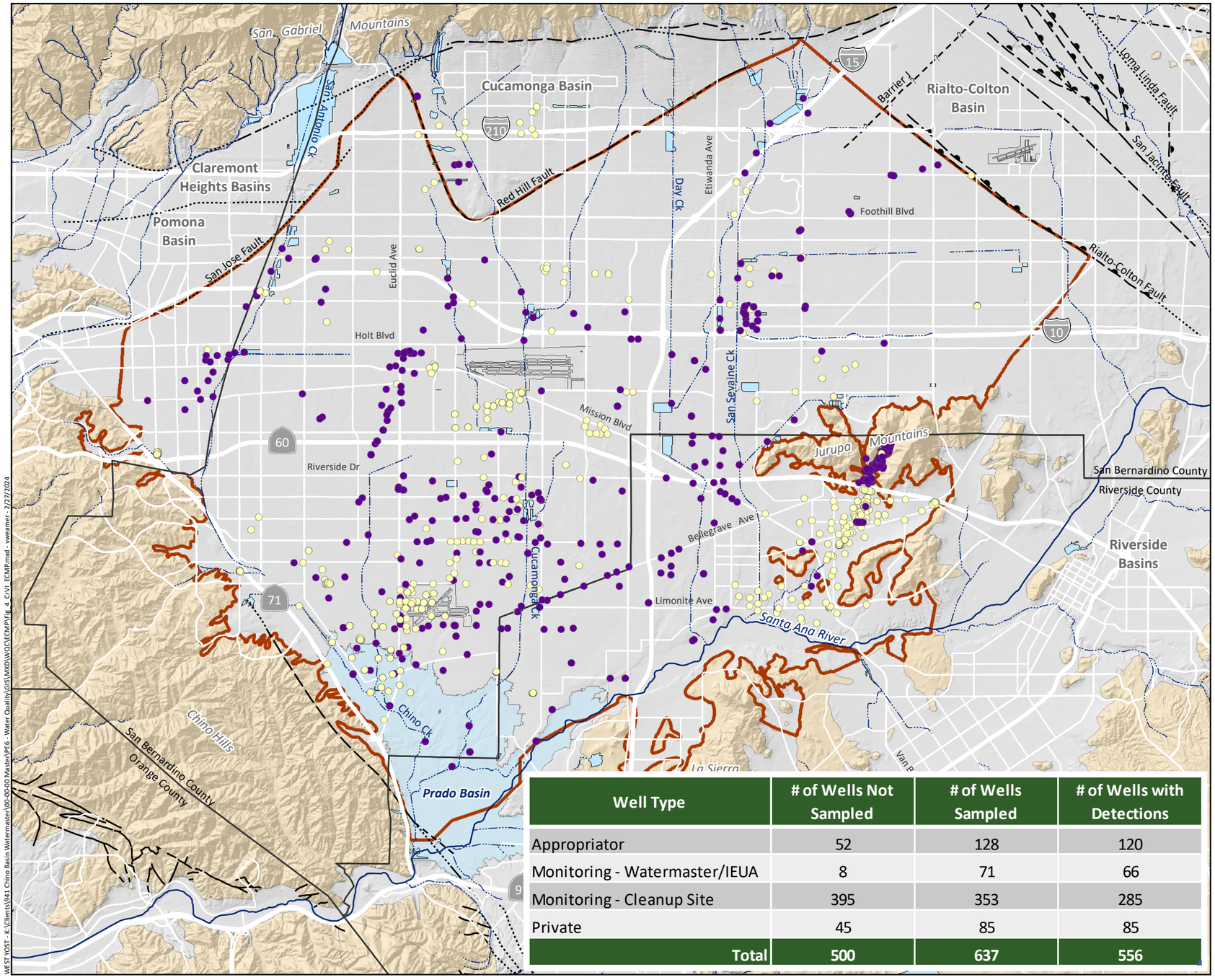
Sampling for 1,4-Dioxane in Groundwater
July 2018 to June 2023

Figure 3



Well Type	# of Wells Not Sampled	# of Wells Sampled	# of Wells with Detections
Appropriator	52	128	120
Monitoring - Watermaster/IEUA	8	71	66
Monitoring - Cleanup Site	395	353	285
Private	45	85	85
Total	**500**	**637**	**556**

Sampling for Hexavalent Chromium in Chino and Cucamonga Basins

- Well Sampled
- Well Not Sampled

* Other key map features are described in the legend of Figure 1.

Hexavalent chromium is currently regulated by reference through the primary MCL of 50 µgl for total chromium (i.e. the sum of trivalent and hexavalent chromium) which was established in 1977. In 2014 California approved an MCL for hexavalent chromium of 10 µgl, but this MCL was invalidated by the Superior Court of Sacramento County in 2017 with an order to adopt a new MCL. In March 2022, the DDW released a draft MCL for hexavalent chromium of 10 µgl and held two public workshops for public comment. In June 2023 the State Water Board released a Notice of Proposed Rulemaking that established a proposed MCL for hexavalent chromium of 10 µgl with a detection limit for reporting of 0.1 µgl.

Sources of hexavalent chromium in groundwater are both anthropogenic and naturally occurring. Anthropogenic sources include industrial releases from dyes, paint, wood preservatives, and stainless steel production facilities and leaching from chromium waste disposal sites. Chromium also occurs naturally in the environment, most commonly as the relatively immobile and nontoxic form trivalent chromium. Trivalent chromium in rocks, minerals, and aquifer materials can be oxidized by naturally occurring manganese oxides, resulting in generation of hexavalent chromium that causes natural groundwater contamination. In California most naturally occurring chromium groundwater contamination is associated with chromium-bearing rocks such as serpentinites and schists. In California naturally occurring hexavalent chromium affects more wells and people, over a larger area, than anthropogenic contamination.

Hexavalent chromium is a known carcinogen to the State of California and causes reproductive harm and liver toxicity. In 2011 the PHG for hexavalent chromium was set to 0.02 µgl based on the health-protective concentration (HPC) established for cancer effects. After review of the PHG and the underlying HPCs, in November 2023 OEHHA revised the HPC for noncancer effects from 2 to 5 µgl, but the PHG did not change because it must be set to the lowest HPC considering both cancer and noncancer effects.

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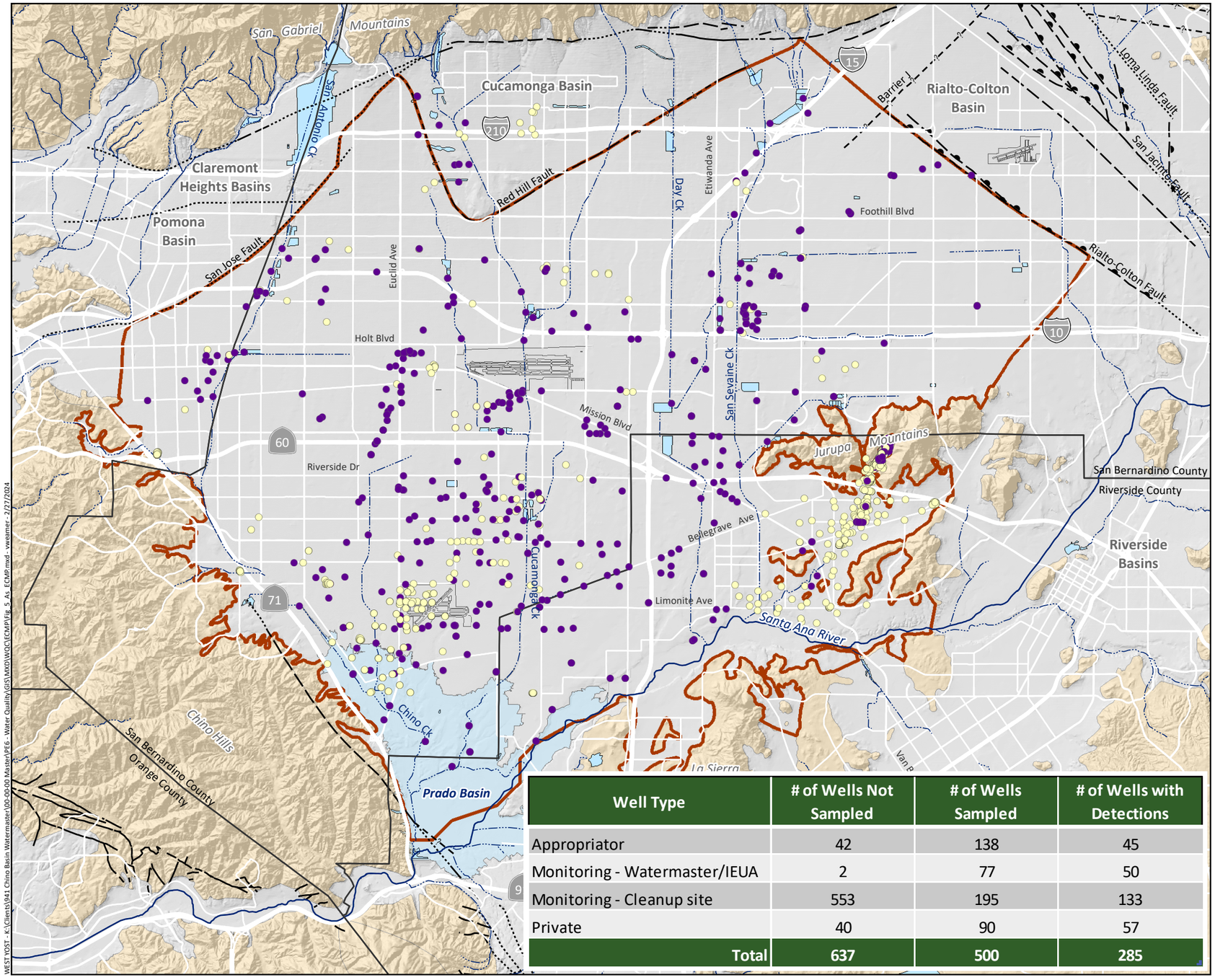
Sampling for Hexavalent Chromium in Groundwater
July 2018 to June 2023

Figure 4



Well Type	# of Wells Not Sampled	# of Wells Sampled	# of Wells with Detections
Appropriator	42	138	45
Monitoring - Watermaster/IEUA	2	77	50
Monitoring - Cleanup site	553	195	133
Private	40	90	57
Total	**637**	**500**	**285**

Sampling for Arsenic in Chino and Cucamonga Basins

- Well Sampled
- Well Not Sampled

* Other key map features are described in the legend of Figure 1.

The current California MCL for arsenic is 10 µgl, which is also the Federal MCL. The EPA set an MCL Goal (MCLG) of 0 µgl while California has a PHG of 0.004 µgl. The MCLG and PHG reflect that there is no known safe level of chronic arsenic exposure. The current DLR in California is 2 µgl.

Arsenic enters groundwater through natural processes including weathering and dissolution of arsenic-bearing minerals, but higher concentrations in groundwater may exist due to anthropogenic sources such as industrial releases, mining, and the use of arsenic-based pesticides and wood preservatives. The partitioning and mobility of arsenic in groundwater is complex but generally is associated with high pH (i.e. alkaline) environments, moderately strong reducing conditions, and/or geothermal or volcanic-influenced water sources.

Chronic arsenic exposure through drinking water leads to cancers of the skin, lung, bladder, kidney, and liver; arsenic exposure is further associated with neurological, respiratory, cardiovascular, immunological, and endocrine effects (Naujkas, M. et al, 2013). Children exposed to arsenic exhibit developmental effects and increased risks of cancers and other diseases during adulthood.

The DDW is currently investigating the technological and economic feasibility of lowering the MCL below the current California and federal MCL and closer to the PHG. In November 2022 the DDW held a public workshop on proposed changes to DLRs, including for arsenic. The proposed change would lower the DLR from 2 µgl to 0.5 µgl during Phase II of implementation to bring the DLR closer to the PHG. The State of New Jersey set an arsenic MCL of 5 µgl, which is the lowest and most protective MCL in the U.S.

