CHINO BASIN WATERMASTER

NOTICE OF MEETINGS

September 25, 2003
10:00 a.m. – Advisory Committee
1:00 p.m. – Watermaster Board
(Lunch will not be provided)

AT THE OFFICES OF
INLAND EMPIRE UTILITIES AGENCY
6075 Kimball Avenue, Chino, CA 91710
(909) 993-1600

CHINO BASIN WATERMASTER

Advisory Committee Meeting

10:00 a.m. – September 25, 2003

AT THE OFFICES OF

INLAND EMPIRE UTILITIES AGENCY

BUILDING A, SADIE ALEXANDER MEETING ROOM

6075 Kimball Avenue, Chino, CA 91710

(909) 993-1600

AGENDA

CALL TO ORDER

AGENDA - ADDITIONS/REORDER

I. CONSENT CALENDAR

Note: 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 (Watermaster Board)

1. Minutes of the Watermaster Board Meeting held August 28, 2003 *(page 1)*

B. FINANCIAL REPORTS

1. Cash Disbursement Report – August 2003 *(page 7)*

C. STATUS REPORT NO. 8

Authorize staff and legal counsel to make non-substantive edits if necessary and file OBMP Implementation Status Report No. 8 with the court *(page 9)*

D. WATER TRANSACTION

1. Transfer of Annual Production Right for FY 2002-2003 from Santa Ana River Water Company to Jurupa Community Services District in the amount of 2,000 acre-feet *(Notice mailed August 7, 2003, Approved by the Pool Committees August 14, 2003) (page 29)*

E. IEUA CONJUNCTIVE USE FY 2004 FUNDING REQUEST

Authorize support of IEUA's funding request for $500,000 in the FY 2004 Energy and Water Development Appropriations Bill for continued implementation of this water development project, and to monitor for perchlorate and other water quality problems in the Chino Basin. *(page 41)*

II. BUSINESS ITEMS - POSSIBLE ACTION

A. BALANCE OF RECHARGE & DISCHARGE IN ALL AREAS, AND DETERMINATION OF OPERATING STORAGE & SAFE STORAGE

At the August meetings, Mr. Wildermuth presented a Draft Technical Memorandum on the Dry-Year Yield findings related to recharge and discharge in all areas and operating storage and safe storage. The Pools took unanimous action on September 11, recommending that the Watermaster file the report with the Court. *(page 43)*

III. REPORTS/UPDATES

A. WATERMASTER GENERAL LEGAL COUNSEL REPORT

1. Chino Land & Water
2. Chino Paragraph 15 Motion

3. September 4, 2003 Hearing
4. Central Basin Appellate Decision

B. CEO REPORT/UPDATES

1. Establishment of Workgroup to address MVWD issues
2. Update regarding MZ1 Technical Committee Meeting of Wednesday September 24
3. Update regarding Water Quality Committee Meeting of Wednesday September 24
4. Update regarding Relocation of Watermaster Offices
5. Update regarding State's Desal Task Force Meetings on August 26 and 27
6. Update regarding preparation of 2003/2004 Assessment Package

C. INLAND EMPIRE UTILITIES AGENCY AGENDA *(page 105)*

1. QSA Update - Rich Atwater
2. Imported Water Report - Dave Hill (handout)
3. MWD Dry Year Yield Program - John Rossi (oral)
4. Recycled Water Program - Tom Love (attached)
5. Chino Basin facilities Improvement Project (recharge) - Tom Love (attached)
6. IEUA August Water Resources Report - Dave Hill (handout)
7. State/Federal Legislation - Martha Davis (attached)
8. Public Relations - Sondra Elrod (oral)

D. OTHER AGENCY REPORTS

E. INFORMATION

University of California Biennial Ground Water Conference, Ontario Doubletree Inn, October 28 and 29, 2003 *(page 157)*

IV. COMMITTEE/BOARD MEMBER COMMENTS

V. OTHER BUSINESS

VI. FUTURE MEETINGS AND EVENTS

September 25, 2003	10:00 a.m.	Advisory Committee Meeting
	1:00 p.m.	Watermaster Board Meeting

Note: September 25 meetings will be held at Inland Empire Utilities Agency, Bldg. A Board Room, 6075 Kimball Avenue, Chino, California 91710 (909) 993-1600

October 9, 2003	8:30 a.m.	Storage & Recovery Workshop
	10:00 a.m.	Joint Appropriative Pool & Non-Agricultural Pool Meeting
	1:00 p.m.	Agricultural Pool Meeting

Note: October 9 meetings will be held at Inland Empire Utilities Agency, Bldg. B Anza Room, 6075 Kimball Avenue, Chino, California 91710 (909) 993-1600

October 23, 2003	10:00 a.m.	Advisory Committee Meeting
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Meeting Adjourn

CHINO BASIN WATERMASTER

Watermaster Board Meeting
10:00 a.m. – September 25, 2003
AT THE OFFICES OF
INLAND EMPIRE UTILITIES AGENCY
BUILDING A, SADIE ALEXANDER MEETING ROOM
6075 Kimball Avenue, Chino, CA 91710
(909) 993-1600

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PLEDGE OF ALLEGIANCE & INVOCATION

PUBLIC COMMENTS

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Authorize support of IEUA's funding request for House budget line item of $500,000 in the FY 2004 Energy and Water Development Appropriations Bill to provide essential funding for the continued implementation of this water development project, and to monitor for perchlorate and other water quality problems in the Chino Basin. *(page 41)*

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4. Update regarding Relocation of Watermaster Offices
5. Update regarding State's Desal Task Force Meetings on August 26 and 27
6. Update regarding preparation of 2003/2004 Assessment Package

C. AGWA REPORT *(page 151)*

1. Minutes for meeting held August 18, 2003
2. Agenda for meeting held September 15, 2003

D. OTHER REPORTS

E. INFORMATION

University of California Biennial Ground Water Conference, Ontario Doubletree Inn, October 28 and 29, 2003 *(page 157)*

IV. BOARD MEMBER COMMENTS

V. OTHER BUSINESS

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October 23, 2003	10:00 a.m.	Advisory Committee Meeting
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Meeting Adjourn

CHINO BASIN WATERMASTER

AGENDA PACKAGE

September 25, 2003
10:00 a.m. – Advisory Committee Meeting
1:00 p.m. – Watermaster Board Meeting

AT THE OFFICES OF
INLAND EMPIRE UTILITIES AGENCY
6075 KIMBALL AVENUE
CHINO, CA 91710

CHINO BASIN WATERMASTER

September 25, 2003

10:00 a.m. – Advisory Committee Meeting
1:00 p.m. – Watermaster Board Meeting

I. CONSENT CALENDAR

A. MINUTES

Draft Minutes
CHINO BASIN WATERMASTER
WATERMASTER BOARD MEETING
August 28, 2003

The Watermaster Board Meeting was held at the offices of Cucamonga County Water District, 10440 Ashford Street, Rancho Cucamonga, CA 91729 on August 28, 2003 at 1:00 p.m.

WATERMASTER BOARD MEMBERS PRESENT

Dennis Yates, Chair	City of Chino
Terry Catlin, Vice-Chair	Inland Empire Utilities Agency
Dan Rodriguez, Secretary	Appropriative Pool, City of Pomona
Vic Barrion	Non-Agricultural Pool, Reliant Energy, Etiwanda LLC
David DeJesus, Alternate*	Three Valleys Municipal Water District*
Paul Hofer	Agricultural Pool, Crops
Bob Kuhn	Three Valleys Municipal Water District
Donald Schroeder	Western Municipal Water District
Geoffrey Vanden Heuvel	Agricultural Pool, Dairy
Michael Whitehead	Appropriative Pool, Nicholson Trust

Note: Board Alternate DeJesus represented Three Valleys Municipal Water District prior to the arrival of Board Member Kuhn at 1:15 p.m.

WATERMASTER BOARD MEMBERS ABSENT
None

Appropriative Pool Members Present

Mark Kinsey	Monte Vista Water District

Watermaster Staff Present

John Rossi	Chief Executive Officer
Sheri Rojo	Finance Manager
Daniel Maurizio	Senior Engineer
Mary Staula	Recording Secretary
Gordon Treweek	Project Engineer
Devonya Williams	

Watermaster Consultants Present

Dave Argo	Black & Veatch
Michael Fife	Hatch & Parent
Mark Wildermuth	Wildermuth Environmental, Inc.

Others Present

Barbara Gilbert	Western Municipal Water District
Josephine Johnson	Monte Vista Water District
Diane Sanchez	State Department of Water Resources

The meeting was called to order by Chair Yates at 1:00 p.m., followed by the flag salute.

Chair Yates announced that Mayor Jim Thalman, City of Chino, passed away last evening. Funeral arrangements will be provided once they have been scheduled.

PUBLIC COMMENTS
None

INTRODUCTIONS
Mr. Rossi introduced Danielle (Dani) Maurizio, Watermaster's Senior Engineer

AGENDA - ADDITIONS/REORDER
None

I. CONSENT CALENDAR

A. MINUTES
Draft Minutes of the Watermaster Board Meeting held July 24, 2003

B. FINANCIAL REPORTS
1. Cash Disbursement Report – July 2003
2. Combining Schedule of Revenue, Expenses and Changes in Working Capital for the Period July 1, 2002 through June 30, 2003
3. Treasurer's Report of Financial Affairs For June 1 through June 30, 2003
4. 2002-03 Actual YTD Revenues And Expenses Compared With Adopted 2002-03 Budget

C. WATER TRANSACTIONS
Application to Recapture Water in Storage by Fontana Water Company in the amount of 2.516 acre-feet stored by the Nicholson Trust and Transfer Annual Production Right or Safe Yield from The Nicholson Trust to Fontana Water Company in the amount of 4 acre-feet *(Notice mailed June 11, 2003; Approved by the Pool Committees July 10 & 17, 2003)*

F. ASSOCIATION OF GROUND WATER AGENCIES ALTERNATE REPRESENTATIVE
Appoint Watermaster Project Engineer, Gordon Treweek, as Watermaster's alternate representative to AGWA

Motion by DeJesus, second by Rodriguez, and by unanimous vote
Moved, to approve Consent Calendar Items A through F, as presented.

II. BUSINESS ITEMS

A. STORAGE & RECOVERY PROGRAM SCOPE OF WORK AND BUDGET
The Board members were requested to authorize the scope and budget of $373,749 for engineering services on the Storage & Recovery Project. Black & Veatch reviewed the scope and provided additional information pertaining to specific tasks. Funds for this work were included in the FY 2003-2004 budget. The work is scheduled for completion by July 2004.

Motion by Vanden Heuvel, second by Catlin, and by unanimous vote
Moved, to authorize the scope of work and budget for Black & Veatch engineering services on the Storage & Recovery Project.

B. LEASE AGREEMENT FOR WATERMASTER OFFICE
The terms outlined on page 43 of the agenda package for the lease agreement between Chino Basin Watermaster and Cucamonga County Water District (CCWD) were reviewed. Relocation of the Watermaster office is anticipated to occur on or about September 12. Mr. Rossi discussed the various improvements and upgrades required to ready the building. Cucamonga County Water District provided most of the building improvements while Watermaster is responsible for upgrades such as computer/telephone wiring, equipment for the boardroom, relocation of the copy machines, etc. The new lease cost plus the amortized costs for relocating are at, or less than Watermaster's current monthly expenditures, while almost doubling the square footage in office space.

Motion by Vanden Heuvel, second by DeJesus, and by unanimous vote
Moved, to approve the terms in the lease agreement between Chino Basin Watermaster and Cucamonga County Water District for relocating the office of Watermaster.

C. CHINO BASIN FACILITIES IMPROVEMENT PROJECT

In a presentation, Tom Love of Inland Empire Utilities Agency outlined Bid Packages No. 1 through No. 7 for the Chino Basin Facilities Improvement Project. He discussed the Engineer's estimate and the budget for construction of Bid Package No. 3, the Jurupa Basin Force Main. The low bid was from W. A. Rasic Construction, Inc. in the amount of $2,889,477. The Inland Empire Utilities Agency recommended the construction for Bid Package No. 3 be awarded to W. A. Rasic Construction, Inc. and that Watermaster's CEO and IEUA's GM be authorized to finalize and execute the construction contract.

Discussion ensued with regard to facilitating the management and operations of the basins 24 hours/day, seven days/week. Several related details have yet to be worked out in that regard. Mr. Rossi suggested the details be taken to the Recharge Group for discussion at their meeting on Tuesday, September 9. The Board Members were asked to receive this as information only and staff will bring it back for action after the Recharge Group has met.

No action taken.

D. STATEMENT OF INTENT BETWEEN THE DEPARTMENT OF DEFENSE (DOD) AND LOCAL ENTITIES

A letter was received from Cucamonga County Water District requesting Watermaster support a Statement of Intent between the DOD and local agencies by becoming a co-signatory on the document. A copy of their letter was included in the meeting package. Mr. Rossi requested the Board authorize the CEO to sign the Statement of Intent, executed on July 11, 2003 in order to expand collective efforts and resources to effect solutions to perchlorate issues. However, the Watermaster Board members decided to defer this matter to the Water Quality Committee for review and a recommendation.

No action taken.

E. MVWD PRESENTATION TO BOARD REGARDING SALT CREDITS

As clarification, Mr. Rossi apologized to Monte Vista Water District (MVWD) for this item being incorrectly titled as an "MWD" presentation on the pool meeting agenda. He updated the Watermaster Board members with regard to the number of meetings that have been held and the action previously taken by the appropriators with regard to salt credits.

Mr. Kinsey, General Manager of MVWD, provided background information and explained that MVWD continues to pursue the matter of salt credits based on their understanding during negotiations of the Peace Agreement that the appropriators would receive salt credits to offset their share of the costs to construct desalters. He emphasized that MVWD supports the Maximum Beneficial Use Proposal, however they believe there is an equity issue that needs to be addressed. MVWD hired Mr. Glenn Reiter, Lowry Consultants, to review the equity issue and present his analysis at this meeting.

Mr. Reiter presented a comparison of mg/l between the Basin Objectives and the TIN/TDS Study Objectives under the Maximum Benefit Proposal. Comparisons were also shown of the number of appropriators providing funds and the number receiving benefits, the percentages of funding vs. benefit allocation among the appropriators, and the cost difference using imported water versus recycled water. He recommended a "work group" be assigned to look into possible solutions to resolve the equity issues. Mr. Atwater has volunteered to Chair the group.

Mr. Kidman, Legal Counsel for MVWD, added that MVWD's request is for fairness and equity rather than specifically for salt credits. He cited historical information that led up to the appointment and current composition of the 9-member Watermaster Board. He said it was comprised in such a way to ensure equity among its members. Additionally, his firm prepared a memorandum for inclusion in the record that describes the legal undertakings for a concept to provide either salt credits or a substitute for salt credits. He pointed out that Monte Vista intends to uphold the Peace Agreement because it calls for salt credits to be allocated equitably as a benefit of the costs incurred to improve Basin water quality.

Some Board Members expressed that the Peace Agreement was negotiated for a far greater purpose than individual agency benefits. Following the Court order and timeline for developing the Optimum Basin Management Program (OBMP), the parties negotiated and entered the Peace Agreement for the purpose of working together in a cooperative manner toward one goal, to develop and implement OBMP projects for the benefit of the Basin, the public, and the generations to come. Everyone had agreed that was the right thing to do. Some of the Board Members felt that MVWD's concerns could be further evaluated by a workgroup. In that same cooperative vein, there were no objections to establishing a workgroup as requested to explore possible solutions to resolve the equity issue.

Motion by Whitehead, second by Catlin, and by unanimous vote

Moved, to support the establishment of a workgroup consisting of Watermaster, Inland Empire Utilities Agency and others appropriate to seek ways to address this issue.

III. REPORTS/UPDATES

A. WATERMASTER GENERAL LEGAL COUNSEL REPORT

1. Chino Land & Water
   Counsel Fife reported on the appeal filed by Chino Land & Water vs. Lewis Investment Company and provided copies of Chino Land & Water's opening brief as a handout. As previously discussed, Legal Counsel recommended that Watermaster file an Amicus Brief. The Board members concurred and directed Legal Counsel, without formal action, to prepare an Amicus Brief for review in September.
2. Hearing re Cyclic Storage Agreement Amendment
   That Court will hear the motion to approve the Amendment to the MWD Cyclic Storage Agreement on September 4 at 1:30 p.m. No opposition is anticipated.

ADDED:

3. Colonies Project
   The Colonies Project CEQA case was settled last week and portions of other cases file on the project were dismissed. There remains an outstanding issue that is a portion of another case concerning whether or not the Flood Control District had abandoned its easements on the property. It will be a matter of concern to Watermaster if the judge finds that the Flood Control District had abandoned the easements. If that happens, it may be a good idea for Watermaster to file an Amicus Brief.
4. Forebearance Plan
   The City of Chino and the City of Chino Hills have indicated participation in the Forebearance Plan for another year. Legal Counsel will notice the Court.

B. CEO REPORT/UPDATES

1. Status Report on the Recharge Project
   Status on the Recharge Project was discussed earlier in this meeting. However, Mr. Rossi added that integration of the improvements to the City of Upland basin with the College Heights basin could save some money and is currently being discussed.
2. Status Report on MZ1 Technical Committee Meeting on July 23, 2003
   Mr. Rossi referred to page 97 of the agenda package for a hard copy of the MZ1 Interim Monitoring Program Progress Report.
3. Status Report on Water Quality Committee Meeting of August 27, 2003
   Mr. Rossi apologized for canceling Wednesday's Water Quality meeting. The Committee is tentatively scheduled to meet on September 24, 1:30 p.m., at the office of Watermaster. Mr. Wildermuth is working on the investigation of perchlorate as well as reviewing the comments on the Statement of Intent between the DOD and local agencies.

ADDED:

4. Watermaster Office Relocation
   Mr. Rossi pointed out that the September Pool meetings would be held at the offices of Cucamonga County Water District and the Advisory Committee and Board meetings will be held at Watermaster's new location.

C. **AGWA REPORT**
1. Minutes of the meeting held June 16, 2003
2. Agenda for the meeting held August 18, 2003

Mr. Rossi reported that AGWA recognizes they are having a quorum issue and more specifically, they are concerned with their long-term role. They have asked Martin Rauch to facilitate discussions regarding the long-term goal and objectives of AGWA.

D. **OTHER REPORTS**
None

E. **INFORMATION**
City of Chino Hills Notice of Forbearance
Progress Report MZ-1 Interim Monitoring Program

IV. **BOARD MEMBER COMMENTS**
Chair Yates announced that Mr. Rossi was recently elected to the Board of Directors for the Rancho Water District.

V. **OTHER BUSINESS**
None

VI. **FUTURE MEETINGS AND EVENTS**

September 11, 2003	8:30 a.m.	Storage & Recovery Workshop @ CCWD
	10:00 a.m.	Joint Appropriative & Non-Agricultural Pool Meeting @ CCWD
	1:00 p.m.	Agricultural Pool Meeting @ CCWD

Note: September 11 meetings will be held at Cucamonga County Water District, 10440 Ashford Street, Rancho Cucamonga, CA 91729

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Chair Yates adjourned the meeting at 2:35 p.m.

_____
Secretary

Minutes Approved:_____

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CHINO BASIN WATERMASTER

September 25, 2003

10:00 a.m. – Advisory Committee Meeting
1:00 p.m. – Watermaster Board Meeting

I. CONSENT CALENDAR

B. FINANCIAL REPORTS
Cash Disbursements

CHINO BASIN WATERMASTER

8632 Archibald Avenue, Suite 109, Rancho Cucamonga, Ca 91730
Tel: 909.484.3888 Fax: 909 484.3890 www.cbwm.org

JOHN V. ROSSI
Chief Executive Officer

STAFF REPORT

DATE: **September 25, 2003**

TO: **Advisory Committee Members**
Watermaster Board Members

SUBJECT: **Cash Disbursement Report – September 2003**

SUMMARY

Issue – Record of cash disbursements for the month of July 2003.

Recommendation – Staff recommends the Cash Disbursements for July 2003 be received and filed as presented.

Fiscal Impact – All funds disbursed were included in the FY 2003-04 Watermaster Budget.

BACKGROUND

A monthly cash disbursement report is provided to keep all members apprised of Watermaster expenditures.

DISCUSSION

Total cash disbursements during the month of August 2003 were $232,828.32. The most significant expenditures during the month were Wildermuth Environmental Inc. in the amount of $94,092.79 and Hatch & Parent in the amount of $26,509.52.

CHINO BASIN WATERMASTER
Cash Disbursement Detail Report
August 2003

Type	Date	Num	Name	Amount
Aug 03				
General Journal	8/7/2003	03/08/4	PAYROLL	-5,196.67
General Journal	8/7/2003	03/08/4	PAYROLL	-17,308.56
Bill Pmt -Check	8/7/2003	7853	A & R TIRE	-359.80
Bill Pmt -Check	8/7/2003	7854	APPLIED COMPUTER TECHNOLOGIES	-2,041.40
Bill Pmt -Check	8/7/2003	7855	BARRION, VICTOR A	-125.00
Bill Pmt -Check	8/7/2003	7856	CATLIN, TERRY	-125.00
Bill Pmt -Check	8/7/2003	7857	CHEVRON	-417.88
Bill Pmt -Check	8/7/2003	7858	CITISTREET	-2,163.54
Bill Pmt -Check	8/7/2003	7859	COSTCO	-280.12
Bill Pmt -Check	8/7/2003	7860	INLAND EMPIRE UTILITIES AGENCY	-1,224.84
Bill Pmt -Check	8/7/2003	7861	MWH LABORATORIES	-5,665.00
Bill Pmt -Check	8/7/2003	7862	PAYCHEX	-141.50
Bill Pmt -Check	8/7/2003	7863	PUBLIC EMPLOYEES' RETIREMENT SYSTEM	-277.89
Bill Pmt -Check	8/7/2003	7864	REID & HELLYER	-3,315.75
Bill Pmt -Check	8/7/2003	7865	RICOH BUSINESS SYSTEMS-Maintenance	-651.95
Bill Pmt -Check	8/7/2003	7866	RODRIGUEZ, DAN	-125.00
Bill Pmt -Check	8/7/2003	7867	STATE COMPENSATION INSURANCE FUND	-777.76
Bill Pmt -Check	8/7/2003	7868	STEWART, TRACI L	-494.81
Bill Pmt -Check	8/7/2003	7869	TLC STAFFING	-1,067.60
Bill Pmt -Check	8/7/2003	7870	UNITED PARCEL SERVICE	-419.72
Bill Pmt -Check	8/7/2003	7871	USA-FACT INC	-10.00
Bill Pmt -Check	8/7/2003	7872	VANDEN HEUVEL, GEOFFREY	-250.00
Bill Pmt -Check	8/7/2003	7873	VELASQUEZ JANITORIAL	-175.00
Bill Pmt -Check	8/7/2003	7874	VERIZON	-527.08
Bill Pmt -Check	8/7/2003	7875	WHITEHEAD, MICHAEL	-125.00
Bill Pmt -Check	8/7/2003	7876	YATES, DENNIS	-125.00
Bill Pmt -Check	8/7/2003	7877	INLAND COUNTIES INSURANCE SERVICES, INC.	-340.66
Bill Pmt -Check	8/7/2003	7878	PUBLIC EMPLOYEES' RETIREMENT SYSTEM	-3,874.65
Bill Pmt -Check	8/7/2003	7879	PUBLIC EMPLOYEES' RETIREMENT SYSTEM	-4,667.73
Bill Pmt -Check	8/8/2003	7880	MARK IV COMMUNICATIONS, INC.	-5,976.89
Bill Pmt -Check	8/8/2003	7881	P.C. CLUB	-583.96
Check	8/14/2003	7882	TOGO'S	-210.75
Bill Pmt -Check	8/19/2003	7883	BANK OF AMERICA	-245.57
Bill Pmt -Check	8/19/2003	7884	ELLISON, SCHNEIDER & HARRIS, LLP	-13,198.68
Bill Pmt -Check	8/19/2003	7885	FIRST AMERICAN REAL ESTATE SOLUTIONS	-125.00
Bill Pmt -Check	8/19/2003	7886	HATCH AND PARENT	-26,509.52
Bill Pmt -Check	8/19/2003	7887	HOSE MAN	-146.08
Bill Pmt -Check	8/19/2003	7888	Jin M. Kim, M.D.	-140.00
Bill Pmt -Check	8/19/2003	7889	KING OFFICE SERVICES	-1,950.00
Bill Pmt -Check	8/19/2003	7890	MCI	-945.95
Bill Pmt -Check	8/19/2003	7891	MWH LABORATORIES	-1,150.00
Bill Pmt -Check	8/19/2003	7892	OFFICE DEPOT	-680.54
Bill Pmt -Check	8/19/2003	7893	PARK PLACE COMPUTER SOLUTIONS, INC	-2,035.00
Bill Pmt -Check	8/19/2003	7894	PETTY CASH	-474.28
Bill Pmt -Check	8/19/2003	7895	POWERS ELECTRIC PRODUCTS CO.	-686.40
Bill Pmt -Check	8/19/2003	7896	RICOH BUSINESS SYSTEMS-Lease	-3,591.31
Bill Pmt -Check	8/19/2003	7897	SOFTCHOICE	-32.56
Bill Pmt -Check	8/19/2003	7898	SOUTHERN CALIFORNIA EDISON	-942.90
Bill Pmt -Check	8/19/2003	7899	TLC STAFFING	-2,135.20
Bill Pmt -Check	8/19/2003	7900	UNITEK TECHNOLOGY INC.	-408.37
Bill Pmt -Check	8/19/2003	7901	WILDERMUTH ENVIRONMENTAL INC	-48,559.01
Bill Pmt -Check	8/19/2003	7902	WILDERMUTH ENVIRONMENTAL INC	-45,533.78
General Journal	8/25/2003	03/08/07	PAYROLL	-1,001.62
General Journal	8/25/2003	03/08/8	PAYROLL	-5,137.08
General Journal	8/25/2003	03/08/8	PAYROLL	-17,653.11
Check	8/26/2003	7904	TOGO'S	-104.85
Check	8/28/2003	7905	JAMES JOHNSTON	-395.00
Aug 03				-232,828.32

CHINO BASIN WATERMASTER

September 25, 2003

10:00 a.m. – Advisory Committee Meeting
1:00 p.m. – Watermaster Board Meeting

I. CONSENT CALENDAR

C. STATUS REPORT NO. 8

CHINO BASIN WATERMASTER

8632 Archibald Avenue, Suite 109, Rancho Cucamonga, Ca 91730
Tel: 909.484.3888 Fax: 909.484.3890 www.cbwm.org

JOHN V. ROSSI
Chief Executive Officer

STAFF REPORT

DATE: **September 11, 2003**
September 25, 2003

TO: **Pool Committee Members**
Advisory Committee & Watermaster Board Members

SUBJECT: **OBMP Implementation - Status Report No. 8**

SUMMARY

Issue – Compliance with Court Order requiring OBMP implementation progress reports.