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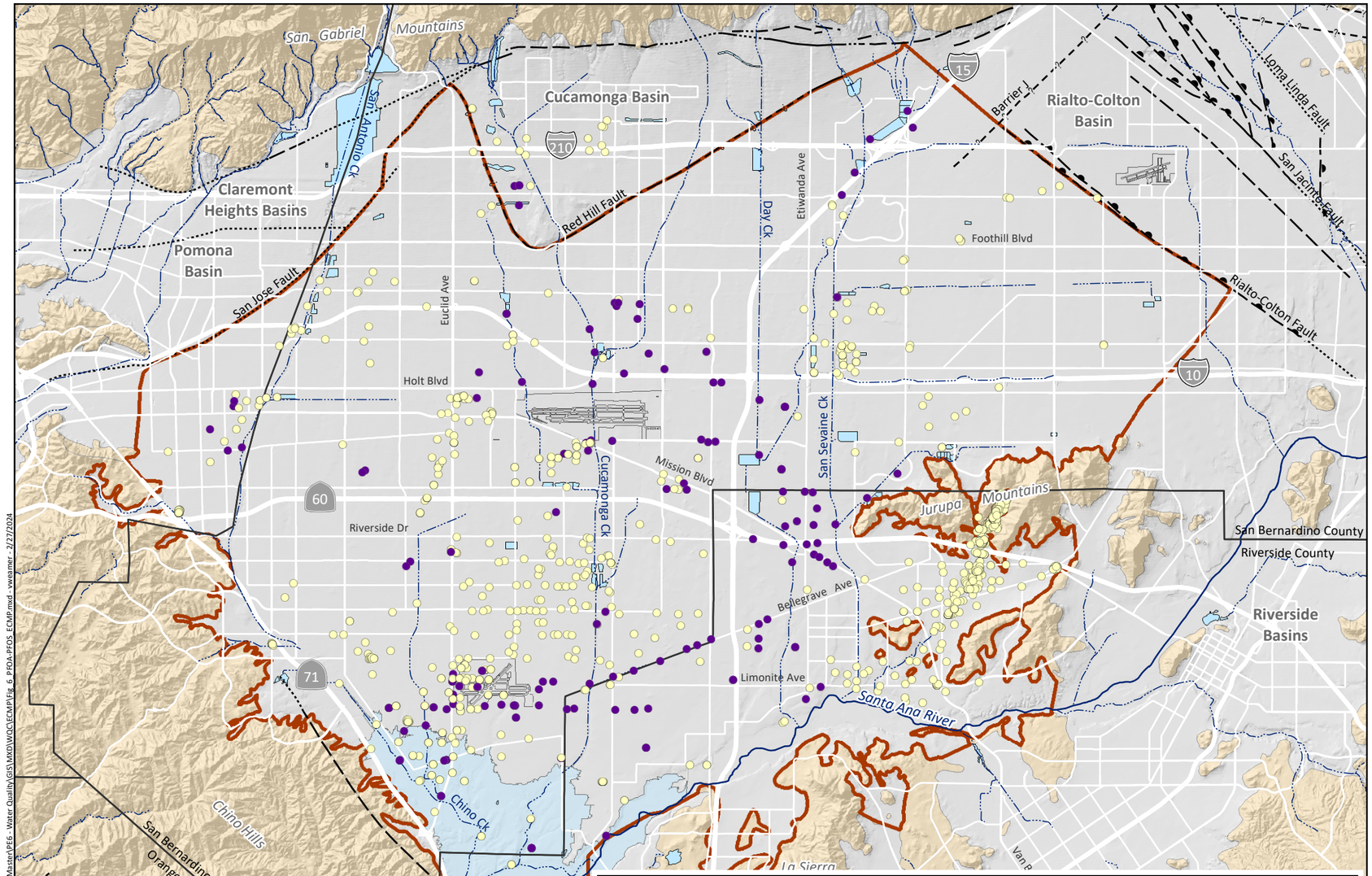
Sampling for Arsenic in Groundwater
July 2018 to June 2023

Figure 5



Well Type	# of Wells Not Sampled	# of Wells Sampled	# of Wells with Detections
Appropriator	97	83	37
Monitoring - Watermaster/IEUA	24	55	24
Monitoring - Cleanup site	729	19	11
Private	130	0	0
Total	**980**	**157**	**72**

Sampling for Perfluorooctanoic acid (PFOA) and Perfluorooctanesulfonic acid (PFOS) in Chino and Cucamonga Basins

- Well Sampled
- Well Not Sampled

* Other key map features are described in the legend of Figure 1.

PFOA and PFOS are currently unregulated drinking water contaminants in California with NLs of 5.1 and 6.5 ngl, respectively. PFOA and PFOS are manmade fluorinated chemicals that are part of a larger group of emerging contaminants of concern referred to as PFAS. In March 2023, EPA released proposed MCLs of 4 ngl (0.004 µgl) for both PFOA and PFOS. The proposed MCLs received over 120,000 public comments, and EPA submitted final MCLs for interagency review in winter 2023 and plans to finalize the rule in 2024. The proposed Federal MCLs are based on MCLGs of 0 (zero) for both PFOA and PFOS. The draft California PHGs are 0.007 and 1 ngl, respectively.

PFOA and PFOS sources to groundwater include direct discharges from industrial and manufacturing activities, leaching from landfills, percolation of wastewater containing PFOA and PFOS, and runoff from areas where PFAS-containing products such as firefighting foams have been used. PFOA and PFOS do not readily degrade in the environment and therefore can bioaccumulate. In November 2023 the U.S. District Court approved settlements to class-action lawsuits against 3M and DuPont that would restrict future litigation related to PFAS sources (including PFOA and PFOS) unless an entity opted out of the settlement prior to December 2023.

Exposures to PFOA and PFOS have been associated with developmental and reproductive harm, immune system impairment, liver damage, and increased risk of testicular and kidney cancers. The proposed PHG for PFOA is based on kidney cancer in humans, while the proposed PHG for PFOS is based on liver and pancreatic tumor development in rats.

The proposed Federal MCLs for PFOA and PFOS are currently in final review and are expected to become final in 2024. The Safe Drinking Water Act allows a three-year compliance period following formal adoption of the MCL, although the final rule could trigger significant litigation that could lead to delays in commencing compliance and enforcement activities

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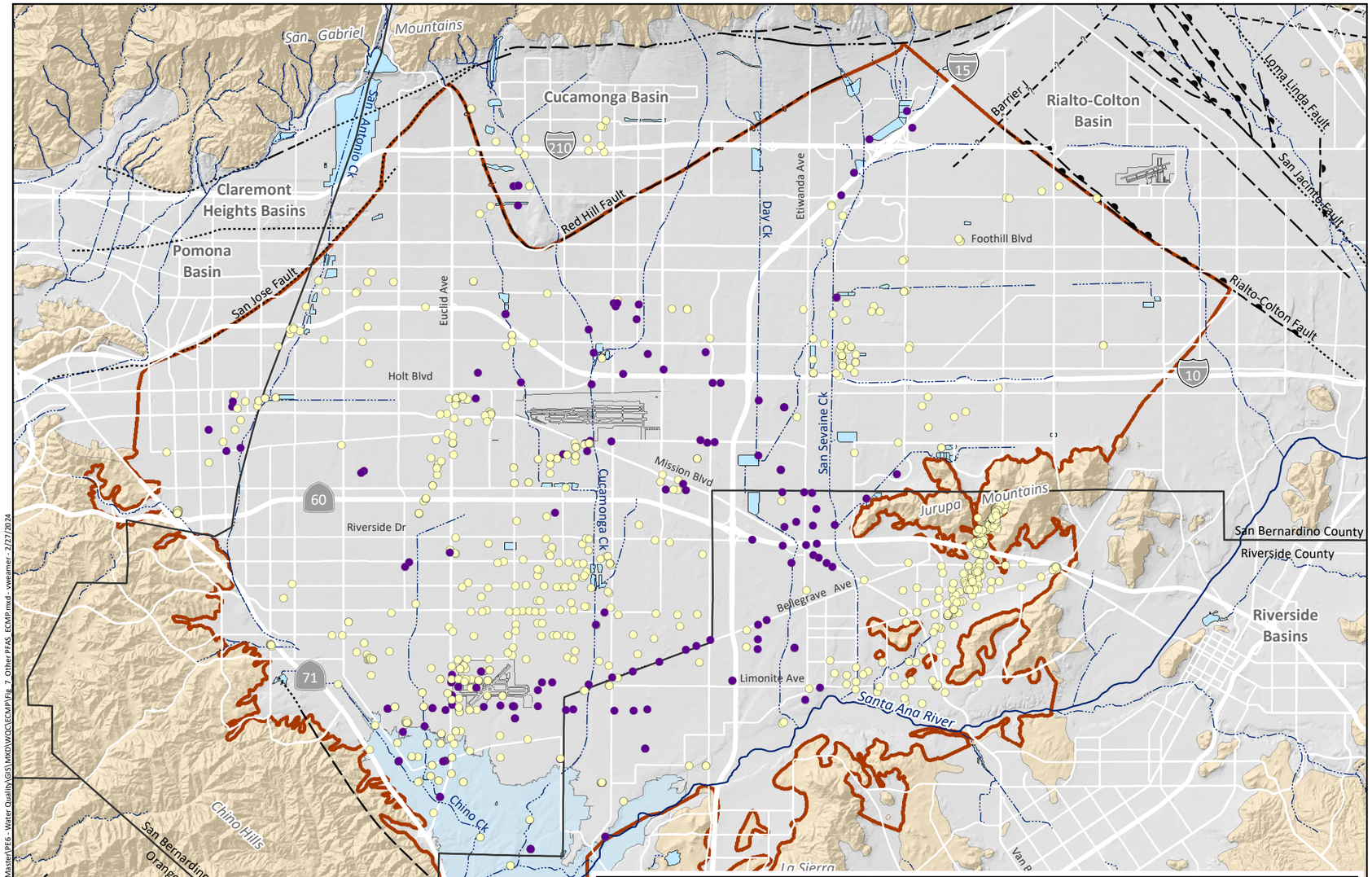
Sampling for PFOA and PFOS in Groundwater
July 2018 to June 2023

Figure 6



Well Type	# of Wells Not Sampled	# of Wells Sampled	# of Wells with Detections
Appropriator	97	83	37
Monitoring - Watermaster/IEUA	24	55	27
Monitoring - Cleanup site	729	19	12
Private	130	0	0
Total	**980**	**157**	**76**

Sampling for Other Per- and Polyfluorinated Substances (PFAS) in Chino and Cucamonga Basins

- Well Sampled
- Well Not Sampled

* Other key map features are described in the legend of Figure 1.

PFAS are a group of emerging contaminants that includes thousands of compounds. In March 2023, EPA released proposed MCLs for six PFAS with compound-specific MCLs for PFOA/PFOS and a mixture-based MCL for perfluorononanoic acid (PFNA), perfluorohexane sulfonic acid (PFHxS), perfluorobutane sulfonic acid (PFBS), and hexafluoropropylene oxide dimer acid (HFPO-DA or GenX Chemicals). The proposed MCL uses a unitless Hazard Index based on the concentration of each of these chemicals relative to individual health-based water concentrations (HBWCs) of 10 ngl (PFNA), 9 ngl (PFHxS), 2,000 ngl (PFBS), and 10 ngl (GenX). If the running annual average of the sum of concentration/HBWC ratios of the four compounds exceeds 1.0, this would be above the MCL. The proposed MCLs received over 120,000 public comments, and EPA submitted final MCLs for interagency review in winter 2023 and plans to finalize in 2024.