Recommendation – Staff recommends:

- Approval of Status Report No. 8,
- Authorize its filing with the Court, and
- Authorize staff and legal counsel to make non-substantive edits as necessary.

Fiscal Impact – None

BACKGROUND

In accordance with the September 28, 2000 Order, progress reports are due to the Court on the last day of March and September of each year. Watermaster had indicated to the Court its intention to accelerate the reporting schedule from semi-annual to quarterly due to the rapid pace of OBMP implementation. In a subsequent Order on October 17, 2002, the Court requested Watermaster provide periodic reports concerning various issues relating to the Interim Plan by the last day of June and December of each year. These reporting items are included within Watermaster's regular quarterly reports.

DISCUSSION

The reporting period for Status Report No. 8 is May 31, 2003 to July 31, 2003. It utilizes the same format previously filed as a baseline from which to update the Court. The attached draft report outlines the progress and status of Watermaster programs and projects.

The Pool Committees recommended approval of Status Report No. 8 at their meetings held September 11, 2003.

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Chino Basin Watermaster
Status Report No. 8

(Covering June 2003 through August 2003)

DRAFT

September 2003

OPTIMUM BASIN MANAGEMENT PROGRAM

In its Order of September 28, 2000, extending the term of the nine-member Watermaster Board, the Court ordered Watermaster to provide semiannual reports regarding the progress of OBMP implementation. In Status Report Number 4, filed with the Court on September 30, 2002, Watermaster notified the Court that Watermaster intended to accelerate voluntarily the reporting schedule because of the rapid pace of OBMP implementation. By a subsequent Order of October 17, 2002, the Court added additional reporting items to the quarterly report.

This Status Report Number 8 is filed pursuant to this schedule and reports on the period from June 1, 2002 to August 31, 2003.

PROGRAM ELEMENT 1 – DEVELOP AND IMPLEMENT COMPREHENSIVE MONITORING PROGRAM

Groundwater-Level Monitoring

BACK-GROUND

Watermaster has three active groundwater-level monitoring programs operating in the Chino Basin – a semiannual Basinwide program, a monthly program associated with the Chino-I and Chino-II desalter well fields, and an intensive groundwater-level monitoring program associated with land-surface monitoring (see Land-Surface Monitoring below) in Management Zone 1.

ON-GOING

Semiannual Groundwater Level Monitoring Program. Watermaster initiated the semiannual Basinwide groundwater-level monitoring program in 1999. The Spring-Summer 2003 round of testing began in April and was completed in July 2003.

Chino I and Chino II Desalter Well Field Monitoring Programs. Watermaster staff continued to collect groundwater-level data at about 250 wells once a month in and around the Chino-I and Chino-II desalter well fields during this reporting period.

THIS PERIOD

Watermaster staff began the process of analyzing hydrogeology, well construction, and groundwater-level data in the vicinity of the Chino-I Desalter well field in an effort to develop a key well groundwater-level monitoring network. This key well network will be reviewed and finalized during the next reporting period, and will likely reduce the number of monitoring wells in the Chino-I program by two-thirds. This key well network will be used for the piezometric monitoring element of the Hydraulic Control Monitoring Program (see below).

ON-GOING

Management Zone 1 Interim Monitoring Program. Watermaster consultants have initiated a groundwater-level monitoring program to collect data at about 40 wells in the southern portion of Management Zone 1 (City of Chino area). Data are being collected manually at all wells at least once a month and by automated pressure transducers at these same wells at least once every 15 minutes.

Groundwater-Quality Monitoring

THIS PERIOD

Three-Year Sampling Program of All Accessible Private Wells. During this quarter, Watermaster completed the first year of a three-year sampling program in which all accessible private wells in the southern portion of the Chino Basin are sampled (about 150 to 200 wells each year). Through the end of August 2003, 153 wells have been sampled. Watermaster is continuing the cooperative monitoring program described in the Implementation Plan. Watermaster obtains data every six months from the Department of Health Services for the municipal water agencies and from the Department of Toxics Substances Control and the Regional Board for most of the other wells in the Basin. Watermaster is in the process of obtaining updated water quality data directly from all Appropriative Pool members. This will greatly enhance the quality and integrity of Watermaster's database.

ON-GOING

Extensive Range of Substances Being Tested

- All groundwater samples are analyzed for general mineral and general physical parameters.
- Wells not previously sampled and analyzed for constituents added to the evolving groundwater-quality monitoring program (e.g., hexavalent chromium, silica, barium, etc.) in 1999-2001 are now being sampled for those constituents.
- Wells within or near the two Volatile Organic Compound (VOC) plumes are being analyzed for VOCs, in addition to the usual parameters.
- All wells are being analyzed for perchlorate because of its widespread presence in the 1999-2001 sampling program.
- Analysis for 1, 2, 3-trichloropropane has been added to the monitoring program for all wells. This chemical was detected in several wells above 50 parts per trillion (old detection limit).

New Testing Method Measures Parts Per Trillion of TCP. In the 2002-03 monitoring program, a new analytical methodology is being used to achieve a detection limit of 5 parts per trillion for 1, 2, 3-TCP, which is its California Action Level.

Prioritizing Wells to Serve Multiple Purposes

BACK-GROUND

The wells chosen for the 2002-03 monitoring program are located primarily between the Chino I Desalter well field and the Santa Ana River. Wells were prioritized for 2002-03 to aid in the development of a monitoring program to demonstrate hydraulic control in the southern portion of Chino Basin. (See the Cooperative Effort to Determine State of Hydraulic Control discussion in Program Elements 6 and 7.)

Groundwater-Production Monitoring

ON-GOING

Installation of Production Monitoring Wells Completed. Primary production monitoring involved the installation of meters on wells operated by members of the Agricultural Pool. Initially, Watermaster counted about 516 active agricultural wells. Watermaster equipped 378 of these wells with operating meters. The other 138 wells have or will become inactive within 18-24 months due to development in the south Chino area.

All Producing Wells Are Monitored Quarterly. Watermaster staff reads the newly installed and/or rehabilitated meters on the agricultural wells quarterly. A method appropriate to the Chino Basin area continues to be used to estimate production at agricultural wells that do not have meters.

TO COME

Need For Water Use Disposal Form To Be Reviewed. The OBMP Implementation Plan includes a provision that requires the producers to submit a water use and disposal form describing the sources of water used by each producer and how that water is disposed of after each use. Filling out the water use and disposal form and reporting the results have not been implemented, because much of the information is being collected already as elements of other monitoring activities and analyses. In the later half of fiscal 2003-2004, Watermaster anticipates discussions regarding the need for this form.

Surface-Water Monitoring

BACK-GROUND

Measure Water Quality and Water Levels In Recharge Basins. Watermaster conducts a surface-water monitoring program to measure the water quality of water in recharge basins and the water levels in some of these basins. The purpose of this program is to estimate the volume and quality of recharge. This information will be used in subsequent years to estimate the safe yield of the Basin and for other management purposes.

THIS PERIOD

During this reporting period, Watermaster staff collected nuisance water quality samples at Grove Basin on July 9 and August 14, 2003. Normal storm water flows were sampled in the Grove Basin on eight occasions during the fiscal 2002-2003 storm season for comparison purposes.

THIS PERIOD

Surface-Water Monitoring for Santa Ana River Began In June 2003. One of the goals of the OBMP is to maximize Chino Basin yield. A key component in maximizing yield is to minimize groundwater discharge into the Santa Ana River and, in some reaches of the River, to maximize recharge from the Santa Ana River into the Chino Basin. Watermaster developed a surface-water monitoring program for the Santa Ana River that, in conjunction with Watermaster groundwater-monitoring programs, will be used to characterize those reaches of the River that are gaining water from the Basin, and to determine if significant discharge of Chino Basin groundwater to the Santa Ana River is occurring. A conceptual monitoring plan involving Inland Empire Utilities Agency, Orange County Water District, the Regional Water Quality Control Board, and Watermaster was finalized. These agencies determined that the conceptual monitoring plan was adequate and developed a detailed work plan to implement a surface-water and groundwater-monitoring program. The work plan was completed in June 2003.

THIS PERIOD

Watermaster consultants met with the staff of the U.S. Geological Survey, which conducted stream gauge measurements at 4 ad hoc stations in the Santa Ana River between MWD Crossing and Prado Dam: SAR at Van Buren, SAR at Etiwanda, SAR at Hamner, and SAR at River Road. Another ad hoc station measured discharge from Hole Lake near the Santa Ana River.

Watermaster collected water quality samples at these ad hoc stations, plus another 7 locations on tributaries, on a biweekly basis from July through mid-September 2003. In addition, Watermaster obtained discharge data for permanent USGS and OCWD stream gauge locations on the Santa Ana River and its tributaries. Discharges from POTWs were also quantified.

Land-Surface Monitoring

BACK-GROUND

Multifaceted Approach. Watermaster staff developed a multifaceted land-surface monitoring program to develop data for a long-term management plan for land subsidence in Management Zone 1. The monitoring program consists of three main elements:

1. An aquifer-system monitoring facility located in the southern portion of Management Zone 1 – an area that has experienced concentrated and differential land subsidence and ground fissuring. One major component of the aquifer system monitoring facility is a cluster of multiple-depth piezometers that measure water level and pressure changes at 11 different depths. Another major component is a dual borehole extensometer that measures deformation within the aquifer system at deep and shallow levels.

   THIS PERIOD

   Installation of the extensometer was completed in July 2003. Together, the two components will correlate the hydraulic and mechanical responses of the aquifer system to different aquifer stresses, such as pumping at wells.

2. Synthetic aperture radar interferometry (InSAR) that will measure land surface deformation across the entire Chino Basin.

3. Benchmark surveys along selected profiles of the Chino Basin. The benchmark surveys (1) establish a datum from which to measure future land surface deformation, (2) "ground-truth" the InSAR data, (3) allow determination of historical subsidence at any historical benchmarks that can be recovered, and (4) evaluate the effectiveness of the long-term management plan.

THIS PERIOD

Progress During This Reporting Period. The Ayala Park Extensometer drilling/pipe installation contract was completed in mid-May 2003. A deep extensometer borehole was drilled to a depth of 1,410 feet, and the shallow extensometer borehole was drilled to 540 feet. Construction of the extensometer instrument platform and building was completed on June 27, 2003. Extensometer wellhead construction and instrumentation was completed on July 7, 2003, at which time data collection commenced.

The arrangement of extensometer anchors, along with the piezometer data will enable distinction between compaction within the shallow aquifer system (0-300 ft-bgs), the upper, fine-grained portions of the deep aquifer system (300-440 ft-bgs), and the lower, fine-grained portions of the deep aquifer system (600-1375 ft-bgs).

Depth-Specific Data. Permanent transducers and data logging equipment are recording depth-specific groundwater-level data at the Ayala Park piezometers. Transducers also are recording groundwater-level data at wells owned by the cities of Chino and Chino Hills, and are recording groundwater-level data and "on/off" pumping cycles at active production wells. The State of California (CIM) and Watermaster have signed an access agreement that allows groundwater level and production monitoring at CIM wells. On July 15, 2003 six monitoring wells on CIM property were instrumented with transducers and are collecting groundwater-level data. Six production wells were inspected and transducers have been ordered and received. Installation of transducers at these production wells will occur on or around August 29, 2003, thereby completing the transducer installation effort at wells surrounding Ayala Park.

Observations From Water Level Data. Permanent transducers and data loggers were installed at the piezometers at Ayala Park and are continually collecting water-level data. The following observations can be made from analysis of all water-level data from the piezometers and from the surrounding wells:

- The two shallowest piezometers (PA-10 and PA-11) have a separate and distinct water level response to nearby pumping, as compared to the deeper piezometers, confirming the existence of distinct shallow and deep aquifer systems.

- Pumping at surrounding wells, screened in both the shallow and deep aquifer-systems, has lowered water levels in all piezometers – particularly in piezometers PA-7 (438-448 ft-bgs) and PB-6 (502-522 ft-bgs). These two piezometers are exhibiting a typical response to pumping within a confined aquifer system.

THIS PERIOD

Aquifer Stress Tests. During the April-June 2003 period, Watermaster, with the assistance of the cities of Chino Hills and Chino, conducted aquifer stress tests (pumping tests) while monitoring water levels and groundwater production at nearby monitoring wells, production wells, and the Ayala Park piezometers. Data from these aquifer stress tests are currently being analyzed.

TO COME

InSAR. Watermaster staff has initiated contact with potential sub-consultants to conduct the Insar element of the Interim Monitoring Program. An initial meeting is scheduled for September 4, 2003.

THIS PERIOD

Benchmark Monument Network. Associated Engineers (AE) completed monument installation and the initial survey during the last reporting period (April 2003). The survey data as a hard copy deliverable were provided to the MZ-1 Technical Committee at the July 23, 2003 meeting. This initial survey is the baseline to which all future surveys will be compared. From this point forward, the deep extensometer, anchored in solid bedrock, will be the starting benchmark for all survey loops. The next planned survey is April 2004.

ON-GOING

AE performed ground-level surveys for the City of Chino from 1987 to 2001 at some of the same benchmarks used in the April 2003 survey. The starting benchmark for these historical surveys was not found and was presumed destroyed, but a nearby benchmark was used instead to allow for differential vertical movement to be estimated at the benchmarks used in both survey efforts. The data indicate that modest subsidence has continued in MZ-1 during the period October 2001 to April 2003, even though elastic

rebound of the land surface because of seasonal water-level recovery was expected during the Fall to Spring measurement interval. Maximum subsidence measured at an individual monument during this period was 0.136 feet at the intersection of Pipeline Avenue and Walnut Street.

Well Construction, Abandonment, and Destruction Monitoring

BACK-GROUND

Watermaster staff monitors the condition of wells on a regular basis. Wells that may be improperly abandoned/destroyed are reported to Riverside and San Bernardino Counties as they are discovered.

Watermaster staff inspected 150 suspect wells during a 2002-03 field inspection. It was determined that 113 of these wells were properly abandoned and 37 wells would require some modification to meet the standard for a properly abandoned well. A well repair/abandonment program was prepared and approved by Watermaster. Watermaster is continuing to develop a wellhead protection program and will make recommendations on closure of abandoned wells.

TO COME

Field repair will begin in September 2003, with completion in six months. Riverside and San Bernardino Counties will be advised of the results. Ongoing land development will require continued well abandonment activity by Watermaster.

PROGRAM ELEMENT 2 – DEVELOP AND IMPLEMENT COMPREHENSIVE RECHARGE PROGRAM

A centerpiece of the OBMP is enhancement of the Basin recharge capacity, so that high quality storm water and available recycled water can be retained in the Basin.

Recharge Facilities Improvement Project (Seven Construction Packages)

THIS PERIOD

Bid Package No. 1--Construction Underway

Bid Package No. 1, which includes improvements at Banana, College Heights, Lower Day, RP-3, and Turner Basins, was awarded to LTE Excavating on March 24. Work is scheduled for completion by November 15, 2003. Earthwork for Cells 1, 3, and 4 at RP-3 is nearly complete. Construction of the trapezoidal channel to divert flow from Declez channel and distribute flow to the basin complex is approximately 50 percent complete. The contractor is laying a gravity pipeline to convey storm water flow from the trapezoidal channel to Cell 1 and to convey recycled and imported water that will be delivered to Cell 1 via the Jurupa Force Main to Cells 3 and 4. The area for Cell 2 has been used to stockpile dirt removed from the other cells. The dirt will eventually be hauled offsite by a dirt broker at no cost, and Cell 2 will be developed into a mitigation site in compliance with the Regional Water Quality Board 401 Permit. The excavation of the new College Heights SW Basin is approximately 90 percent complete. Dirt is being hauled across temporary "railroad flat car" bridges and deposited in an engineered fill at the College Heights NW Basin. The Contractor has substantially completed the earthwork at Turner No. 2, 3 & 4 Basins. Additional fill material will be excavated from Turner No. 1 Basin, hauled across Deer Creek Channel over "railroad flat car" bridges (after the bridges are relocated from

the College Heights Basin) and deposited in an engineered fill at Turner Nos. 2, 3, & 4 Basins. The Contractor began excavating and placing fill at Lower Day Basin and cutting side slopes at Lower Day Basin in late July.

THIS PERIOD

Bid Package No. 2 – Construction Underway

Bid Package No. 2 consists of construction of the bottom drop inlet structures for Brooks Street Basin, Turner Basin; and Victoria Basin; rubber dams for College Heights/Upland Basins, Turner No. 1 Basin, and Lower Day Basin, and RP-3 Basin; and various improvements at Declez Basin, Ely Basin, and 8th Street Basin. This package was originally bid in June 2003. Due to a protest, the package was rebid. The winning bid from Banshee Construction was for $6.9 million. Work began in August 2003. The contract requires that work in storm channels be completed by October 15 and that the rubber dams be operational by December 31, 2003. All work for this contract must be completed by March 2004.

THIS PERIOD

Bid Package No. 3 – Construction Expected By End of 2003

Bid Package No. 3 involves construction of approximately 11,000 linear feet of 36-inch CML&C force main between Jurupa Basin and RP-3 Basin. The force main will be used to convey storm water, imported water, and recycled water between the pump station at Jurupa Basin and the RP-3 Basin. The Engineer's estimate was $3 million-$3.5 million. IEUA received eight bids, including the winning bid of $2.9 million by W.A. Rasic Construction Company. The contract will be formally awarded on August 6, 2003. The Contractor anticipates a construction period of 6 1/2 months beginning with the delivery of pipe at the construction site in December 2003.

TO COME

Bid Package No. 4 – Construction Expected By November 2003

Bid Package No. 4 consists of construction of the Jurupa Basin Pump Station. The design is on hold at the 90 percent stage pending resolution of comments. His bid package includes the SCADA system and electrical improvements at all the basins. The 90 percent design submittal is currently under review. Comments will be received on the design submittal through the middle of August. It is expected that the 100 percent submittal will be available for review by the first week of September. Bidding of the SCADA system and electrical improvements could begin as early as September 15. The Contractor is expected to be selected and begin work by November 1, 2003.

TO COME

Bid Package No. 6 – Construction Contract Expect To Award In November 2003

This bid package covers the construction of three MWD turnouts: 11TB and 15T on the Rialto Pipeline, and new turnout on the Etiwanda Pipeline near San Sevaine Channel. An informational meeting was held with MWD staff in May 2003 to determine the design approach and requirements. MWD has provided various drawings, specifications, and other information needed to complete the three designs. The 90 percent design submittal is anticipated before September 1, 2003. The contract is expected to be awarded by the November 15, 2003.

TO COME

Bid Package No. 7 – Priority, Funding and Scope of Misc. Projects Being Evaluated

This bid package will complete miscellaneous projects not included in the previous bid packages. Among the projects being considered for this bid package are:

- Mitigation Area at RP-3
- Pre-Treatment Areas at Jurisdictional Basins
- Upland Basin Completion
- Completion of Victoria Basin Improvements
- Hickory Pump Station and Force Main
- Etiwanda Conservation Ponds
- Miscellaneous Projects

The various projects will be prioritized and those that offer the greatest benefits to groundwater recharge will be included in the bid package depending on available funding after construction of the other 6 bid packages. The scope of work is currently under development. Bid Package No. 7 is expected to be awarded by second quarter 2004.

THIS PERIOD

Groundwater Recharge Coordinating Committee

The GRCC met weekly to monitor and coordinate the Recharge Facilities Improvement Project, focusing on defining additional operations and maintenance costs. Watermaster's draft 2003-2004 budget provides about $440,000 for the operation and maintenance activities.

In addition to design review, the GRCC has initiated work on operations and maintenance for all the recharge basins, as well as obtaining regulatory agency approvals and permits.

Santa Ana River Fully Appropriated Stream (FAS) Petition and Application

BACK-GROUND

Watermaster's Santa Ana River Application to Appropriate, which was filed by Watermaster in trust for the Parties to the Judgment, is reported under Program Element 2. This is because the water referenced under Watermaster's Application is seasonal storm flow that has been and will be recharged pursuant to this Program Element.

On May 20, 2003, the SWRCB provided formal notice to all the participants in the Santa Ana River process of protests that have been filed to the various applications. A 30-day period was provided for responses to the protests.

The U.S. Forest Service, California Fish and Wildlife Service, Eastern Valley Water District, and the Cucamonga County Water District have protested Watermaster's Application. As previously reported, the Forest Service has informally agreed to withdraw its protest. FWS has general concerns about the impacts of various diversion schemes on the fish and wildlife in the Santa Ana River. Eastern Valley has questioned whether there is water available in the Santa Ana River for appropriation, while Cucamonga Water requests recognition of its pre-1914 water rights.

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

These program elements focus on the shift of production in the southern end of the Basin away from agricultural uses and toward urban uses. Without the OBMP, this land use conversion would result in a decrease in production in the southern end of the Basin, ultimately leading to rising water levels. If groundwater levels in the southern end of the Basin rise too high, then water may "spill" out of the Basin into the Santa Ana River. Such uncontrolled spillage could reduce the overall Safe Yield of the Basin. The Basin will be managed to avoid this possibility.

Directly tied to the threat of rising water levels in the southern area is the impaired ability of producers in the southern end of the Basin to pump water because of water quality concerns. The ability to compensate for the loss of agricultural production with increased appropriative production is inhibited because of water quality concerns in this part of the Basin. Appropriative production in this area therefore requires water treatment, an issue addressed through the construction of desalter facilities.

The Chino I Desalter Expansion Project.

BACK-GROUND

Chino I Expansion Underway. This expansion includes construction of 4.9 million gallons per day (mgd) of expanded treatment capacity (nitrate removal) in parallel with the existing treatment facilities, as well as associated raw water and product water delivery facilities. The Chino I Desalter was originally constructed by SAWPA to provide a total of 9,200 acre-feet per year of product water deliveries. The product water will have TDS and

nitrate concentrations less than 350 mg/L and 25 mg/L, respectively. The CDA authorized the well drilling and awarded a contract for the Chino I Desalter Expansion wells.

THIS PERIOD

Final Plans For Chino Hills Pump Station Nearly Complete. CDA successfully constructed three wells (Wells 13, 14, and 15) and conducted step draw down and constant rate pump tests in March 2003. As a result of this testing, the hydrogeologist revised the recommended flow rates to 2,200 gallons per minute (gpm) for Well 13, 2,000 gpm for Well 14, and 2,000 gpm for Well 15. With these three wells, the CDA achieved adequate capacity for expansion needs, and construction of Well No. 12 was cancelled. CDA is currently designing ancillary equipment for the three new wells. In addition, final plans and specifications for the Chino Hills pump station and the raw water pipelines are almost complete.

THIS PERIOD

Revised Bids For Ion Exchange Under Review. May Redesign. CDA received bids for the Ion Exchange Treatment System for both Chino I and Chino II Desalters in April 2003. Because of discrepancies in the low bid, all bids were rejected and the projects were rebid. The rebids were received on August 19, 2003 and are currently under review. The design of additional onsite facilities was completed in July 2003 and advertised for bidding in August 2003. However, CDA staff is currently considering redesign of onsite facilities to cut the cost of delivering treated water to its member agencies.

TO COME

The Chino II Desalter Project.

This project includes 10 mgd of reverse osmosis/ion exchange treatment capacity, as well as raw water and product water delivery facilities. The final design of the Chino II Desalter has been completed and advertised for bid with a due date of September 2, 2003.

Site Acquisition For Chino II Wells Underway. The sites for nine Chino II raw water supply wells have been identified and CDA staff is negotiating their acquisition with property owners. CDA staff is coordinating with the City of Ontario for two of the sites, which are located in a proposed development.

PROGRAM ELEMENT 4 – DEVELOP AND IMPLEMENT COMPREHENSIVE GROUNDWATER MANAGEMENT PLAN FOR MANAGEMENT ZONE 1

Program Element 4 details the steps undertaken by Watermaster to reduce or abate subsidence and fissuring in Management Zone 1.

THIS PERIOD

The MZ1 Technical Committee met on July 23, 2003. Committee representatives were informed of the status of the various efforts to implement the monitoring program (see Land-Surface Monitoring section of Program Element 1), and then toured the newly constructed Ayala Park Extensometer Facility. The next meeting is tentatively scheduled for September 24, 2003, and will focus on a more detailed examination of a possible deep well injection test, and a review of the comprehensive pumping tests to be initiated in October, 2003.

Voluntary Forbearance. The City of Chino, and the City of Chino Hills submitted certifications documenting their respective voluntary participation in forbearance of groundwater production. Through the end of July 2003, both parties have met their forbearance goals of 1,500 acre-feet per year. Their totals through July are detailed below:

Agency	Forbearance through July 2003	Forbearance Goal 03/04
City Of Chino	1,500 acre-feet	1,500 acre-feet
City Of Chino Hills	1,500 acre-feet	1,500 acre-feet

TO COME

Pending Legal Actions Regarding Subsidence. In its October 17, 2002 Order, the Court ordered Watermaster to keep the Court apprised of any legal actions that could question the Court's jurisdiction over subsidence. Watermaster is not aware at this time of any such actions.