PFAS sources to groundwater include direct discharges from industrial and manufacturing activities, leaching from landfills, percolation of wastewater containing PFAS, and runoff from areas where PFAS-containing products such as firefighting foams have been used. In November 2023 the U.S. District Court approved settlements to class-action lawsuits against 3M and DuPont that would restrict future litigation related to PFAS sources unless an entity opted out of the settlement prior to December 2023.

Exposures to PFAS have been associated with developmental and reproductive harm, immune system impairment, liver damage, and increased risk of testicular and kidney cancers. The following observed health effects provide the basis for determining the HDWC for each compound used in the Hazard Index calculation: PFHxS, thyroid effects; PFNA, developmental effects; PFBS, thyroid effects; GenX, liver effects.

The proposed Federal MCLs for PFAS are currently in final review and are expected to become final in 2024. The Safe Drinking Water Act allows a three-year compliance period following formal adoption of the MCL, although the final rule could trigger significant litigation that could lead to delays in commencing compliance and enforcement activities.

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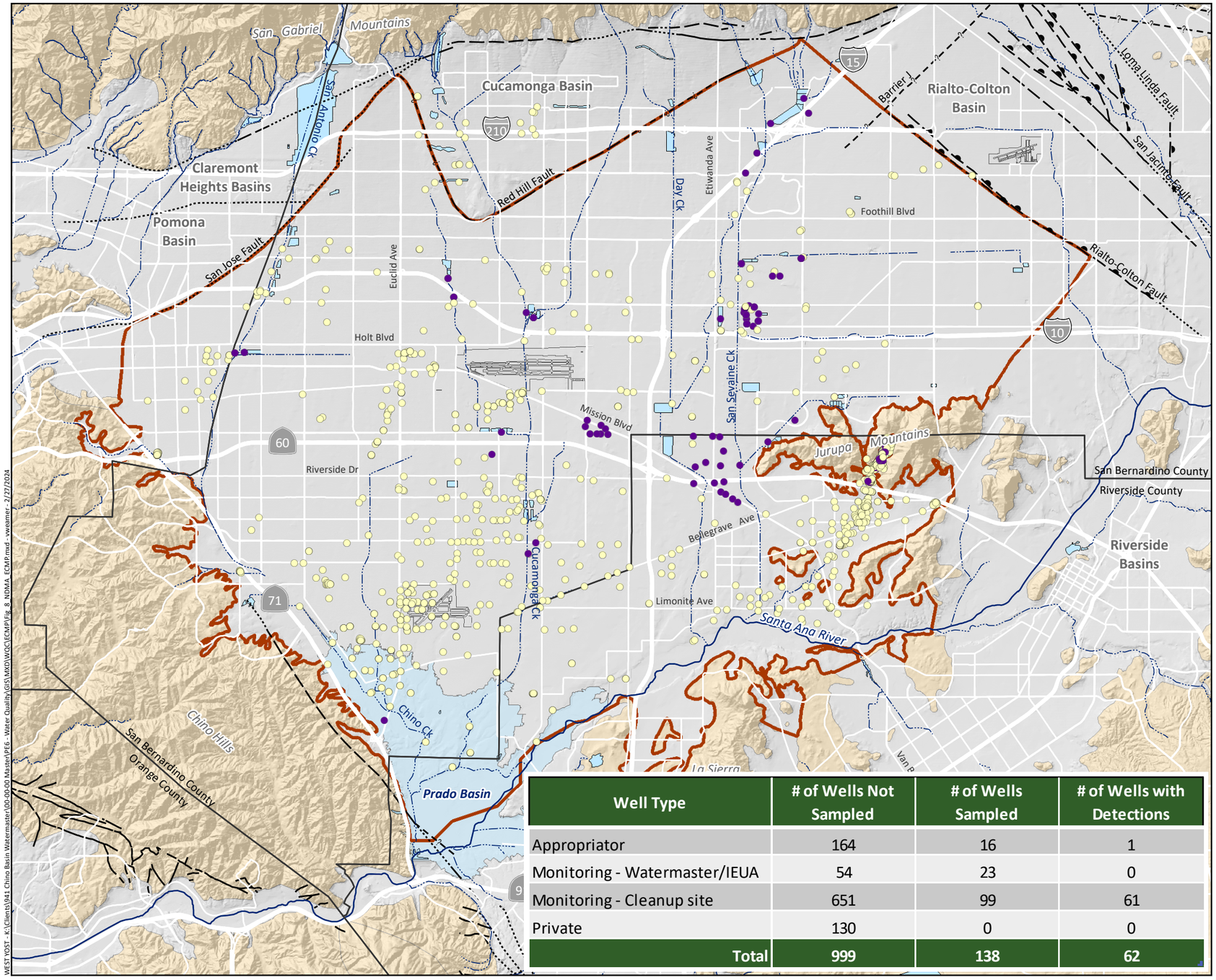
Sampling for PFAS in Groundwater
July 2018 to June 2023

Figure 7



Well Type	# of Wells Not Sampled	# of Wells Sampled	# of Wells with Detections
Appropriator	164	16	1
Monitoring - Watermaster/IEUA	54	23	0
Monitoring - Cleanup site	651	99	61
Private	130	0	0
Total	**999**	**138**	**62**

Sampling for N-Nitrosodimethyamine (NDMA) in Chino and Cucamonga Basins

- Well Sampled (16 Appropriator, 122 Monitoring, 0 Private)
- Well Not Sampled (164 Appropriator, 704 Monitoring, 130 Private)

* Other key map features are described in the legend of Figure 1.

NDMA is part of a class of chemicals called nitrosamines. The current NL for NDMA in California is 10 ngl (0.01 µgl), and NDMA is the only nitrosamine that has a PHG, which is set at 3 ngl (0.003 µgl). NDMA is listed as a priority pollutant by the EPA, but there is currently no Federal or State of California MCL for NDMA.

Sources of NDMA include industrial discharges from the manufacture of rocket fuels, rubbers, and pesticides as well formation as a disinfection by-product during reaction of natural organic matter with monochloramine. NDMA is highly soluble, resistant to biodegradation and does not readily adsorb to soil minerals or soil organic matter (low KOC), so it travels easily through soils and groundwater. Elevated concentrations of NDMA may be found in recycled water because recycled water often contains precursors to NDMA formation such as dimethylamine functional groups, trimethylamine, dimethyl amides, the fungicide thiram, and the herbicide 2,4-D.

Nitrosamines are known carcinogens to the State of California and NDMA is considered a probable human carcinogen (Class B-2) by the EPA. Exposure to NDMA may result in increased risk of liver, kidney, and gastrointestinal cancers, and chronic exposure even at low levels may pose significant health risks.

In 2020 OEHHA initiated the process of updating the PHG for NDMA due to “numerous detections of NDMA in California public drinking water supply wells above the NL of 10 ngl. Following establishment of an updated PHG, the DDW will likely initial the process to develop an MCL.

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0 2 4 Miles

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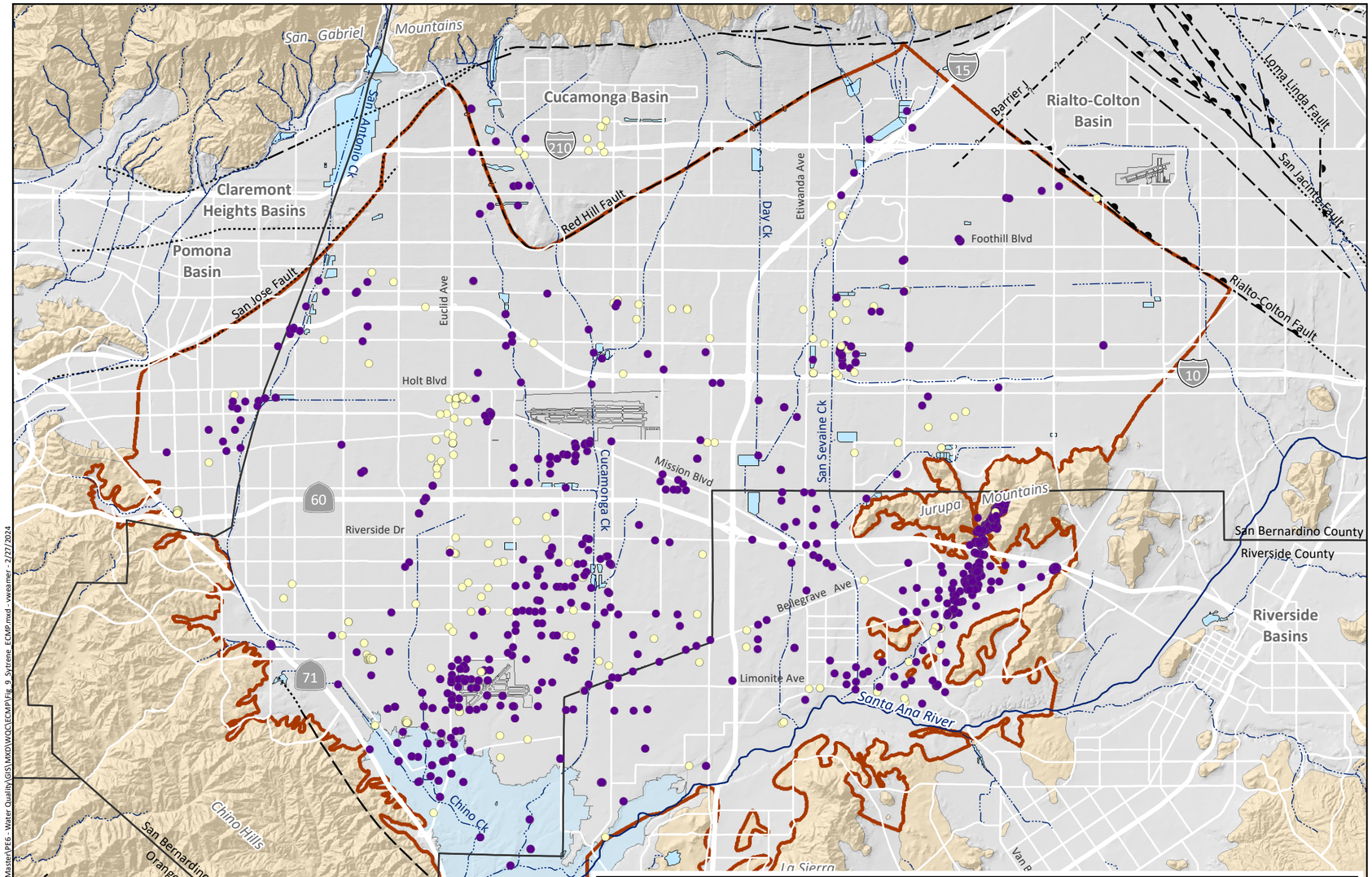
Emerging Contaminants Monitoring Plan

Sampling for NDMA in Groundwater
July 2018 to June 2023

Figure 8



Well Type	# of Wells Not Sampled	# of Wells Sampled	# of Wells with Detections
Appropriator	41	139	0
Monitoring - Watermaster/IEUA	8	71	0
Monitoring - Cleanup site	107	641	35
Private	44	86	0
Total	**200**	**937**	**35**

WEST YOST - K:\Clients\1941 Chino Basin Watermaster\100.00.00 Master\PEG - Water Quality\GIS\MXD\WQCI ECMP\Fig_9_Syrrene_ECMP.mxd - vweimer - 2/27/2024

Sampling for Styrene in Chino and Cucamonga Basins

- Well Sampled
- Well Not Sampled

* Other key map features are described in the legend of Figure 1.

Styrene in drinking water is currently regulated with an MCL of 100 µgl by the State of California and EPA. The EPA MCLG is also 100 µgl, but in 2010 OEHHA released a California PHG for styrene of 0.5 µgl.

The main sources of styrene in groundwater are discharge from rubber and plastic factories and leaching from landfills. Leaching of styrene-containing materials such as styrofoam and construction materials may provide additional sources. Styrene does not readily adsorb to soil and aquifer materials and may travel through soil to groundwater, but it does readily degrade under most environmental conditions.

Both short- and long-term exposure to styrene at concentrations above the MCL can cause adverse health effects. Short-term exposure may result in nervous system effects including depression, loss of concentration, weakness, fatigue, and nausea. Chronic exposure can cause liver and nerve tissue damage, respiratory effects, and possibly cancer.

The current styrene MCL of 100 µgl is significantly higher than the PHG of 0.5 µgl. The State DDW has indicated prioritizing the development of a revised MCL for styrene and set up a notice of rulemaking webpage that was last updated in August 2023 (State of California 2024e). However, this webpage does not currently contain any specific information or a timeline for development of a revised MCL.

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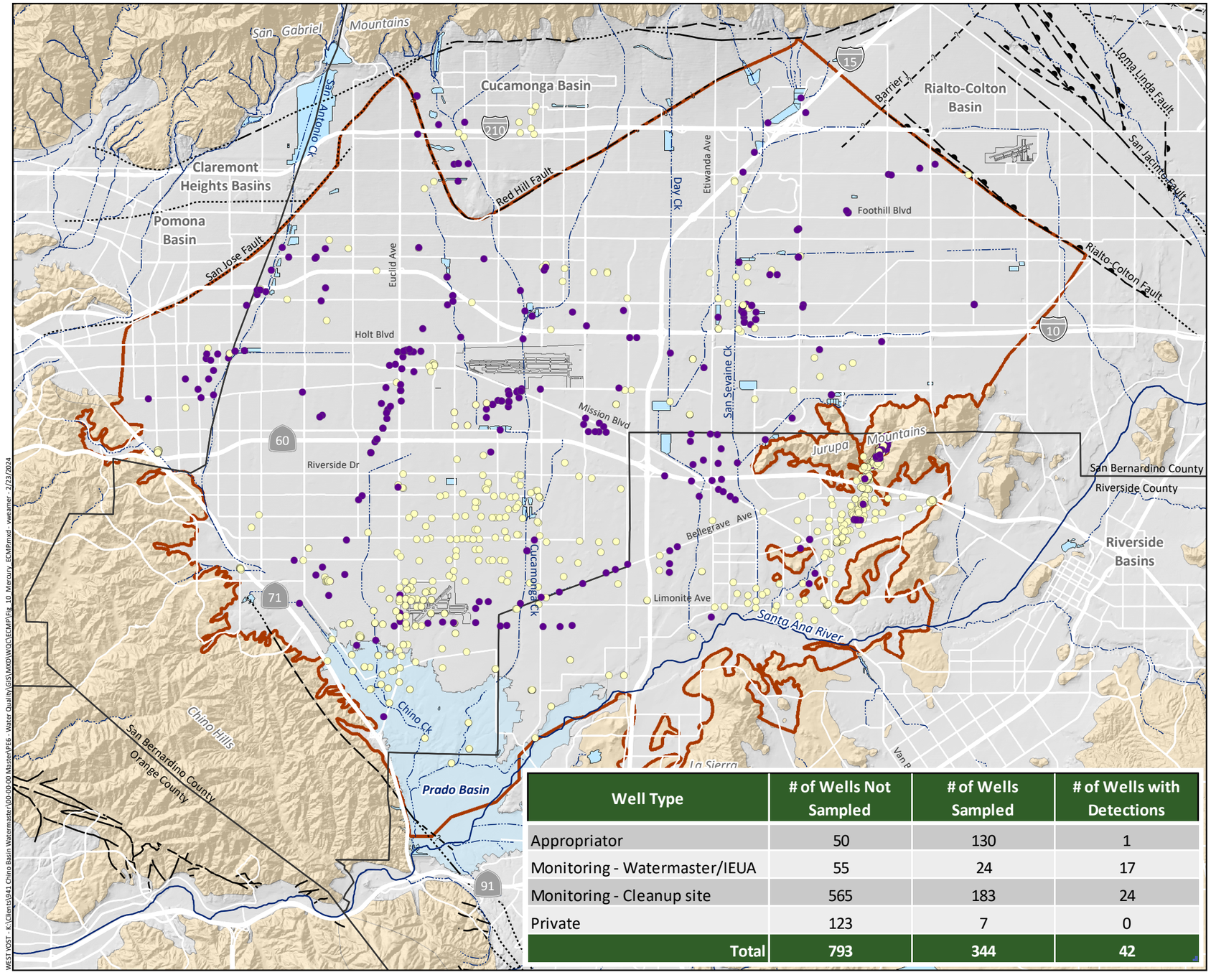
Sampling for Styrene in Groundwater
July 2018 to June 2023

Figure 9



Well Type	# of Wells Not Sampled	# of Wells Sampled	# of Wells with Detections
Appropriator	50	130	1
Monitoring - Watermaster/IEUA	55	24	17
Monitoring - Cleanup site	565	183	24
Private	123	7	0
Total	**793**	**344**	**42**

Sampling for Mercury in Chino and Cucamonga Basins

- Well Sampled
- Well Not Sampled

* Other key map features are described in the legend of Figure 1.

The current California MCL for mercury is 2 µgl, which is also the Federal MCL. The EPA MCL Goal is also 2 µgl while California has a PHG of 1.2 µgl. The current detection limit for reporting (DLR) in California is 1 µgl. The mercury MCL is based on total mercury concentration and does not differentiate between specific forms, e.g. inorganic and organic mercury.

Mercury may enter groundwater through both natural and anthropogenic processes. Natural processes include weathering and dissolution of mercury-bearing minerals. Anthropogenic sources include industrial releases, coal combustion, and mining. Atmospheric deposition is a significant source of mercury in the environment, and deposited mercury may leach to groundwater. The partitioning and mobility of mercury in the environment is complex and includes volatilization, redox and precipitation/dissolution reactions, and changes between inorganic and organic forms.

The health effects of mercury exposure have been known for centuries. The form of mercury has a substantial impact on its toxicity: inorganic mercury exposure can cause respiratory, neural, and renal system injury while the organic form of mercury, methylmercury (CH_3Hg^+) targets the nervous system and can be lethal even at small doses. Human exposure to mercury can occur through drinking water, although concentrations of total mercury (inorganic + organic) in the µgl range are rare.

In August 2023 the State DDW created a rulemaking webpage for cadmium and mercury MCLs (State of California 2024f), however as of February 2024 there is no information available on this webpage.

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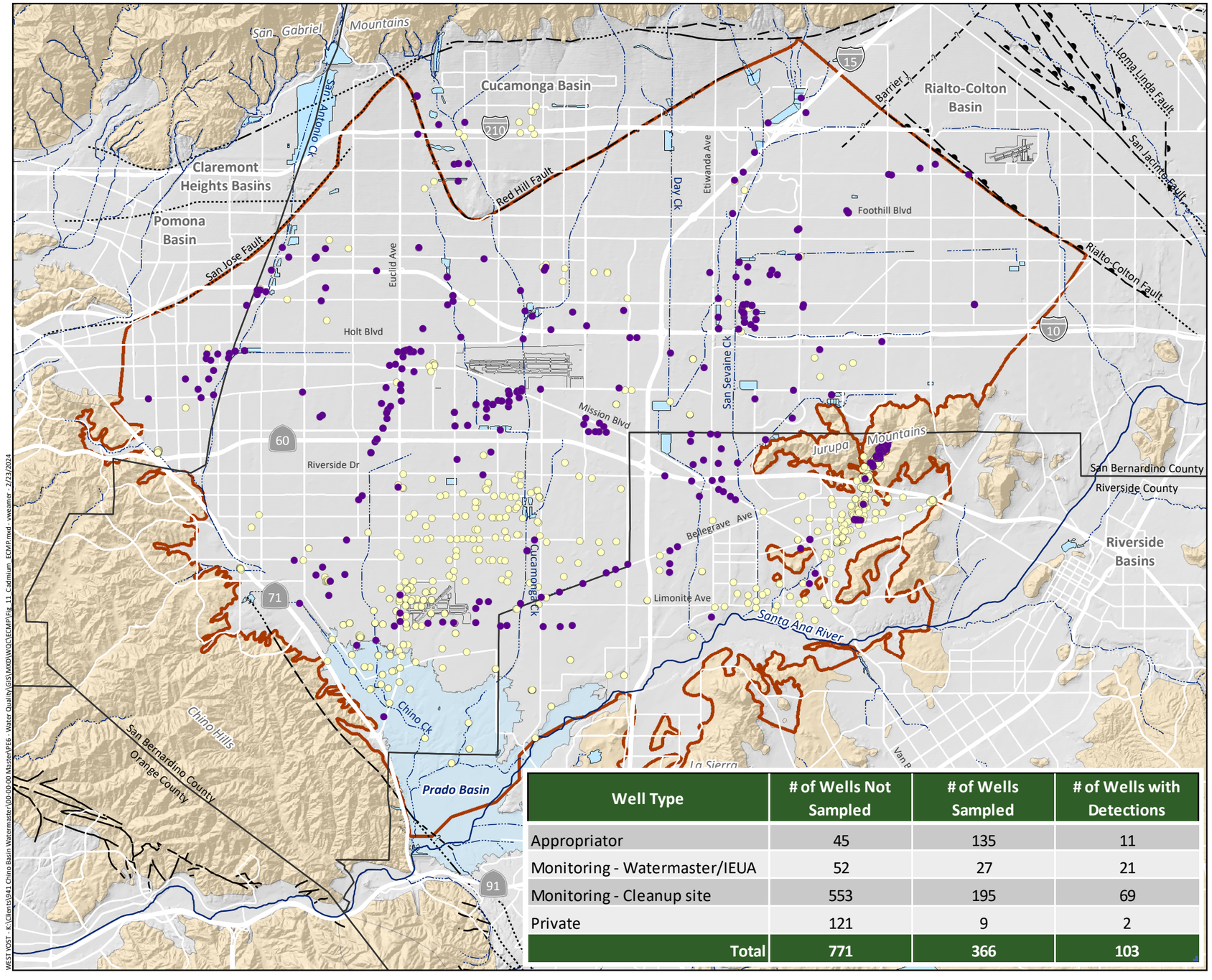
Emerging Contaminants Monitoring Plan

Sampling for Mercury in Groundwater
July 2018 to June 2023

Figure 10



Well Type	# of Wells Not Sampled	# of Wells Sampled	# of Wells with Detections
Appropriator	45	135	11
Monitoring - Watermaster/IEUA	52	27	21
Monitoring - Cleanup site	553	195	69
Private	121	9	2
Total	**771**	**366**	**103**