PROGRAM ELEMENT 6 – DEVELOP AND IMPLEMENT COOPERATIVE PROGRAMS WITH THE REGIONAL WATER QUALITY CONTROL BOARD, SANTA ANA REGION (REGIONAL BOARD) AND OTHER AGENCIES TO IMPROVE BASIN MANAGEMENT; AND

PROGRAM ELEMENT 7 – DEVELOP AND IMPLEMENT SALT MANAGEMENT PROGRAM

Cooperative Programs with Regional Board and Other Entities. *The "water quality committee" as envisioned in the OBMP Implementation Plan has been formally constituted. Since the development of the OBMP, Watermaster has worked closely with the Regional Water Quality Control Board, the Department of Toxic Substances Control, and others to define water quality challenges and to refine the water quality management criteria in the Chino Basin. Watermaster continues to review water quality conditions in the Basin and to consider future water quality management activities beyond the Chino Basin desalting program. The ad hoc water quality committee (WQC) has been formed.*

THIS PERIOD

The WQC met on July 21, 2003, and decided to look at the perchlorate and other groundwater contamination issues from two perspectives:

- ***Source Determination:*** *The WQC will develop a list of tasks to help define potential source areas and/or PRPs. Steps would include: review of land use surveys, records searches, and title searches.*

- ***Assessment of Treatment Alternatives:*** *The WQC decided that both source determination and treatment alternatives should be pursued in parallel. Meeting notes from this meeting are available at Watermaster's offices and will be furnished upon request. The next WQC meeting will be August 27, 2003.*

BACK-GROUND

Water Quality Management. In response to the results of Regional Board and Watermaster's groundwater-quality monitoring programs (Program Element 1) Watermaster has refined its water-quality monitoring to focus on the following key areas:

- Watermaster is identifying and characterizing water-quality anomalies, such as the VOC anomaly north of the Chino I Desalter well field. A scope of work is being developed by Watermaster and will be presented to the Water Quality Committee.

- Watermaster staff continues to participate in the process to develop TMDLs for Reach 3 of the Santa Ana River and other water bodies in the lower Chino Basin. No progress has been made during the last quarter because of the State budget crisis and the staffing issues at the RWQCB.

- Watermaster staff is coordinating with the RWQCB with regard to surface water quality and the DTSC with regard to developing a monitoring program to track perchlorate in groundwater in the Fontana area.

Watermaster and Regional Board Propose TDS and Nitrogen Objectives to Promote Maximum Benefit of Waters Available to the Chino Basin

ON-GOING

Watermaster staff has been working with the Total Inorganic Nitrogen/Total Dissolved Solids (TIN/TDS) Task Force to revise the subbasin boundaries, and the TIN and TDS objectives for the Chino Basin to promote maximum beneficial use of waters in the Basin (as opposed to the Regional Board's current, more rigid antidegradation-based objectives). The maximum beneficial use approach will increase water supplies and lower costs over time while meeting water quality requirements. In December 2002, Watermaster proposed specific subbasin boundaries, and TIN and TDS objectives for the Chino Basin to the RWQCB at a workshop regarding the Basin Plan update. The TIN/TDS Task Force and the RWQCB have reacted favorably to the Watermaster proposal and have modified it slightly, and it is Watermaster's belief that the modified Watermaster proposal will be included in the Basin Plan update that will occur in fiscal year 2003-2004.

ON-GOING

Unprecedented Cooperative Effort to Determine State of Hydraulic Control. One outstanding issue to resolve regarding the Basin Plan changes is to develop a monitoring plan to evaluate the state of hydraulic control in the southern end of the Basin. Hydraulic control is one tool that can be used to maximize the safe yield of the Basin. Watermaster staff developed a monitoring program for OBMP purposes and described this effort in the Initial State of the Basin report (October 2002). The execution of this monitoring program is included in Program Element 1. Watermaster is collaborating with OCWD and IEUA in an investigation to select existing wells and to site new multi-piezometer wells that will be used to monitor and assess the state of hydraulic control. This collaboration is unprecedented. Hydraulic control will become a commitment of Watermaster if the proposed subbasin boundaries, and TIN and TDS objectives for the Chino Basin, are adopted. Watermaster, OCWD, and RWQCB staffs are working to develop a monitoring program to assess the state of hydraulic control and to provide information to Watermaster to manage future production and recharge. The initial phase of the monitoring program began in June 2003. This program will change or adapt over time as new information is developed and will last for several years. The coordination and review of the hydraulic control monitoring data and the development of management programs to maintain hydraulic control have been added to Program Elements 6 and 7.

Watermaster and IEUA have committed to the construction of a total of 10 new multi-piezometer wells during fiscal years 2003-04 and 2004-05. Watermaster filed an application for $250,000 from the Local Groundwater Assistance Fund, sponsored by the California Department of Water Resources (DWR). Watermaster received notice during this period that the DWR will award the full $250,000 to Watermaster. This funding will support construction of piezometric monitoring wells that, in addition to some existing wells, would be used for monitoring and assessing the state of hydraulic control. In addition to the DWR funding, IEUA and Watermaster have secured $270,000 from the U.S. Bureau of Reclamation for new monitoring wells for the hydraulic control monitoring program.

Watermaster staff prepared a detailed draft work plan for hydraulic control monitoring and assessment during this period. The OCWD and RWQCB area reviewing the draft work plan.

Salt Budget Tool Was Used To Establish TDS Objectives

BACK-GROUND

Watermaster has developed a salt budget tool to estimate the current and future salt loads to the Basin and the salt benefits of the OBMP. This tool was used to establish TDS objectives for the northern part of the Basin based on maximum beneficial use of water available to the region. These projections were based on the water supply plan in the Implementation Plan and include alternative recycled water and State Project water recharge scenarios.

TO COME

Watermaster consultants are currently preparing a letter report describing the salt budget. Originally, this letter was to be submitted to Watermaster in December 2003 but has been deferred pending discussions with the RWQCB regarding methods and the ongoing Basin Plan update. A report to Watermaster will likely be made in the next quarter.

PROGRAM ELEMENT 8 – DEVELOP AND IMPLEMENT GROUNDWATER STORAGE MANAGEMENT PROGRAM; AND

PROGRAM ELEMENT 9 – DEVELOP AND IMPLEMENT STORAGE AND RECOVERY PROGRAM

This section summarizes the work accomplished to date and the work planned over the next few months for the Chino Basin Dry Year Yield (DYY) and Storage and Recover Programs. The DYY Program is a conjunctive use program between the Metropolitan Water District of Southern California (Metropolitan) and several Basin appropriators, which would develop a maximum of 100,000 acre-feet of storage. These Programs also explore the potential for using up to 500,000 acre-feet of storage capacity.

ON-GOING **Completed Preliminary Design Report.** The first draft of the DYY Preliminary Design Report was completed in July 2003 and submitted to Watermaster. It is currently under review by all of the participating agencies. The DYY Program documentation is organized into four volumes: Volumes I and II, prepared by Black & Veatch, comprise the Preliminary Design Report (PDR). Volume I describes the background information and design objectives of the Program, while Volume II describes the facilities to be designed to help the agencies meet their shift obligation. Volume III presents the groundwater modeling report developed by Wildermuth Environmental, Inc., and Volume IV contains the CEQA Findings of Consistency environmental documentation prepared by Tom Dodson and Associates.

DYY Shift Obligation. Participants in the DYY Program will be required to reduce (shift) their imported water usage by a predetermined amount during a dry year. Each participating agency will have a specific shift obligation that, when added together, will provide Metropolitan with 33,000 acre-feet of dry-year yield. The shift obligations were determined through meetings and correspondence among IEUA, Watermaster, Black & Veatch, and representatives from each participating agency.

The nine participating agencies are as follows:

• City of Chino	• Monte Vista Water District (MVWD)
• City of Chino Hills	• City of Ontario
• Cucamonga County Water District (CCWD)	• City of Pomona
• Fontana Water Company (FWC)	• City of Upland
• Jurupa Community Services District (JCSD)	

Facility Requirements and Site Selection. A preliminary screening of potential sites identified the most feasible locations for the DYY Program facilities. The information was presented to the agencies and a final selection was made. The Program facilities consist of five new ion exchange (IX) facilities, expansion of two existing IX facilities, construction of seven new non-water quality impaired wells, and two new perchlorate wellhead treatment facilities. The new wellhead IX facilities would contribute approximately 18,000

acre-feet of dry-year yield, while the new well facilities would contribute approximately 15,000 acre-feet of additional yield. The total capital cost for the facilities is estimated to be $38 million. Metropolitan will contribute approximately $27.0 million. The Groundwater Storage Program Funding Agreement between Metropolitan, IEUA, Three Valleys Municipal Water District (TVMWD), and Watermaster was signed in July 2003.

Final Design of PDR Facilities. The designs for the facilities outlined in the PDR are either under way, completed, or will commence shortly. All design documents are scheduled to be completed by September 2004.

THIS PERIOD

Groundwater Modeling. The new Chino Basin groundwater model was completed during this period. The modeling report was submitted to Watermaster in July 2003. In addition to evaluating the effects of the DYY program on the Basin, the model was used to:

- Develop draft future replenishment and wet-water recharge criteria based on requirements described in the Section 7.1b of the Watermaster Rules and Regulations regarding the balance of recharge and discharge.
- Evaluate the cumulative effects of transfers among the Parties as described in Section 9.3 of the Watermaster Rules and Regulations;
- Describe pumping patterns in Management Zone 1 that will not reduce piezometric levels below current conditions.

These management criteria were incorporated into the DYY program. The results of this work were presented to the Pool Committees, Advisory Committee, and the Watermaster Board in June and August 2003.

BACK-GROUND

Engineering Review and Determination of the Operational Storage Requirement and Safe Storage. The Operational Storage Requirement was defined in the Peace Agreement as part of the storage in the Chino Basin "necessary to maintain the safe yield" of the Basin (Peace Agreement, Exhibit B – Implementation Plan, page 37). Safe storage is the maximum storage in the Basin that can occur without significant water quality and high groundwater related problems.

THIS PERIOD

The draft results of this work were presented to the Pool Committees, Advisory Committee, and the Watermaster Board in August 2003. A technical memorandum will be provided in the next reporting period.

ON-GOING

Other Uses of the Groundwater Model in the OBMP Implementation. The groundwater model is also being used to assess the balance between recharge and discharge throughout the Basin, operational storage requirements and safe storage, and the cumulative physical impacts of transfers. Draft results from this work have been submitted to Pool Committees, Advisory Committee, and the Watermaster Board, starting in April 2003. A technical memorandum will be finalized in the next reporting period.

ADMINISTRATIVE UPDATE

THIS PERIOD

Engineering Positions Filled. In January 2003, the Watermaster Board approved a restructuring plan Two engineering positions were recruited.

Gordon Treweek, PE, joined Chino Basin Watermaster on July 21, 2003 as a Project Engineer. With more than 20-years experience in water quality, wastewater reclamation and reuse, and hazardous waste management, he will focus his efforts on project management functions on projects such as groundwater recharge, remediation of existing contaminant plumes, and reuse of recycled water.

Danielle (Danni) D. Maurizio, PE, joined the Chino Basin Watermaster in August 2003 as a Senior Engineer. Before joining Chino Basin Watermaster, Danni worked in both the Planning and Environmental Compliance Departments at Inland Empire Utilities Agency and in the Process Development Section at Metropolitan Water District of Southern California. Danni will work on tasks such as subsidence issues within Management Zone 1, well production monitoring, and groundwater level and quality monitoring.

Relocate Offices. Regarding physical facilities, Watermaster will relocate to the former Cucamonga County Water District facilities at 9641 San Bernardino Road in Rancho Cucamonga on September 12, 2003.

CONCLUSION

THIS PERIOD

This has been an especially active reporting period for Watermaster, with major activities on a number of issues:

- A Groundwater Storage Agreement was signed for 100,000 acre-feet of storage.
- The Chino Basin Dry-Year Yield Program engineering reports were completed.
- The Recharge Facilities Improvement Project construction was begun.
- The Surface-Water Monitoring for the Santa Ana River was begun.
- The Ayala Park Extensometer became operational and began recording data on ground subsidence.

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CHINO BASIN WATERMASTER

September 25, 2003

10:00 a.m. – Advisory Committee Meeting
1:00 p.m. – Watermaster Board Meeting

I. CONSENT CALENDAR

D. WATER TRANSACTION

NOTICE OF APPLICATION(S) RECEIVED

Date of Applications: **July 30, 2003** Date of this notice: **August 7, 2003**

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

A. Notice of Lease of Water Rights from Santa Ana River Water Company to Jurupa Community Services District, in the amount of 2,000.000 acre-feet to offset anticipated over-production in F.Y. 2002-2003.