Sampling for Cadmium in Chino and Cucamonga Basins

- Well Sampled
- Well Not Sampled

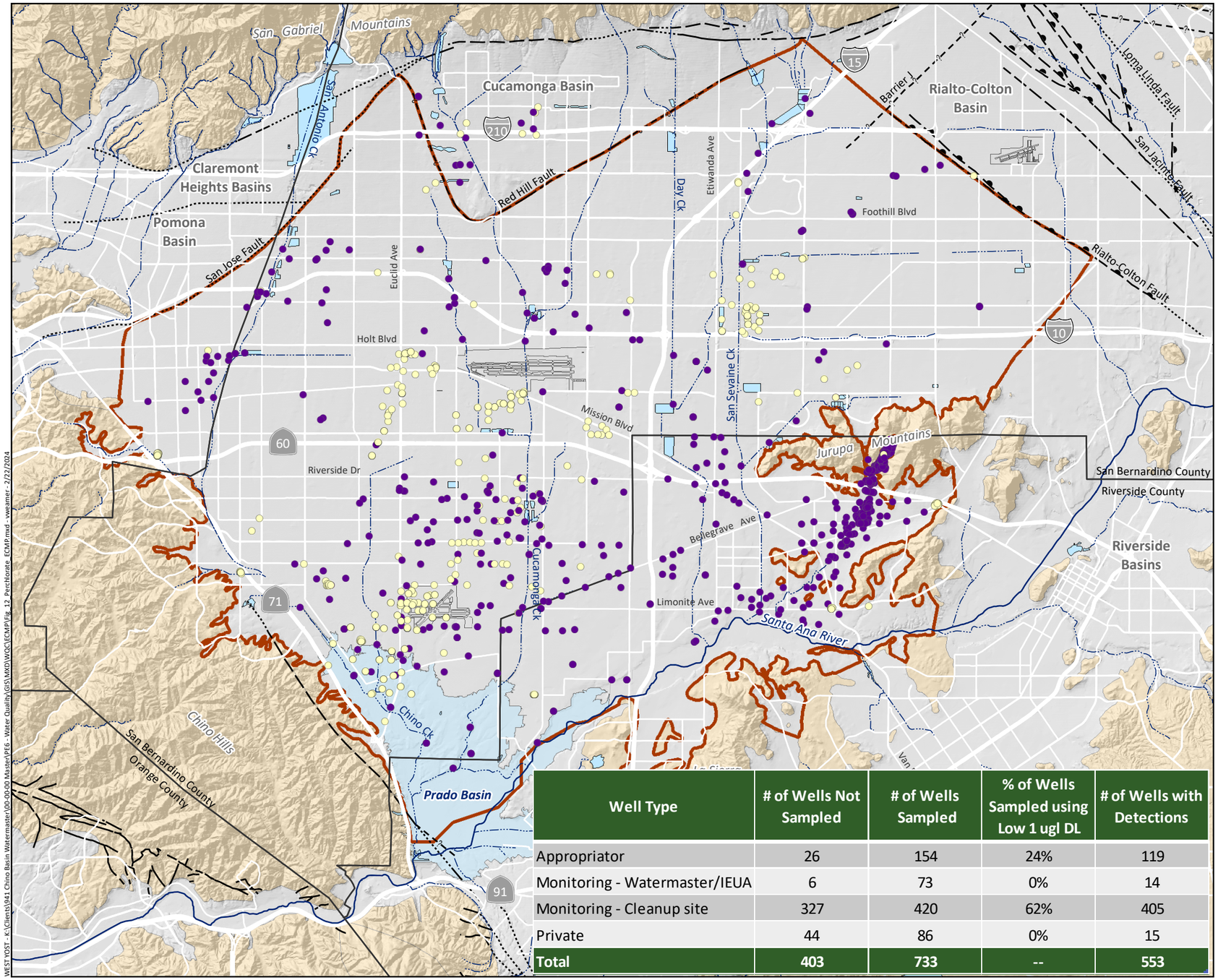
* Other key map features are described in the legend of Figure 1.

The current California MCL for cadmium is 5 µgl, which is also the Federal MCL. The EPA MCL Goal is also 5 µgl while California has a PHG of 0.04 µgl. The current detection limit for reporting (DLR) in California is 1 µgl.

Cadmium occurs mainly as the Cd2+ cation and is highly toxic and mobile. Mobility is generally higher under acidic (lower pH) conditions where adsorption is significantly lower than at alkaline (high pH) conditions. Cadmium can enter groundwater through both natural and anthropogenic processes. Natural processes include weathering and dissolution of cadmium-bearing rocks and minerals, and sulfide-bearing sedimentary rocks have been associated with elevated cadmium concentrations in groundwater. Wildfires in California have lead to increased cadmium concentrations in surface runoff which can infiltrate to groundwater. Anthropogenic sources include combustion emissions, industrial releases from the metal, mining, and battery industries, and the use of phosphate fertilizers and biomass ash which often contain elevated levels of cadmium. Atmospheric sources, water reuse, and agricultural activities may all be diffuse sources of cadmium.

Chronic exposure to cadmium causes kidney damage and osteoporosis due to competition with calcium and may increase risks of cancer and cardiac disease. Exposure to cadmium through food may also be significant, and exposure from all sources is important in determining health effects.

In August 2023 the State DDW created a rulemaking webpage for cadmium and mercury MCLs (State of California 2024f), however as of February 2024 there is no information available on this webpage.



Well Type	# of Wells Not Sampled	# of Wells Sampled	% of Wells Sampled using Low 1 ugl DL	# of Wells with Detections
Appropriator	26	154	24%	119
Monitoring - Watermaster/IEUA	6	73	0%	14
Monitoring - Cleanup site	327	420	62%	405
Private	44	86	0%	15
Total	**403**	**733**	**--**	**553**

Sampling for Perchlorate in Chino and Cucamonga Basins

- Well Sampled **

  ** Most wells were not sampled using a method with a lower dection limit of 1 ugl (equal to the PHG) or lower

- Well Not Sampled

* Other key map features are described in the legend of Figure 1.

The California MCL for perchlorate is 6 µgl and became effective in October 2007. There is currently no Federal MCL for perchlorate, but EPA has studied perchlorate health effects and committed to issue a proposed federal MCL for perchlorate by November 2025. The standard laboratory detection limit for reporting (DLR) for perchlorate is currently 1 µgl and was most recently lowered from 2 µgl on January 1, 2024. The DLR has been lowered multiple times since 2017 to collect additional data for review of the MCL. California established a PHG for perchlorate of 1 µgl in 2015.

Perchlorates are soluble and highly mobile in soils causing them to readily leach into groundwater. Perchlorate and its salts are used in solid propellant for rockets, missiles, and fireworks, and in matches and pyrotechnic applications. Their use can lead to releases of perchlorate into the environment through atmospheric deposition following the use of these products or release associated with manufacture and disposal. Perchlorate may also be found naturally including in northern Chile, where Chilean nitrate fertilizer contains elevated perchlorate concentrations and is distributed for agricultural applications.

Perchlorate exposure affects hormone production by the thyroid by partly inhibiting the thyroid's uptake of iodine and leading to hypothyroidism and ultimately goiter. Since perchlorate exposure affects hormone production essential to growth and development, exposure to children is expected to result in more likely adverse health outcomes. However, health outcomes are difficult to compare because a nation-wide survey found perchlorate in urine was ubiquitous, thus there was no unexposed control group with which to compare.

The stepwise lowering of the DLR in California indicates that as more data on the occurrence of perchlorate in groundwater become available, the MCL may be reevaluated in the future. The timeline for review and rulemaking for a revised MCL is uncertain.

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Emerging Contaminants Monitoring Plan

Sampling for Perchlorate in Groundwater
July 2018 to June 2023

Figure 12

Table 3. Summary of Evaluation of Current and Recommended ECMP Monitoring for 11 Emerging Contaminants

Emerging Contaminant	Figure No.	Number of Wells Not Sampled between July 2018 and June 2023										Recommendation for Monitoring for the ECMP
		Total Wells Not Sampled (out of 1,136)		Appropriator (out of 180)		Monitoring - Watermaster/IEUA (out of 79)		Monitoring - Cleanup Site (out of 748)		Private (out of 130)		
		Number	%	Number	%	Number	%	Number	%	Number	%	
Manganese	2	823	72%	45	25%	52	66%	606	81%	121	93%	Yes , but only at Watermaster monitoring wells and private wells
1,4-Dioxane	3	915	81%	130	72%	46	58%	610	82%	130	100%	Yes, at all well types
Hexavalent Chromium	4	500	44%	52	29%	8	10%	395	53%	45	35%	No, current monitoring is sufficient
Arsenic	5	637	56%	42	23%	2	3%	553	74%	40	31%	No, current monitoring is sufficient
PFOA and PFOS	6	980	86%	97	54%	24	30%	729	97%	130	100%	Yes , but only at Watermaster monitoring wells, private wells, and IEUA monitoring wells. Monitoring for PFAS is already being done by agencies at select locations for the UCMR 5
Other PFAS	7	980	86%	97	54%	24	30%	729	97%	130	100%	
NDMA	8	998	88%	164	91%	54	68%	651	87%	130	100%	Yes, at all well types
Styrene	9	200	18%	41	23%	8	10%	107	14%	44	34%	No, current monitoring is sufficient
Mercury	10	792	70%	50	28%	54	68%	565	76%	123	95%	Yes , but only at Watermaster monitoring wells and private wells
Cadmium	11	771	68%	45	25%	52	66%	553	74%	121	93%	Yes , but only at Watermaster monitoring wells and private wells
Perchlorate [(a)]	12	403	35%	26	14%	6	8%	327	44%	44	34%	Yes, at all well types but using low level detection limit (DL) method (DL of 1.0 µgl or lower)

Notes:
(a) Most historical sampling was performed using an analytical method with a DL greater than 1.0 µgl. O% of the monitoring at the private wells and monitoring wells used a low detection limit ; and 76% of the monitoring at the Appropriator wells used a low detection limit.

4.0 EMERGING CONTAMINANTS MONITORING AND ANALYSIS PLAN FOR FY 2024/25

This section describes the recommended monitoring and analysis plan for the initial ECMP for FY 2024/25, based on the review and analysis of emerging contaminants and recent sampling described in Sections 2 and 3 of this report.

4.1 Recommended Monitoring by Well Type

Table 4 summarizes the recommended monitoring for seven emerging contaminants with data gaps. For each emerging contaminant, Table 4 identifies:

- The laboratory analytical method, detection limit for reporting, and estimated cost per sample. The recommended laboratory methods include EPA developed and approved methods and one non-EPA approved method (for PFAS) and all have method detection limits lower or equal to any health-based advisory limits for the contaminant (i.e. NL, RL, PHG, or draft MCL). The laboratory sampling costs for the EPA-approved methods were obtained from Clinical Laboratories in the City of San Bernadino, who currently performs analysis of water quality samples collected by Watermaster for other monitoring programs.
- Each well type to sample. For each well type, an "X" indicates that the constituent should be monitored, and a blank cell indicates that the constituent does not need to be monitored.
- The cost for laboratory analysis per well, by well type. The costs per well vary by well type, because each well type has a different set of recommended emerging contaminants for monitoring. The costs per sample are:
  - $465 per sample for Appropriator wells
  - $609 per sample for Watermaster monitoring wells
  - $225 per sample for IEUA monitoring wells
- The target number of wells, expressed as a percentage, that should be sampled by well type to fill data gaps identified in Section 3. The target percentages[6] are:
  - 30 to 50 percent of Appropriator wells
  - 50 percent of Watermaster monitoring wells
  - 50 percent of IEUA monitoring wells

[6] The recommended target percentage of wells is a conservative approach in that not all wells have to be sampled to help optimally fill data gaps identified in Section 3 of the ECMP.

Table 4. Recommended ECMP for FY 2024/25

Contaminant	Detection Limit	Laboratory Analytical Method	Estimated Laboratory Cost	Monitor at Well Type				
				Appropriator Well	Watermaster Monitoring Well	IEUA Monitoring Well	Cleanup Site Monitoring Well [b]	Private Well [C]
1,4 - Dioxane	1 µgl	EPA 522	$195	X	X	X		
NDMA	0.003 µgl	EPA 521	$240	X	X			
Perchlorate (low-level method)	1 µgl	EPA 314	$30	X	X	X		
PFAS (55 Compounds)	1 ngl	Cyclopure - DEXSORB® [a]	$79		X			
Manganese	2 µgl	EPA 200.8	$15		X			
Mercury	0.2 µgl	EPA 200.8	$35		X			
Cadmium	0.5 µgl	EPA 200.8	$15		X			
Cost per Sample by Well Type:				$465	$609	$225	$0	$0
Target Percentage of Wells to Sample by Well Type:				30-50%	50%	50%	0%	0%

Notes:

(a) https://cyclopure.com/product/water-test-kit-pro/. A non EPA-approved method for sampling PFAS for informational purposes. Cyclopure designed a treatment technology that uses DEXSORB® to remove PFAS in water. DEXSORB® is a corn-based adsorbent with an adsorption mechanism to bind PFAS to the media. Cyclopure provides a water test for PFAS that uses a DEXSORB® disc to collect a sample to analyze for PFAS. The disc is sent to the Cyclopure laboratory where isotope dilution methods measure a total of 55 PFAS on HPLC-HRMS/MS equipment. The method analyzes for 55 PFAS compounds that are all analyzed between the EPA-approved methods 533 and 537. There is a significant cost saving to using the Cyclopure DEXSORB® method.