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

Agricultural Pool:	August 14, 2003
Appropriative Pool:	August 14, 2003
Non-Agricultural Pool:	August 14, 2003

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

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

Unless the ***Application*** *is* amended, parties to the Judgment may file ***Contests*** to the ***Application*** with Watermaster ***within seven calendar days*** of when the last pool committee considers it. Any ***Contest*** must be in writing and state the basis of the ***Contest.***

Watermaster address:

Chino Basin Watermaster
8632 Archibald Ave., Suite 109
Rancho Cucamonga, CA 91730

Tel: (909) 484-3888
Fax: (909) 484-3890

CHINO BASIN WATERMASTER

NOTICE
OF
TRANSFER OF WATER

Notification Dated: August 7, 2003

A party to the Judgment has submitted a proposed transfer of water for Watermaster approval. Unless contrary evidence is presented to Watermaster that overcomes the rebuttable presumption provided in Section 5.3(b)(iii) of the Peace Agreement, Watermaster must find that there is "no material physical injury" and approve the transfer. Watermaster staff is not aware of any evidence to suggest that this transfer would cause material physical injury and hereby provides this notice to advise interested persons that this transfer will come before the Watermaster Board on or after 30 days from the date of this notice. The attached staff report will be included in the meeting package at the time the transfer begins the Watermaster process (comes before Watermaster).

CHINO BASIN WATERMASTER

8632 Archibald Avenue, Suite 109, Rancho Cucamonga, Ca 91730
Tel: (909) 484.3888 Fax: (909) 484-3890 www.cbwm.org

JOHN V. ROSSI
Chief Executive Officer

DATE: **August 7, 2003**

TO: **Watermaster Committee Members**

SUBJECT: **Summary and Analysis of Application for Water Transaction**

Summary
There does not appear to be a potential material physical injury to a party or to the basin from the proposed transaction as presented.

Issue - Notice of Lease of Water Rights from Santa Ana River Water Company to Jurupa Community Services District, in the amount of 2,000.000 acre-feet to offset anticipated over-production in F.Y. 2002-2003.

Recommendation –

1. Continue monitoring as planned in the Optimum Basin Management Program.
2. Use all new or revised information when analyzing the hydrologic balance and report to Watermaster if a potential for material physical injury is discovered, and
3. Approve the transaction as presented.

Fiscal Impact –

[ ] None
[X] Reduces assessments under the 85/15 rule
[ ] Reduce desalter replenishment costs

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

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

The following application for a water transaction is attached with the notice of application.

> Notice of Lease of Water Rights from Santa Ana River Water Company to Jurupa Community Services District, in the amount of 2,000,000 acre-feet to offset anticipated over-production in F.Y. 2002-2003.

Notice of the water transaction(s) identified above was mailed August 7, 2003 along with the materials submitted by the requestors.

DISCUSSION

This transfer occurs between a producer located primarily in Management Zone 1 to a producer located primarily in Management Zones 3, 4 and 5.

Water transactions occur each year and are included as production by the respective entity (if produced) in any relevant analyses conducted by Wildermuth Environmental pursuant to the Peace Agreement and the Rules & Regulations. There is no indication additional analysis regarding these transactions is necessary at this time. As part of the OBMP Implementation Plan, continued measurement of water levels and the installation of extensometers are planned. Based on no real change in the available data, we cannot conclude that the proposed water transaction will cause material physical injury to a party or to the Basin.

Jurupa
Community Services District

July 30, 2003

Mr. John Rossi
Chino Basin Watermaster
8632 Archibald Avenue, Suite 109
Rancho Cucamonga, CA 91730

RE: LEASE OF WATER RIGHTS – SANTA ANA RIVER WATER COMPANY TO JURUPA COMMUNITY SERVICES DISTRICT – FY 2002-2003

Dear Mr. Rossi:

This letter is to notify Watermaster of the lease of 2,000 AF of water from the Santa Ana River Water Company production rights to Jurupa Community Services District (District). This lease is made first from Santa Ana River Water Company's net underproduction in 2002-2003, with any remainder to be recaptured from storage. This transaction is a lease of water rights to offset a portion of the District's anticipated Chino Basin replenishment obligation for FY 2002-2003. The recapture plan of which is on file with Watermaster.

Enclosed is a fully executed Application To Assign, Transfer or Lease Water Rights and the District's recapture plan for consideration by Watermaster. Please agendize the proposed lease at the earliest possible opportunity.

If you have any questions, or require additional information concerning this matter, please call me at (909) 685-7434.

Sincerely,

Carole A. McGreevy
General Manager.

Enclosure: Application
Recapture plan
Copy: Ken Waring
Arnold Rodriguez, SARWC
7005 Admin
7020.admin.ltr.wmaster.sarwc/cr

8621 Jurupa Road, Riverside, CA 92509 • Phone (909) 685-7434 • Fax (909) 685-1153

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Form 3

APPLICATION FOR SALE OR TRANSFER OF RIGHT TO PRODUCE WATER FROM STORAGE

TRANSFER FROM LOCAL STORAGE AGREEMENT #____

Santa Ana River Water Company
Name of Party

03/11/03
Date Requested

_____
Date Approved

10530 54th Street
Street Address

2000 Acre-feet
Amount Requested

_____ Acre-feet
Amount Approved

Mira Loma | Ca | 91752
City | State | Zip Code

Telephone: 909-685-6503

Facsimile:(909)6851978_____

_____
Applicant

J Arnold Rodriguez General Manager

TRANSFER TO:

Jurupa Community Services District

Recapture Form 4 on file

Name of Party
11201 Harrel Street
Street Address

Mira Loma | _CA | 92752
City | State | Zip Code

Telephone:909-685-7434

Facsimile: _909-685-1154

Have any other transfers been approved by Watermaster between these parties covering the same fiscal year?

Yes [ ] No [x]

WATER QUALITY AND WATER LEVELS

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

These wells do not exceed the MCL for nitrates and are used to blend with other wells within the Districts service area that do exceed the MCL for nitrates . All five wells are perforated to a depth of between 300 – 400 feet

MATERIAL PHYSICAL INJURY

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

Form 3 (cont.)

If yes, what are the proposed mitigation measures, if any, that might reasonably be imposed to ensure that the action does not result in Material Physical Injury to a party to the Judgment or the Basin?

_____

_____

_____

_____

ADDITIONAL INFORMATION ATTACHED Yes [ ] No [x] On file

_____
Applicant

TO BE COMPLETED BY WATERMASTER:

DATE OF APPROVAL FROM NON-AGRICULTURAL POOL: _____

DATE OF APPROVAL FROM AGRICULTURAL POOL: _____

DATE OF APPROVAL FROM APPROPRIATIVE POOL: _____

HEARING DATE, IF ANY: _____

DATE OF ADVISORY COMMITTEE APPROVAL: _____

DATE OF BOARD APPROVAL: _____ Agreement #_____

Form 5

APPLICATION
TO
TRANSFER ANNUAL PRODUCTION RIGHT OR SAFE YIELD

Fiscal Year 2002 - 2003

Commencing on July 1, 2002 and terminating on June 30, 2003, SARWC ("Transferor") hereby transfers to JCSD("Transferee") the quantity of 2,000 acre-feet of corresponding Annual Production Right (Appropriative Pool) or Safe Yield (Non-Agricultural Pool) adjudicated to Transferor or its predecessor in interest in the Judgment rendered in the Case of "CHINO BASIN MUNICIPAL WATER DISTRICT vs. CITY OF CHINO, et al.," RCV 51010 (formerly Case No. SCV 164327).

Said Transfer shall be conditioned upon:

(1) Transferee shall exercise said right on behalf of Transferor under the terms of the Judgment and the Peace Agreement and for the period described above. The first water produced in any year shall be that produced pursuant to carry-over rights defined in the Judgment. After production of its carry-over rights, if any, the next (or first if no carry-over rights) water produced by Transferee from the Chino Basin shall be that produced hereunder.

(2) (2) Transferee shall put all waters utilized pursuant to said Transfer to reasonable beneficial use.

(3) (3) Transferee shall pay all Watermaster assessments on account of the water production hereby Transferred.

(4) (4) Any Transferee not already a party must intervene and become a party to the Judgment.

TO BE EXECUTED by both Transferor and Transferee, and to be accompanied by a general description of the area where the Transferred water was to be Produced and used prior to the Transfer, and where it will be Produced and used after the Transfer. This general description can be in the form of a map.

WATER QUALITY AND WATER LEVELS

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

These wells do not exceed the MCL for nitrates and are used to blend with other wells within the Districts service area that do exceed the MCL for nitrates . All five wells are perforated to a depth of between 300 – 400 feet

MATERIAL PHYSICAL INJURY

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

If yes, what are the proposed mitigation measures, if any, that might reasonably be imposed to ensure that the action does not result in Material Physical Injury to a party to the Judgment or the Basin?

Form 5 (cont.)

ADDITIONAL INFORMATION ATTACHED Yes [ ] No [ ]

Transferor

Transferee

TO BE COMPLETED BY WATERMASTER:

DATE OF APPROVAL FROM NON-AGRICULTURAL POOL: _____

DATE OF APPROVAL FROM AGRICULTURAL POOL: _____

DATE OF APPROVAL FROM APPROPRIATIVE POOL: _____

HEARING DATE, IF ANY: _____

DATE OF ADVISORY COMMITTEE APPROVAL: _____

DATE OF BOARD APPROVAL: _____ Agreement #_____

JURUPA COMMUNITY SERVICES DISTRICT

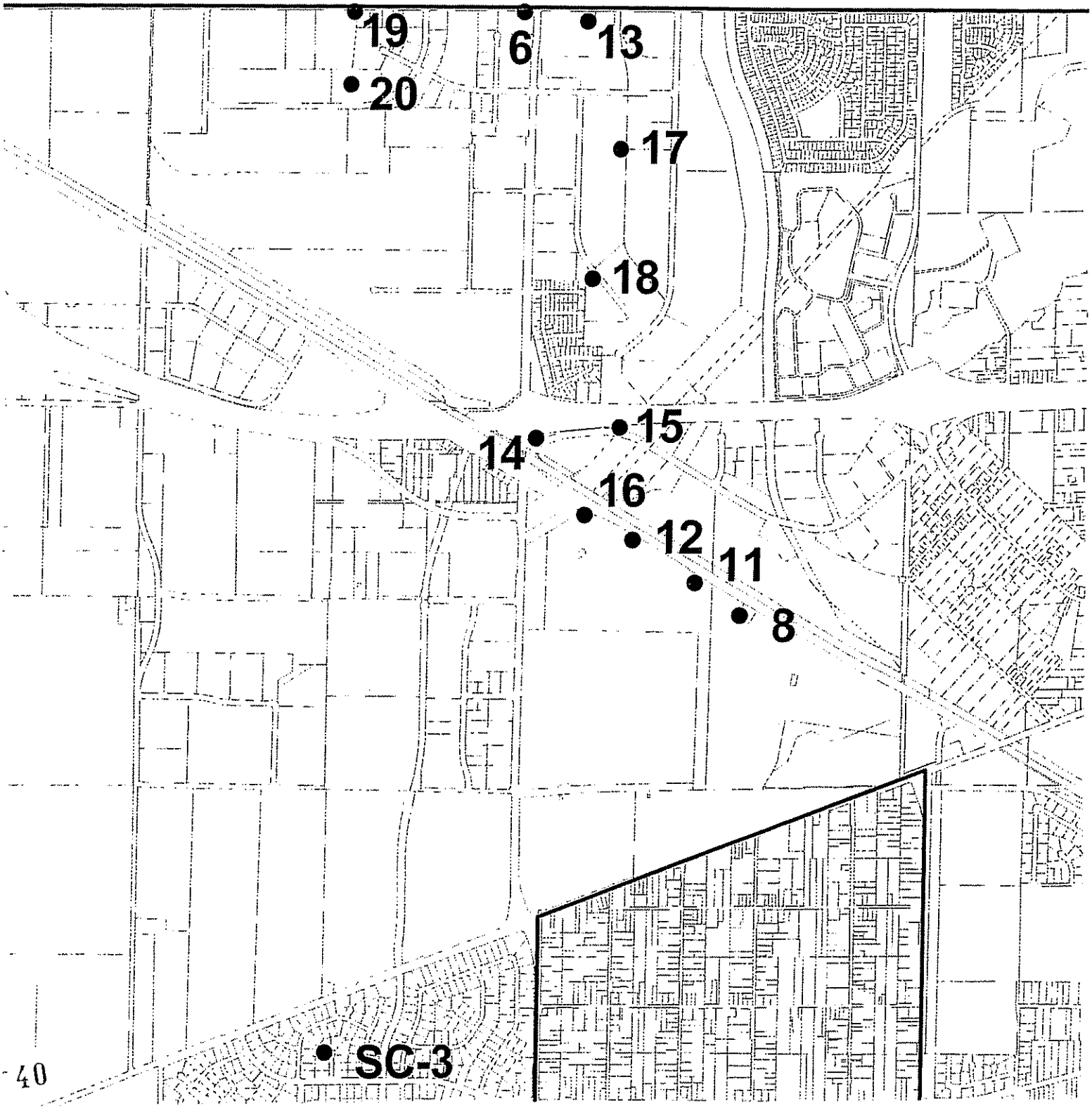
RECAPTURE PLAN

The subject water is a transfer of 650 acre-feet of stored groundwater from the San Antonio Water Company to the Jurupa Community Services District. San Antonio Water Company is located within Management Zone 1 and Jurupa Community Services District is located within Management Zones 3, 4 and 5 of the Chino Groundwater Basin. Recapture of the water will be accomplished as follows:

JCSD WELL #	**13**	**17**	**18**	**6**
February 2002	25af	25af	75af	25af
March 2002	25af	25af	75af	25af
April 2002	25af	25af	75af	50af
May 2002	25af	25af	75af	50af

The attached map shows the location of these wells within the District's service area. These wells do not exceed the MCL for nitrates and are used to blend with other wells within the District's service that do exceed the MCL for nitrates. All four wells are perforated to a depth of between 300-400 feet.