(b) Monitoring at the cleanup site monitoring wells is not recommended in this ECMP, as the intent is to focus on the monitoring of water supply wells and Watermaster monitoring wells to support an initial characterization of the identified emerging contaminants in the Chino Basin to inform analyses and discussions of the WQC on how these contaminants can impact pumping and management of the Basin. The results and analyses can inform where additional monitoring is needed, which could be at the site cleanup wells.

(c) Monitoring of private wells is not part of the ECMP (see Appendix A - May 2, 2024 Water Quality Committee Meeting Comment 1 and Response).

4.2 Monitoring Schedule, Coordination, and Cost

The recommended target monitoring period for conducting ECMP sampling for FY 2024/25 is between July 2024 and January 2025. This would allow the sample results to be available to support performing a basin-wide characterization of the distribution of the contaminants in the Chino Basin the end of the FY 2024/25.

Watermaster will perform the recommended monitoring at the Watermaster monitoring wells and will request IEUA and the Appropriator parties sample their own wells on a voluntary basis. Table 5 below summaries the total cost of conducting the ECMP.

Table 5. Summary of Total ECMP Costs

Well Type	Watermaster Monitoring Well	IEUA Monitoring Wells	Appropriator Wells	Total
Laboratory Cost	$15,834	--	--	$15,834
Labor Cost	$3,090	$750	$2,000	$5,840
Total: Watermaster FY 2024/25 Budget	**$18,924**	**$750**	**$2,000**	**$21,674**

Notes:

a) IEUA total cost are estimated as $3,150 to sample 50% of the monitoring wells (14 wells).

b) Appropriator total cost are dependent on the percentage of wells sampled by each Appropriator. Based on the recommendation to sample 30-50% of the wells, total laboratory cost amongst all Appropriators ranges from $26,505 to $37,200 (57 to 80 wells).

The process and cost to perform the monitoring for each well type is described in the subsections below.

4.2.1 Watermaster Monitoring Wells

In FY 2024/25, Watermaster will be performing routine sampling (quarterly, annually, or triennially) for their various regulatory monitoring programs, as follows:

- 3 NAWQA/SARWC wells (quarterly)
- 21 HCMP wells (annually)
- 6 MZ3 wells (annually)
- 5 Kaiser plume wells (annually)
- 17 PBHSP wells (triennially).

Watermaster will perform the ECMP sampling at the same time as this routine monitoring that occurs between July 2024 and October 2024. Approximately 50 percent of the wells will be targeted for sampling and Watermaster will determine which of these monitoring wells to sample in a manner that optimally fills data gaps in the Basin. The additional laboratory cost to sample 50 percent of the wells (about 26 wells) is $15,834. Given that the wells will already be sampled as part of the routine monitoring efforts, the additional labor cost for the ECMP sampling and data management is nominal and expected to be about $3,090. These additional laboratory analysis and labor cost for the ECMP are included in Watermaster FY 2024/25 budget under PE 1 account 7505.

4.2.2 IEUA Monitoring Wells

In FY 2024/25, IEUA will be performing routine quarterly or annual sampling at a network of monitoring wells for the Chino Basin Recycled Water Recharge Program (termed “GWR monitoring wells”). There is a total of 27 GWR monitoring wells. Watermaster will request IEUA to perform additional sampling for the

ECMP constituents at about 50 percent of the GWR monitoring wells (13 to 14 wells) during the routine monitoring events that occur during the target sampling period of July 2024 to January 2025. Watermaster will provide recommendations to IEUA on which wells to sample to optimally fill spatial/depth data gaps.

The additional laboratory cost to IEUA to collect the ECMP samples from 14 GWR monitoring wells on a voluntary basis is estimated to be about $3,090 based on the quote from Clinical Laboratory.

Given that Watermaster is already collecting and processing the GWR water quality data on a routine basis at part of PE 1, the additional Watermaster labor cost for processing and data management of any ECMP sampling performed by IEUA is nominal and expected to be about $750. This cost will be part of the Watermaster FY 2024/25 budget under PE 1 account 7502.

4.2.3 Appropriator Wells

Each Appropriator samples its wells on a variable frequency to meet regulatory requirements and other needs such as sampling for emerging contaminants. Watermaster will prepare and submit a detailed request to each Appropriator for the voluntary sampling for the ECMP constituents recommended for sampling at the Appropriator wells at 30 to 50 percent of the wells. Watermaster will initially correspond with each Appropriator to determine the best means for each agency to provide this request. The percent of wells sampled will be based on the number of wells operated in Chino Basin and the history of sampling. Ideally, the samples would be collected in conjunction with routine monitoring already performed by the Appropriator during the target monitoring period of July 2024 to January 2025. Monitoring will still be recommended, even if it cannot be performed by the Appropriator during the target monitoring period. If desired, the Watermaster can provide recommendations on which wells to sample to optimally fill spatial/depth data gaps. If an Appropriator has performed sampling at their wells with the last five years for any of the contaminants recommended for voluntary sampling in this ECMP, and this data is not yet available to Watermaster, it is recommended that this data be provided to Watermaster so that it can be used to characterize contaminant occurrence in the basin. Sampling for the ECMP is not intended to be duplicate of prior sampling by the Appropriators.

As shown in Table 4, the additional laboratory costs to the Appropriators to collect samples for the ECMP is estimated to be about $465 per sample, based on the quote from Clinical Laboratory. Based on the recommendation to sample 30 to 50 percent of the wells, total cost amongst all Appropriators ranges from $26,505 to $37,200 (57 to 80 wells).

Given that Watermaster is already collecting and processing the Appropriator water quality data on a routine basis as part of PE 1, the additional Watermaster labor cost for processing and data management of any ECMP sampling is nominal and is estimated to be about $2,000. This cost will be part of the Watermaster FY 2024/25 budget under PE 1 account 7502.

4.3 Data Analysis

All ECMP sampling results will be compiled and used to develop maps that characterize the spatial distribution of each emerging contaminant. The maps will be analyzed and reviewed with the WQC, together with other relevant information, to support a discussion on the implications of the contaminant distribution, and related water quality topics of interest. The results of the ECMP sampling from FY 2024/25 can be used to identify and consider the need for future monitoring of priority emerging contaminants to fill data gaps. It is recommended that on an annual basis the WQC revisit the list of

potential emerging contaminants and consider if additional monitoring is desired as part of an updated ECMP to support the WQMP.

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Appendix A

Response To Draft ECMP Comments

CITY OF ONTARIO (CHAD NISHIDA, PE)

Dear Edgar Tellez-Foster,

The City of Ontario (Ontario) has reviewed the Draft Chino Basin Water Quality Management Program (WQMP) Emerging Contaminants Monitoring Plan (ECMP) submitted on March 13, 2024. The ECMP was prepared for Chino Basin Watermaster (Watermaster) by West Yost and with input from the Water Quality Committee (WQC) from meetings held in October 2023 and January 2024. The ECMP is intended help with the long-term maximum beneficial use of the groundwater basin. Ontario understands the importance of characterizing the distribution and concentration of emerging contaminates in the Chino Basin in anticipation of complying with new and increasingly stringent State drinking water regulations. In addition, Ontario will continue to sample in accordance with all drinking water regulations to ensure its customers receive safe drinking water. Although Ontario is committed to working with the WQC to develop and implement the ECMP, we have reservations with respect to project costs, expanded scope, potential duplication of efforts, and the future implication that Watermaster's recommendations have on agencies already complying with the regulations.

The 2020 Optimum Basin Management Program Update (2020 OBMPU) aims to incorporate two activities related to contaminants of emerging concern. Activity E intends to collect and analyze data needed to characterize and proactively plan for water quality challenges to pumping groundwater for supply. Activity F intends to evaluate the treatment and related infrastructure improvements, including multi-benefit collaborative projects, to ensure groundwater can be pumped for beneficial uses. Under activities EF Task 2 is to develop and implement the ECMP

Comment 1 – General

The ECMP and related recommendations should include a public education component to explain the meaning and significance of the reported data. The fact that these chemicals are "unregulated" and that there are no applicable maximum contaminant levels does not generate a sense of public safety and security. It may instead create additional uncertainty and vulnerability in the public, the burden of which is placed on the Appropriator. Extreme care must be exercised in communicating the new data in order to avoid misinterpretation of the implied threat and misunderstanding of the actual health risks.

Response: The ECMP monitoring will be used to characterize contaminant occurrence in the Chino Basin where data is not available and inform the adaptive and flexible GWMP lead by the WQC that addresses emerging contaminants to prepare the parties for addressing compliance with new State and Federal drinking water regulations, and how those regulations could impact pumping in the basin. Section 2 and Table 1 of the ECMP provides background on how these are contaminants being reviewed and evaluated for potential regulation and provides factual information on the advisory or regulatory limits and what they mean, any recent regulatory actions, or documented intent for rulemaking.

The results from ECMP monitoring will be used in combination with any other data collected by Watermaster for these contaminants to prepare maps characterizing emerging contaminants in the Chino Basin to be shared at the WQC meetings. PowerPoints from the WQC meetings are posted to Watermaster website under the *Meetings/Special Committees/Water Quality Committee* page. Precaution will be used when preparing maps and PowerPoints, and a disclaimer will be added to all

maps that reads: “Data shown on this map are to characterize the distribution of a constituent in water where the potential health effects and health levels are being researched and drinking water standards could be developed in the future. Data are from proactive monitoring of raw groundwater and are not representative of the drinking water supplies served in the Chino Basin.” Watermaster is open to continued feedback on the disclaimer used on the maps and ECMP material.

Comment 2 – Section 4.1- Recommended Monitoring by Well Type

The text indicates that the Appropriator wells are recommended to be sampled for a subset of specific emerging contaminants and the target number of wells that should be sampled ranges from 30-50%; however, no additional justification was provided in the ECMP.

a) a. What is the rational for determining 30-50% of Appropriator wells need to be sampled for 1,4-dioxane, N-Nitrosodimethylamine (NDMA), and low-level perchlorate?
b) b. Define the water quality data sources used from July 2018 to June 2023 (e.g., State databases). Has Watermaster contacted Appropriators for well sampling data?
c) c. Is it anticipated that a well attrition analysis will be prepared in the future, similar to the AWQ report for nitrate and total dissolved solids (TDS)?

Response:

a. The recommendation to sample 30 to 50 percent of the Appropriator wells for those three emerging contaminants is intended to be a conservative approach in that not all the wells have to be sampled to help fill the data gaps identified in Section 3 of the ECMP. This also applies to the recommended percentage of wells to sample for the other well types. The following text was added to Section 4.1 of the ECMP to provide more information on this approach:

- Added the bolded italic text to the following bullet under “Table 4 identifies”: “The target number of wells, expressed as a percentage, that should be sampled by well type ***to fill data gaps identified in Section 3***. The target percentages are:”

- Added a footnote to the bullet above that reads “The recommended target percentage of wells is a conservative approach in that not all wells have to be sampled to help optimally fill data gaps identified in Section 3 of the ECMP.”

b. Section 3 of the ECMP describes that Watermaster’s comprehensive groundwater database was used to characterize the current state of monitoring for the 11 emerging contaminants in Figures 2 through 12. The database is believed to be complete of all known existing data and was used to determine data gaps. The recommended voluntary monitoring for the Appropriators to fill data gaps is not intended to duplicate prior sampling by Appropriators (as indicted in Section 4.2.4 of the ECMP). Watermaster has not contacted Appropriators for well sampling data in addition to the routine data collection and upload to the Watermaster water quality database. The following text was added to Section 3.0 to describe the data sources and completeness of Watermaster’s database: “Watermaster’s current water quality monitoring program under PE 1 relies on municipal producers (Appropriators), government agencies and others (cooperators) to supply water-quality data on a cooperative basis. Watermaster supplements these data through its own sampling and analysis of private wells and monitoring wells in the basin.

Watermaster routinely collects all known groundwater and surface water quality data sampled in the basin and processes into standard format, uploads into the database, and reviews for QA/QC. Most of the water quality data for the Appropriators is collected from the State DDW water quality database. This means to utilize the State DDW database over collecting data directly from the Appropriators evolved over time as it was validated to be complete data set and sometimes more robust, a more efficient process, and it is in a consistent format. The same approach is used to collect the water quality data for many cooperators where most of the data is collected from publicly available databases such as the State Board GeoTracker website."

c. It is not anticipated that a well attrition analysis will be part of the ECMP in the future. The intent of the ECMP is to identify emerging contaminants to characterize in the Chino Basin as part of the GWMP and recommend monitoring to fill data gaps on the distribution and concentration of the contaminants by monitoring at known existing wells.

Comment 3 - Table 4 - Recommended ECMP for FY 2024/25

a) Do the sampling costs include field duplicates?

b) Footnote (b) indicates monitoring at site cleanup wells may be recommended in a future ECMP. We believe the burden should be placed on responsible parties to collect analyze these samples. Furthermore, point source contaminant monitoring is typically of greater concern especially when elevated concentration plumes are near drinking water production wells. Why is the priority put on non-point source contamination?

Response:

a. The sampling cost do not include field duplicates, and field duplicates are not required or recommended for the ECMP sampling.

b. The cleanup site monitoring wells were not included in the recommended ECMP monitoring because the intent of ECMP is to focus on monitoring for the identified emerging contaminants at the water supply wells and monitoring wells that Watermaster already samples to characterize the distribution and concentrations to inform analyses and discussions of the WQC on how contaminants can impact pumping and management of the Chino Basin. The WQC will analyze the results from the ECMP and this can inform where additional monitoring is needed, which could be at site cleanup wells. In addition, not including sampling at site cleanup wells in this ECMP is a cost consideration to not include time to work with cooperators and responsible parties to perform this monitoring. The Footnote (b) was modified to read " Monitoring at the cleanup site monitoring wells is not recommended in this ECMP, as the intent is to focus on the monitoring of water supply wells and Watermaster monitoring wells to support an initial characterization of the identified emerging contaminants in the Chino Basin to inform analyses and discussions of the WQC on how these contaminants can impact pumping and management of the Basin. The results and analyses can inform where additional monitoring is needed, which could be at the site cleanup wells."

Comment 4 -Section 4.2.4 -Appropriator Wells

a) Clarify how the detailed request to each Appropriator will be submitted for voluntary sampling as part of the ECMP (e.g., email, letter, etc.). In addition, what type of justification and analysis will be included in the detailed request?

i. We advise against references deadlines, level of priority, or similar language in the detailed request as Ontario is aware of and actively managing any groundwater water quality concerns.

Response: Watermaster will correspond initially with each Appropriator privately to consider the means that each agency considers the best approach to request the ECMP monitoring. The second and third sentences in Section 4.2.3 of the ECMP were modified to: "Watermaster will prepare and submit a detailed request to each Appropriator for the voluntary sampling for the ECMP constituents recommended for sampling at the Appropriator wells at 30 to 50 percent of the wells. Watermaster will initially correspond with each Appropriator to determine the best means for each agency to provide this request."

Comment 5 - Section 4.3 - Data Analysis

ECMPs should be managed to assure uniform quality, consistent data interpretation, eliminate redundant expenditures and should provide a measurable protection to the environment. 2020 OBMPU Activity EF Task 2 states that the ECMP will include a quality assurance project plan (QAPP) that will define the monitoring procedures, QA/QC protocols for data collection and review, and ensures consistent application of the plan. The current ECMP does not reference a QAPP which may lead to inconsistencies in data reporting and data interpretation.

Response: This 2020 OBMPU scoping report included an initial scope of work for Activity EF which described a QAPP as part of the ECMP developed for the WQMP. Task 1 of this initial scope of work was to convene the WQC and precisely articulate the objectives of a WQMP and refine the scope of work. Feedback received during the first two WQC meetings updated the scope of the WQMP to be an adaptive and flexible program informed by the WQC (not an actual plan developed over 7 years) and the ECMP would part of the WQMP to characterize contaminant occurrence in the Chino Basin where data is not available.

The ECMP data is being collected for informational purposes and not regulatory compliance; therefore, a QAPP is not required and would be an unnecessary cost to the parties. Data collected for the ECMP will be sampled and analyzed using the methods identified in the ECMP and corresponding protocols. Watermaster will collect all the samples results and upload to the database maintained by Watermaster. Data will be reviewed for QA/QC using the same procedures used for all water quality data collected and maintained by Watermaster. The data will be analyzed, reported, and shared with the WQC in a consistent manner. For any methods that require strict sampling protocols, an SOP of instructions will be prepared and shared with agencies who are participating in the voluntary monitoring.

Comments 6 - Section 4.4 -Annual Review and Update of the ECMP

a) According to the text, the ECMP is intended to be an adaptive monitoring program that will be revisited annually. Does Watermaster anticipate a scenario where the ECMP is no longer needed or can be evaluated on an alternate frequency (3/5/10-years, etc.)? Data collected within a simulated capture zone may be sufficient to postpone additional sampling for several years.

b) Was the capture zone of the municipal supply well included in this analysis?

c) Does Watermaster anticipate the annual cost of the ECMP sampling will increase or decrease in the future?

Response:

a. As part of the adaptive and flexible WQMP, the annual consideration of the list of priority emerging contaminants to monitor as part of a ECMP will be done annually through the WQC, and the recommended outcome or plan may be there is no sampling needed for the next year. Furthermore, the scope of the WQMP could adapt to a less frequent consideration of these priority emerging contaminants for recommended monitoring if desired by the WQC stakeholders.

b. The capture zone of the municipal wells was not part of the analysis to characterize data gaps for the ECMP. The capture zone can be considered when analyzing the results from the ECMP and could inform where there might need to be additional sampling. Model-generated groundwater-flow vectors can be evaluated with the results from the ECMP to evaluate groundwater flow directions with the water quality concentrations. This analysis could lead to additional analysis of a capture zone in more focused area/s identified by the WQC, that could use more advance tools like backwards particle tracking or fate-and-transport modeling.

c. The ECMP cost are dependent on the WQC's annual identification of the list of priority emerging contaminants to monitor for based on the evolving water quality issues, trends, and concerns, and where there are data gaps that need to be filled.

MONTE VISTA WATER DISTRICT (JUSTIN SCOTT-COE)

Comment 1 – General Comment

Watermaster cannot unilaterally update the Optimum Basin Management Program (OBMP) Implementation Plan (OBMP IP). The Chino Basin Parties stipulated to and the Court approved and ordered Watermaster to perform consistent with a series of Court-approved management agreements (CAMA), beginning with the 2000 Peace Agreement, which includes the OBMP IP. The OBMP IP, as amended by subsequent CAMA, is the Court-approved OBMP to be implemented by Watermaster and the Parties. The OBMP IP does not include an Emerging Contaminants Monitoring Plan (ECMP). Therefore, Watermaster is only authorized to develop an ECMP if Parties agree and the Court so orders. MVWD has not agreed to Watermaster developing an ECMP and is unaware of Watermaster being ordered to do so by the Court. The 2020 OBMP Update, which includes the proposed ECMP, is a planning document developed by Watermaster but neither approved by the Parties nor by the Court. Watermaster should seek consensus from the Parties before moving forward with the ECMP.

Response: The activities described in the Implementation Plan to implement Program Elements 1, 6 and 7 encompass the preparation of the Water Quality Management Program (WQMP), including the Emerging Contaminants Monitoring Plan (ECMP) and Water Quality Committee (WQC). The OBMP Implementation Plan expressly provides that Watermaster will conduct an ongoing groundwater and surface water quality monitoring program, continue monitoring and coordination efforts with the Regional Board, update a priority list and clean-up schedule for all known water quality anomalies, and implement projects of mutual interest, among other activities, at least through 2050. The ECMP is a monitoring plan. The ECMP does not compel any particular action upon analysis of monitoring data.

Comment 2 – Section 1.2

Section 1.2 is incomplete, as it does not describe the more narrow provisions in the OBMP IP under PE 6. Under PE 6 of the OBMP IP, the Water Quality Committee (WQC) was formed specifically to work with the Regional Water Quality Control Board's (RWQCB) staff "to recommend cooperative efforts for monitoring groundwater quality and detecting water quality anomalies." The expanded scope of the WQC and its empowerment to develop an ECMP to assist parties in meeting future drinking water regulatory standards does not fit within the existing Court-approved OBMP IP, which is focused instead on enhancing the RWQCB's capacity to oversee groundwater quality consistent with the Basin Plan. Therefore, once again, Watermaster should seek consensus from the Parties before moving forward with the ECMP.

Response: Section 1.2 states the purpose for convening the WQC in 2003 was to coordinate activities performed under PE 6. The Implementation Plan provides that the role of the WQC is to "review water quality conditions in the Basin and to develop cooperative strategies and plans to improve water quality in the Basin." (Implementation Plan, p. 35.) Development of the ECMP enables the WQC to conduct such a review and provides a framework for identifying water quality anomalies, assisting the Regional Board in determining the sources, and establishing clean-up priorities strategies jointly with the Regional Board, among other things. (See Implementation Plan, p. 34.) Additionally, see response to Comment 1, above.

Comment 3 – Section 4.2

Section 4.2 does not include a total estimated cost for the proposed ECMP. Please provide a total annual cost estimate for implementing the proposed ECMP.

Response: Total ECMP cost were added to the beginning of Section 4.2 as Table 5, in addition to the subtotals by well type described in Sections 4.2.1 – 4.2.4.

Comment 4 – Page 1, Section 1.1, Purpose and Report Organization, First Paragraph,

Edit first sentence from "…in coordination with the Water Quality Committee…" to "…with advice from the Water Quality Committee."

Edit second sentence from "… Water Quality Management Program (WQMP) that is being reestablished under Program Element (PE) 6 of the Chino Basin Management Program (OBMP)." to "… Water Quality Management Program (WQMP) that has been proposed through the 2020 Optimum Basin Management Program Update (2020 OBMPU) process."

Response: Made updates to the first sentence. The proposed edits to the second sentence were not incorporated; see response to Comment 1 above.

Comment 5 – Page 2, Section 1.2 Water Quality Management Under OBMP PE 6: 2000 to 2022, First Paragraph

Edit third sentence from "The management actions were grouped into logical sets of coordinated activities called Program Elements (PEs)." To "The proposed management actions were grouped into logical sets of coordinated activities called Program Elements (PEs)."

Response: The proposed edits were not incorporated. The management actions were developed and identified through multiple stakeholder OBMPU meetings.

Comment 6 – Page 2, Section 1.2 Water Quality Management Under OBMP PE 6: 2000 to 2022, Third Paragraph split at bottom of the page.