8621 Jurupa Road, Riverside, CA 92509 • Phone (909) 685-7434 • Fax (909) 685-1153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CHINO BASIN WATERMASTER

September 25, 2003

10:00 a.m. – Advisory Committee Meeting
1:00 p.m. – Watermaster Board Meeting

I. CONSENT CALENDAR

E. IEUA - CHINO BASIN CONJUNCTIVE USE PROGRAM FUNDING REQUEST

CHINO BASIN WATERMASTER

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

JOHN V. ROSSI
Chief Executive Officer

September 25, 2003

The Honorable Barbara Boxer
United States Senate
112 Hart Senate Office Building
Washington DC 20510

Subject: Letter of Support, Inland Empire Utilities Agency's Chino Basin Conjunctive Use FY 2004 Funding Request, San Bernardino County, California

Dear Senator Boxer:

The Chino Basin Watermaster (CBWM) respectfully requests your support for the Inland Empire Utilities Agency (IEUA) Chino Basin Conjunctive Use FY 2004 funding request. Through a partnership, CBWM and IEUA are implementing an urgently needed water development program in the Chino groundwater basin that will create over 500,000 acre-feet of new storage within Southern California. Initial funding in the amount of $270,000 for this project was provided in the FY 2003 budget.

House Report 108-212 (Hobson) July 16, 2003 - Page 101: *"Southern California Investigations Program, California - The Committee has provided $2,235,000 for the Southern California Investigations Program, including $500,000 to continue the Chino Basin Conjunctive Use Project, ..."* CBWM, IEUA, and it's retail agencies would greatly appreciate your support for the House budget line item of $500,000 in the FY 2004 Energy and Water Development Appropriations Bill, which would provide essential funding for the continued implementation of this water development project and for monitoring for perchlorate and other water quality problems in the Chino Basin.

The Chino Basin Conjunctive Use Program is a critical component of the Optimum Basin Management Program (OBMP) and Peace Agreement, and is also supported by the Santa Ana Watershed Project Authority, Metropolitan Water District of Southern California, and local agencies within the Chino Basin and downstream in Orange County. The Program was included in the Southern California Comprehensive Water Reuse Study completed by the U. S. Bureau of Reclamation in 2001. Under the Conjunctive Use Program, storm water, imported water and recycled water will be used to improve groundwater quality in the Chino Basin including new well treatment of serious groundwater contaminants impacting local water supplies including perchlorate, arsenic and chlorinated hydrocarbons, and to enhance the development of new water supplies that will significantly contribute to drought proofing of the region. During the last 12 months, the rising levels of groundwater contaminants have caused wells in the Chino Basin to be removed from production, which has increased the region's dependence on imported water supplies from Metropolitan Water District.

This program is vital to the future of our region. While developing urgently needed water supplies for Southern California, the Chino Basin Conjunctive Use Program will also reduce our region's dependence on Colorado River water supplies and achieve the requirements of the 4.4 Plan. We appreciate your consideration and value your support for this very important funding request.

If you have any questions about this request or the Chino basin Conjunctive Use Program, please do not hesitate to call.

Respectfully submitted,

CHINO BASIN WATERMASTER

John V. Rossi
Chief Executive Officer

c: Richard W. Atwater, CEO, IEUA
Martha Davis, IEUA
Virginia Grebbien, OCWD
Joe Grindstaff, SAWPA

CHINO BASIN WATERMASTER

September 25, 2003

10:00 a.m. – Advisory Committee Meeting
1:00 p.m. – Watermaster Board Meeting

II. BUSINESS ITEMS

A. BALANCE OF RECHARGE & DISCHARGE IN ALL AREAS, AND DETERMINATION OF OPERATING STORAGE & SAFE STORAGE

CHINO BASIN WATERMASTER

8632 Archibald Avenue, Suite 109, Rancho Cucamonga, Ca 91730
Tel: 909.484.3888 Fax: 909.484.3890 www.cbwm.org

JOHN V. ROSSI
Chief Executive Officer

STAFF REPORT

DATE: **September 11, 2003**
September 25, 2003

TO: **Pool Committee Members**
Advisory Committee and Watermaster Board Members

SUBJECT: **Court Required Report on Analysis of Supplemental Water Recharge and Analysis of Operational Storage Capacity, Safe Storage and Safe Storage Capacity**

SUMMARY

Issue – File report with Court on Analysis of Supplemental Water Recharge and Analysis of Operational Storage Capacity, Safe Storage and Safe Storage Capacity.

Recommendations –Consider recommendation to Advisory Committee to file final report with court.

Fiscal Impact – No fiscal impact.

BACKGROUND

Section 5.1(e) of the Peace Agreement contains the Watermaster commitments regarding the recharge of supplemental water in the Chino Basin.

Section 7 of the Rules and Regulations repeats the commitments of Section 5.1(e) of the Peace Agreement and adds (see Rules and Regulations, page 37, 7.1(b)(iv):

"(b) Watermaster shall exercise Best Efforts to: ...

(iv) Make its initial report on the then existing state of Hydrologic Balance by July 1, 2003, including any recommendations on Recharge actions, which may be necessary under the OBMP. Thereafter, Watermaster shall make written reports on the long term balance in the Chino Basin every two years; ..."

The attached draft technical memorandum prepared by Wildermuth Environmental, Inc. (WEI) was drafted pursuant to the requirements of the Peace Agreement and the Watermaster Rules and Regulations cited above. Staff and WEI continue to work on the analysis of cumulative effects of transfers and expect to present the draft technical memorandum in October.

Staff and WEI have presented, at meetings in the months of June and July, the criteria and background assumptions utilized in this analysis and some of the preliminary findings. Input received at these meetings has been incorporated. Staff anticipates the possibility of further comments at the meetings in July. Mark Wildermuth will present the memorandum at the meetings

SUMMARY

Comments were received at the August meetings and have been incorporated into the Final Draft attached. Staff recommends that the Watermaster authorize staff and legal counsel to file the final report with the court.

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OPTIMUM BASIN MANAGEMENT PROGRAM

ANALYSIS OF SUPPLEMENTAL WATER RECHARGE PURSUANT TO THE PEACE AGREEMENT

ANALYSIS OF OPERATIONAL STORAGE REQUIREMENT, SAFE STORAGE, AND SAFE STORAGE CAPACITY PURSUANT TO THE PEACE AGREEMENT

EVALUATION OF THE CUMULATIVE EFFECTS OF TRANSFERS PURSUANT TO THE PEACE AGREEMENT

Draft Technical Memorandum

Prepared for

Chino Basin Watermaster

Prepared by

Wildermuth Environmental, Inc.

September 2003

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Table of Contents

LIST OF TABLES

LIST OF FIGURES

1. Analysis of Supplemental Water Recharge Pursuant to the Peace Agreement

1.1 Background

Section 5.1 (e) of the Peace Agreement contains the Watermaster commitments regarding the recharge of supplemental water in the Chino Basin. This analysis focuses on the Watermaster's implementation of the Peace Agreement Section 5.1 (e) items (i), (iii), (v), (vii), and (viii), that are as follows (see Peace Agreement, pages 20 and 21):

"Watermaster shall exercise Best Efforts to:

(i) protect and enhance the safe yield of the Chino Basin through Replenishment and Recharge; ...

(iii) direct Recharge relative to Production in each area and sub-area of the Basin to achieve long term balance and to promote the goal of equal access to groundwater in all areas and sub-areas of the Chino Basin; ...

(v) establish and periodically update criteria for the use of water from different sources for Replenishment purposes; ...

(vii) recharge the Chino Basin with water in any area where groundwater levels have declined to such an extent that there is an imminent threat of Material Physical Injury to any party to the Judgment;

(viii) maintain long-term hydrologic balance between total Recharge and discharge in all areas and sub-areas;"

Maximization of the recharge of storm water is occurring and the related requirements of the Peace Agreement and Watermaster Rules and Regulations are being satisfied.

The *OBMP Implementation Plan* (Exhibit B of the Peace Agreement) contains identical language to the Peace Agreement Section 5.1 (e), but is mostly silent as to the schedule for implementation of the specific commitments listed above (see Exhibit B, paragraph 11 on page 20 and the implementation schedule on pages 22 and 23). Paragraph 9, on page 20 of the Implementation Plan, includes additional recharge guidelines that Watermaster must consider regarding recharge:

"9. When locating and directing physical recharge, Watermaster shall consider the following guidelines:

(i) provide long term hydrologic balance within the areas and sub-areas of the basin

(ii) protect and enhance water quality

(iii) improve water levels

(iv) the cost of recharge water

(v) any other relevant factors"

Section 7 of the Rules and Regulations repeats the commitments of Section 5.1 (e) of the Peace Agreement and adds (see Rules and Regulations, page 37, 7.1 (b) (iv)):

"(b) Watermaster shall exercise Best Efforts to: ...

(iv) Make its initial report on the then existing state of Hydrologic Balance by July 1, 2003, including any recommendations on Recharge actions which may be necessary under the OBMP. Thereafter, Watermaster shall make written reports on the long term Balance in the Chino Basin every two years; ..."

This technical memorandum was prepared pursuant to the requirements of the Peace Agreement and the Watermaster Rules and Regulations cited above.

1.2 Analysis

WEI developed a new groundwater model (hereafter, the *2003 Watermaster Model*) for the Chino Basin in support of the Chino Basin Watermaster, IEUA, and Metropolitan Water District of Southern

California (Metropolitan) Dry-Year Yield (DYY) Program. The 2003 Watermaster Model was used to evaluate the magnitude of groundwater level and storage changes throughout Chino Basin, the change in direction and speed of specific known water quality anomalies, and the storage losses from the DYY Program. This was accomplished by determining and simulating a baseline and a DYY scenario. The planning period used in this analysis consisted of a 25-year period ranging from October 2003 through September 2028. This period corresponds approximately to the 25-year period of the DYY Program. The impacts listed above were estimated by:

- Preparing maps that show the maximum differences in groundwater levels at the point of peak storage and at the end of a Dry-Year Yield extraction period. Time histories at the same wells used in the calibration were plotted to show local impacts at each of these wells.
- Preparing maps that show the plume migration tracks for the baseline and Dry-Year Yield scenarios over the planning period. Each plume was modeled as though the contaminant of concern was a conservative (non-sorbing, non-degrading) constituent using MODPATH.
- Preparing time histories of Santa Ana River discharge for the baseline and Dry-Year Yield scenarios and comparing these time histories for the planning period. The total water lost from storage will be estimated by subtracting the baseline time history from the Dry-Year Yield time history.

1.2 1 Baseline OBMP Scenario

The baseline scenario is based on a modified version of the water supply plan from the Implementation Plan. The water supply plan from the Implementation Plan contains future groundwater production plans for all producers in the Chino Basin. Black and Veatch modified the water supply plan for the water purveyors that are participating in the DYY Program and WEI used the water supply plan from the Implementation Plan for the remaining producers.

Table 1-1 shows the baseline groundwater production time history. Groundwater production in the Basin ranges from 197,000 acre-ft/yr in 2003/2004 to about 210,000 acre-ft/yr in 2019/2020 and thereafter. Watermaster's replenishment obligation was estimated using the following assumptions pursuant to the Judgment and the Implementation Plan:

- The initial increase in stormwater recharge that is anticipated from the Chino Basin Facilities Improvement Plan is about 12,000 acre-ft/yr with a goal of about 20,000 acre-ft/yr. To be conservative, the increase in stormwater recharge was assumed to be 12,000 acre-ft/yr.
- OBMP desalter capacity is increased from the current level of 8 million gallons per day (mgd) in 2002/2003 to 40 mgd as per the water supply plan from the Implementation Plan. Half of the production from the desalters will come from decreased rising water and new induced recharge from the Santa Ana River.
- The Judgment allows a 5,000 acre-ft/yr overdraft of Chino Basin through 2017.

Table 1-1 contains the replenishment obligation pursuant to the Judgment and the Implementation Plan, which ranges from about 30,000 acre-ft/yr in 2003/2004 to about 34,000 acre-ft/yr in 2019/2020 and is constant thereafter. An analysis of actual recent production in the Chino Basin suggests that the production and replenishment estimated in Table 1-1 may be higher than will actually occur in first few years of the baseline scenario. For consistency with the OBMP planning documents, the production and replenishment estimates in Table 1-1 were used.

The locations and magnitude of recharge shown in Table 1-1 were based on the requirements of the Peace Agreement to balance recharge and discharge in every area and sub-area. This requirement must be met over a period of time, which was interpreted herein as a long-term requirement. Thus, in an individual season or year there might not be a balance between recharge and discharge in an area, sub-area, or the Basin.