Before this paragraph that starts with "Since 2000, Watermaster's groundwater quality monitoring efforts under PE 1…" add the following: "In 2000, the parties stipulated to and the Court approved and ordered Watermaster to perform consistent with the Chino Basin Peace Agreement, which includes the OBMP Implementation Plan (OBMP IP). The OBMP IP contains a more narrow focus for PE 6 on enhancing the RWQCB's capacity to regulate water quality consistent with the Basin Plan."

Response: The proposed edits were not incorporated. See responses to Comments 1 and 2 above.

Comment 7 – Page 3 & 4, Section 1.3 Water Quality Management Under OBMPU PE 6, First Paragraph

Edit second sentence from "Through the 2020 OBMPU development process, the stakeholders concluded that the goals and PEs defined in the 2000 OBMP are still relevant today and identified additional management activities necessary to achieve the goals of the 2020 OBMPU" to "Through the 2020 OBMPU development process, ***Watermaster with input from*** the stakeholders concluded that the goals and PEs defined in the 2000 OBMP are still relevant today and ***proposed*** additional management activities necessary to achieve the goals of the 2020 OBMPU."

Response: The proposed edits were incorporated to the first portion of the sentence and not the second portion of the sentence since the management actions were identified through multiple stakeholder OBMPU meetings. Sentence now reads: "Through the 2020 OBMPU development process, Watermaster with input from the stakeholders concluded that the goals and PEs defined in the 2000 OBMP are still relevant today and identified additional management activities necessary to achieve the goals of the 2020 OBMPU."

Comment 8 – Page 4 Section 1.3 Water Quality Management Under OBMPU PE 6, First Paragraph split at the top of the page

Edit second sentence from "… and identified additional management activities necessary…" To "… and ***proposed*** additional management activities necessary…"

Response: The proposed edits were not incorporated. The management actions were developed and identified through multiple stakeholder OBMPU meetings.

Comment 9 – Page 4, Section 1.3 Water Quality Management Under OBMPU PE 6, Second Paragraph

Edit first sentence from "The specific action identified to encapsulate these activities…" to "The specific action ***proposed*** to encapsulate these activities…"

Edit second sentence from "It was identified that reconvening the WQC would be the ideal approach to…" to "It was ***proposed*** that reconvening the WQC would be the ideal approach to…"

Response: The proposed edit to the first sentence was not incorporated. The management actions were identified through multiple stakeholder OBMPU meetings. The proposed edit to the second sentence was incorporated.

Comment 10 – Page 4, Section 1.3 Water Quality Management Under OBMPU PE 6, Third Paragraph

Prior to this paragraph that starts with "Watermaster held a kick-ff meeting to reconvene the WQC…" please indicate "that the OBMP Update was not approved by the Parties nor by the Court, and the OBMP IP has therefore not been amended consistent with the OBMP Update.

Response: The proposed edits were not incorporated. See response to Comments 1 and 2 above.

STATE OF CALIFORNIA/WSP USA (RICHARD REESE, PG, CHG)

Comment 1 – General Comment

The ECMP is a comprehensive presentation of emergent contaminants in general. We appreciate the level of detail contained in the report for background information, regulatory status, and water quality data by well type. We believe that implementation of the ECMP will help to fill in data gaps for many emergent contaminants in the Chino Basin and will be useful to the parties in their planning efforts to meet future regulatory requirements.

Response: Thank you. Comment noted.

Comment 2 – Specific Comment

On pages ii and 7, NDMA is identified as "nitrosodiethylamine". We believe this should be Nitrosodimethyamine or more properly N-Nitrosodimethyamine, as identified in Figure 8.

Response: Updates made to page ii and 7 to spell N-Nitrosodimethyamine

Comment 3 –Specific Comment

On page 11, in the third paragraph, is a list of seven emerging contaminants. The last sentence states, "Seven of the 11 emerging contaminants are recommended for monitoring for the ECMP at one or more well types, including:" This wording leads the reader to believe that four of the 11 emerging contaminants were not recommended for monitoring. However, eight of the 11 emerging contaminants were selected and two of the eight emerging contaminants that are PFAS-related were combined to form the list of seven emerging contaminants.

Response: On page 11, updated the sentence to describe that "Eight of the 11 emerging contaminants in Table 3 are recommended for monitoring for the ECMP at one or more well types. PFOA, PFOS, and other PFAS are grouped together as 'PFAS' compounds since analysis for these compounds is done together with one laboratory method. Section 4 describes the monitoring plan for these seven emerging contaminants based on well type:"

CITY OF CHINO (DAVE CROSLEY)

Comment 1 – Figures 2-12

Figures 2-12. The figures present information describing the number and location of wells sampled, and the number of detections, but the well locations corresponding to the detections is not presented. Presentation of well locations corresponding to detections, similar to exhibits included in the State of the Basin report, may reveal geographic areas of concern for future focused attention.

Response: The WQC will evaluate results from ECMP sampling along with other data that is collected to characterize the distribution and concentration of emerging contaminants in the Chino Basin, which have the potential to impact basin operations and management. Concentration maps will be prepared of the emerging contaminants similar to the maps made for the State of the Basin Reports. The analyses will inform data gaps and/or potential areas for future focused monitoring or analyses of the WQC.

Comment 2 – Table 4

Table 4 presents information describing estimated laboratory costs for listed contaminants, and analyses cost per sample by well type. Section 4.2 describing various cost elements should also include an estimate of the total cost associated with implementation of the proposed Emerging Contaminants Monitoring Plan.

Response: Total ECMP cost were added to the beginning of Section 4.2 in addition to the subtotals by well type described in Sections 4.2.1 – 4.2.4.

MAY 2, 2024 WATER QUALITY COMMITTEE MEETING

There was feedback received on the draft ECMP at various meetings in addition to the written comments. This feedback was discussed at the May 2, 2024 WQC meeting and resulting updates were made to the final ECMP. The feedback and responses are described below.

Comment 1 – Proposed Monitoring at the Private Wells

The Agricultural Pool provided feedback at the pool meeting in March 2024 that Watermaster reconsider the monitoring that has been proposed in the draft ECMP at the private wells. Watermaster staff, Agricultural Pool members and legal council met in late April to discuss further. The Ag Pool described the concerns and potential implications of this monitoring for the private well owners and property, and requested further reconsideration of the proposed ECMP monitoring at the private wells.

Response: At the May 2024 WQC meeting it was discussed that the private wells should be removed from the ECMP monitoring and updates were provided on the cost implications to the Watermaster Engineering Budget for FY 2024/25. The monitoring at the private wells for the ECMP was removed from the recommended monitoring in Section 4 of the final ECMP.

Comment 2 – Consideration of Alternative Method for Monitoring for PFAS

At the January 31, 2024 meeting, a suggestion was provided to consider using an alternative, less expensive sampling method for PFAS compounds. The method is not EPA-approved but could provide cost savings.

Response: Watermaster researched this alternative PFAS method to determine accuracy and feasibility of its use and presented the information at the May 2024 WQC meeting, including the pros/cons, the cost implications to the Watermaster Engineering Budget for FY 2024/25, and a recommendation to use the method. The committee agreed that this alternative method should be used for the ECMP monitoring because the data collected from the ECMP is being collected for informational purposes and not for regulatory purposes. The PFAS method information was replaced in Table 4 to include the alternative PFAS method "Cyclopure-DEXTORB®" and a footnote was added that reads: "Non EPA-approved method for sampling PFAS for informational purposes. Cyclopure designed a treatment technology that uses DEXSORB® to remove PFAS in water. DEXSORB® is a corn-based adsorbent with an adsorption mechanism to bind PFAS to the media. Cyclopure provides a water test for PFAS that uses a DEXSORB® disc to collect a sample to analyze for PFAS. The disc is sent to the Cyclopure laboratory where isotope dilution methods measure a total of 55 PFAS on HPLC-HRMS/MS equipment. The method analyzes for 55 PFAS compounds that are all analyzed between the EPA-approved methods 533 and 537. There is a significant cost saving to using the Cyclopure DEXSORB® method."

Additionally, some sentences were removed in Sections 4.2.1 and 4.2.2 that described: 1) how Watermaster and the WQC would research this alternative method and further consider it for the ECMP, and 2) the use of field reagents blanks that are required for the EPA method 533 and 537 that is no longer being used for the ECMP.

Comment 3 – Implication of new PFAS MCL on the proposed ECMP monitoring

On April 10, 2024, the EPA announce the final rule for drinking water MCLs for six PFAS, including PFOA and PFOS. This has implications to monitoring that will be performed in the Chino Basin.

Response: Many of the Appropriator wells will be sampled for PFAS within 1-3 years pursuant to the new MCL rule; this is in addition to the PFAS monitoring that will be performed under the EPA's UCMR 5 between 2023-2025. The monitoring for PFAS was not recommended for the Appropriator wells because of this anticipated UCMR 5 sampling and now the monitoring for the new MCL. And PFAS will now be monitored at the IEUA monitoring wells near the recharge basins on an annual basis pursuant to monitoring requirements of the IEUA/Watermaster recycled water recharge permit R8-2007-0039, because of the new MCL. Because of this future sampling of PFAS at the IEUA monitoring wells, the recommended monitoring of PFAS at 50 percent of the IEUA monitoring wells in the draft ECMP was removed from the final ECMP.

Project Status: Wineville/Jurupa/RP3 Basin Improvements

Budget:

- Authorized capital budget: $28,846,016

Available Funding:

- $15.4 M in SRF Loan at 0.55%
- $10.8 M is State and Federal Grants

Progress:

- Construction 85% completed

Pending Completion:

- Electrical wiring & SCE work
- Control Programming
- Rubber Dam
- Procuring and installation of P

Current Activities:

- Electrical wiring & SCE work in progress
  - Planned completion October 31, 2024
- Control Programming awaiting electrical
  - Planned completion November 30, 2024
- Awaiting arrival of Rubber Dam equipment
  - Planned Completion November 30, 2024
- Procuring and installation of Pumps
  - See schedule

Updates:

- IEUA/CBWM approved additional appropriation for the increased cost for the project
- Finalize the procurement documents for the pumps

Detailed Schedule for the Pumps

TASK	PROGRESS	START	END
Prepare Solicitation Documents		**6-Jun-24**	**11-Sep-24**
Draft Documents	100%	6-Jun-24	22-Aug-24
Review Documents	100%	23-Aug-24	28-Aug-24
Finalize Documents	43%	29-Aug-24	11-Sep-24
Solicitation and Award		**19-Sep-24**	**18-Dec-24**
Enter into PlanetBids	0%	19-Sep-24	19-Sep-24
Solicitation (Q&A Period)	0%	20-Sep-24	14-Oct-24
Final Week of Solicitation	0%	15-Oct-24	19-Oct-24
Close Solicitation	0%	20-Oct-24	20-Oct-24
Review	0%	21-Oct-24	3-Nov-24
Prepare Purchase Order Documents	0%	4-Nov-24	17-Nov-24
Award Purchase Order (Board Date)	0%	18-Dec-24	18-Dec-24
Submittal Review		**1-Jan-25**	**26-Mar-25**
First Submittal	0%	1-Jan-25	15-Jan-25
Review Frist Submittal	0%	15-Jan-25	29-Jan-25
Second Submittal	0%	29-Jan-25	12-Feb-25
Review Second Submittal	0%	12-Feb-25	26-Feb-25
Final Submittal	0%	26-Feb-25	12-Mar-25
Review Final Submittal	0%	12-Mar-25	26-Mar-25
Pump Fabrication/Installation/Testing/Close-out		**2-Apr-25**	**31-Dec-25**
Fabrication (22 weeks)	0%	2-Apr-25	3-Sep-25
Delivery	0%	3-Sep-25	17-Sep-25
Installation	0%	17-Sep-25	17-Nov-25
Testing	0%	17-Nov-25	17-Dec-25
Close Out	0%	17-Dec-25	31-Dec-25