Balancing recharge and discharge may be critical to the management of the subsidence-prone area in MZ1. Watermaster is currently involved in an investigation to develop a management program for this subsidence-prone area. Until that management program is developed, it is assumed that Watermaster replenishment and groundwater production would be managed such that groundwater levels would remain near or above current levels in the southern part of MZ1. Current groundwater levels were assumed to be the groundwater levels at the end of the calibration period of the 2003 Watermaster Model; the groundwater levels were from fall 2001. In the rest of the Basin, replenishment would be managed to maximize desalter replenishment from a combination of reduced rising water to the Santa Ana River and increased streambed recharge from the Santa Ana River.

The 2003 Watermaster Model was used to investigate the recharge requirements for managing groundwater levels in MZ1 and to determine the theoretical potential of induced recharge from the Santa Ana River. The results of this work are summarized in Table 1-1 that shows the location and magnitude of supplemental water recharge. Approximately 75 percent of the recharge will be needed in the College Heights, Upland, Montclair, and Brooks spreading basins to manage groundwater levels in the western part of the Basin. The location of these recharge facilities are shown in Figure 1-1. The remaining 25 percent is shown to occur in the San Sevaine and RP3 spreading facilities; however, there is some flexibility in the selection of facilities that could be used in the eastern part of the Basin. Figures 1-2a, 1-2b, and 1-2c illustrate the model-estimated change in groundwater levels over the 25-year planning period for the baseline scenario. Throughout the duration of the baseline scenario, groundwater levels in the western part of the Chino Basin remain near or above the Fall 2001 groundwater levels. Groundwater levels in the other parts of Chino Basin declined over the planning period to levels that support decreased rising water to the Santa Ana River and increased streambed recharge from the Santa Ana River. Groundwater levels declined the most in the Fontana area – as much as 30 to 40 feet near the far eastern edge of the Fontana area. In the subsidence-prone area in MZ1, there was almost no change in groundwater levels. In the area north of the subsidence-prone area, there was a slight increase in groundwater levels due to the shifting of Watermaster's replenishment to this area as shown in Table 1-1. The effect of the desalters is evident in the south-central part of Chino Basin where groundwater levels declined in excess of 25 feet.

The total storage in the Chino Basin declined monotonically during the baseline scenario from a high of 5,940,000 acre-ft in Fall 2003 to 5,730,000 acre-ft in Fall 2028 – a decline of about 210,000 acre-ft. Figure 1-3 shows the estimated groundwater storage for the Chino Basin during the planning period. The modeling results suggest that the total storage in the Basin appears to be asymptotically approaching a level near 5,700,000 acre-ft. This decline in storage is necessary to induce the recharge of the Santa Ana River.

1.2.2 Analysis of Material Physical Injury

There is no material physical injury to a Party to the Judgment or to the Chino Basin from the projected groundwater level changes from the baseline scenario. The only location where significant increases in groundwater levels occur is in the vicinity of the recharge basins in Upland and Montclair (College Heights, Upland, Montclair, and Brooks Street Basins) where the depth to water is 300 feet or greater.

Under the baseline scenario, groundwater levels are projected to remain almost unchanged in the western third of the Basin. In the center of Chino Basin, groundwater levels are projected to decrease by about 15 to 20 feet, and at the far eastern edge of the Basin, north of the Jurupa Hills, groundwater levels are projected to decrease by as much as 40 feet. In addition, groundwater levels are projected to decline 25 feet or more in the vicinity of the OBMP desalter well fields with most of this drawdown caused by desalter operation. Slight increases in production costs will occur and slight decreases in production capacity might occur in these areas of groundwater level decline. For the members of the Appropriative Pool, the added cost of production will be more than offset by the savings provided by the avoided purchase of supplemental water for desalter replenishment. Production costs could increase about $3.50 per acre-ft (assuming $0.10 per kilowatt-hour, 60 percent pumping efficiency, and an average additional lift of 20 feet). The producers that will be impacted by operating the Basin at about 20 feet lower under the baseline scenario are the City of Ontario, Cucamonga County Water District, Fontana Water Company, and Jurupa Community Water District whose combined production averages about 80,000 acre-ft during the baseline scenario. The increased power cost totals about $240,000 per year. Operating the Basin at this lower level avoids the cost of purchasing about 24,600 acre-ft/yr of supplemental water at a cost of about $6,000,000 if the replenishment water consists of State Water Project water and about $2,000,000 if it were recycled water.

A similar analysis was done for the Agricultural Pool producers (see Appendix A). The results of this analysis suggest that the average increase in power cost to agricultural producers is about $1 per acre-ft over the planning period and that the estimated cumulative increase in power cost over the planning period for all agricultural production is about $340,000 or about $14,000 per year.

Under the baseline scenario, the groundwater levels in the subsidence-prone part of MZ1 are projected to remain near or above current levels. This occurs because of the recharge program described in Table 1-1 and because deep groundwater pumping in the subsidence-prone area were adjusted to maintain groundwater levels near or above current levels. This is a minimum necessary condition to minimize subsidence and ground fissuring in this area. Groundwater levels in this area should be managed using this criterion until Watermaster can implement a long-term management program for subsidence; after which groundwater levels in this area would be managed according to the long-term management program.

1.2.3 Limitations of this Analysis

Significant amounts of new information regarding the hydrogeology of the MZ1 area have been developed since the 2003 Watermaster Model was developed and calibrated. This new information seems to suggest that the deeper water bearing units that underlie the subsidence area are recharged much slower than predicted by the model. If this is true, it would imply that the model may exaggerate the benefits from the spreading of water in the northern part of MZ1 on piezometric levels in the subsidence-prone area. By extension, this implies that the management of piezometric levels in the subsidence-prone area in MZ1 will likely be done by reducing groundwater production from the deeper aquifer units, recharge by injection, or a combination of both. Given the limitations of the model and the uncertainty in the contents of the long-term MZ1 management program, the results of this analysis should be used as guidelines for planning recharge activities until the long term management plan for MZ1 is implemented. It is likely in the long term that significant quantities of future replenishment by Watermaster will need to occur in MZ1. However, the location and magnitude of future recharge should depend on the actual production by producers in MZ1, which could be different than was assumed in the OBMP and subsequently in this analysis.

1.3 Recommended Supplemental Recharge Program for the Next Five Years

We recommend the following actions by Watermaster regarding the recharge of supplemental water:

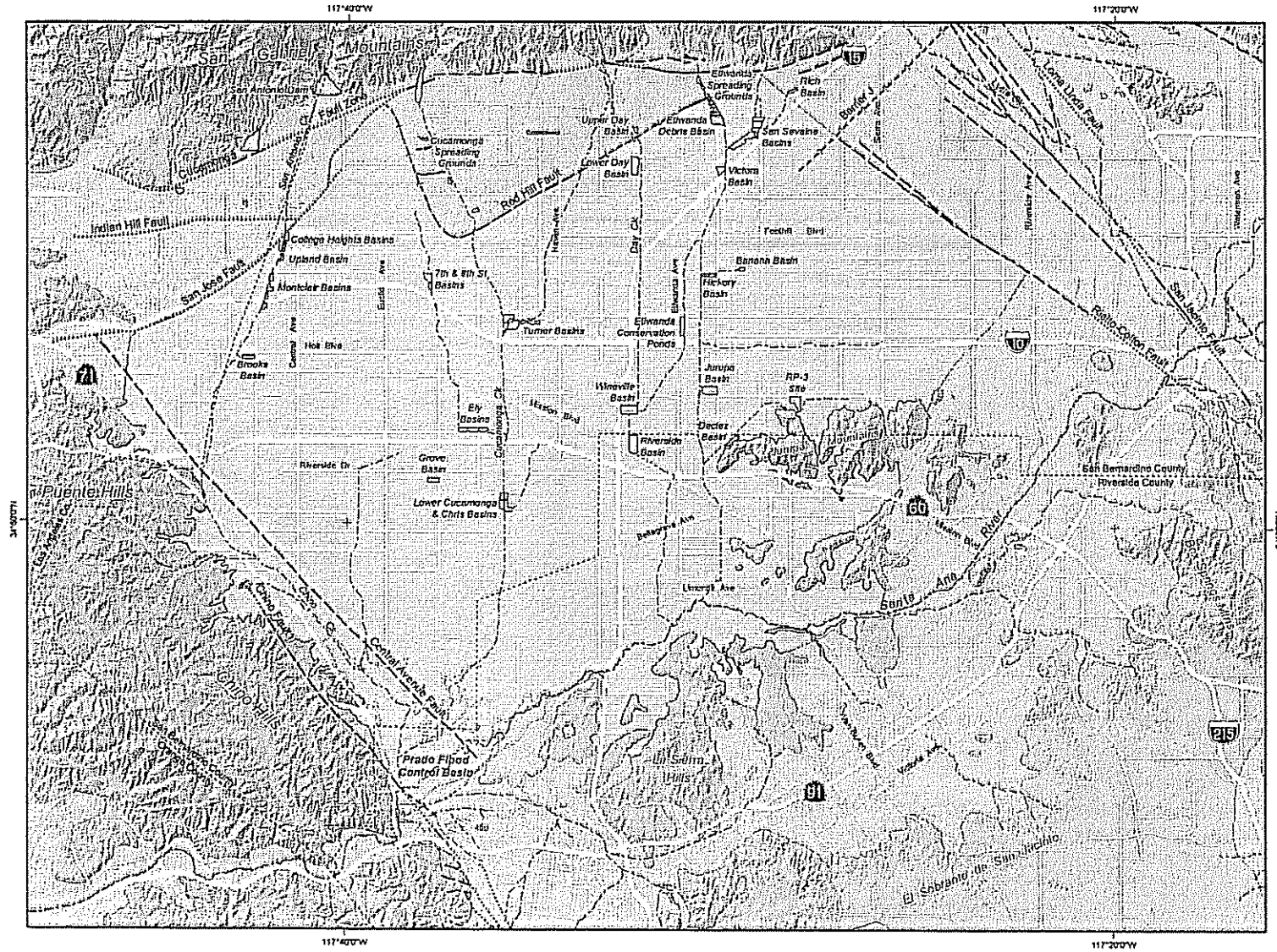
- Continue supplemental water recharge in MZ1 as is currently done (6,500 acre-ft/yr) for two more years. The need to continue this recharge should be determined in the Spring of 2005. Should Watermaster be required to replenish over-production, the replenishment should be done in MZ1, if possible, up to the amount shown in Table 1-1. Watermaster should monitor groundwater levels in MZ1 to ensure that this level of recharge is sufficient to maintain groundwater levels throughout MZ1 in the short term until the long-term MZ1 management program is implemented.
- The 2003 Watermaster model should be recalibrated prior to the completion of the long-term MZ1 management program. The revised model should be used to assess the viability of the management program and the need for supplemental water recharge in the program.
- For the next five years Watermaster should assume that half of the desalter replenishment obligation will come from reduced rising water outflow to the Santa Ana River and induced inflow from the Santa Ana River. The 2003 Watermaster Model should be recalibrated at the end of this five-year period to verify recharge assumptions regarding the Santa Ana River. This, of course, requires that Watermaster continue to monitor groundwater levels throughout the Basin.
- Per the requirements of the Peace Agreement, Watermaster should review the applicability of these recommendations in the Spring of 2005 and make revisions as appropriate.

Table 1-1

Total Chino Basin Production, Watermaster Replenishment Requirement and Replenishment Plan that Balances Recharge and Discharge for Baseline Scenario

(1) Fiscal Year	(2) Production	(3) Operating Yield	(4) New Stormwater	(5) SAR Inflow	(6)=(2)-(3)-(4)-(5) Replenishment Obligation	(7) MZ1 Goal	(8) MZ1 Recharge Basins: Montclair 1-4 0.25	(9) Upland 0.15	(10) College Hts 0.15	(11) Brooks 0.15	(12)=Σ(8)..(11) Subtotal	(13) Supplemental Water Recharge Plan — MZ2 and MZ3 Recharge Basins: San Sevaine 0.25	(14) Victoria	(15) Banana + Hickory	(16) Etiwanda Cons	(17) Etiwanda Pits	(18) RP3 0.05	(19) Declez	(20)=Σ(13)..(19) Subtotal	(21)=(12)+(20) Total
2004	195,577	145,000	12,000	9,989	29,588	20,712	20,712	0	0	0	20,712	8,876	0	0	0	0	0	0	8,876	29,588
2005	197,542	145,000	12,000	10,710	29,832	20,882	7,456	4,475	4,475	4,475	20,882	7,456	0	0	0	0	1,492	0	8,949	29,832
2006	195,716	145,000	12,000	10,888	27,827	19,479	6,957	4,174	4,174	4,174	19,479	6,957	0	0	0	0	1,391	0	8,348	27,827
2007	197,912	145,000	12,000	13,053	27,858	19,501	6,965	4,179	4,179	4,179	19,501	6,965	0	0	0	0	1,393	0	8,358	27,858
2008	199,066	145,000	12,000	13,231	25,837	18,086	6,459	3,876	3,876	3,876	18,086	6,459	0	0	0	0	1,292	0	7,751	25,837
2009	194,245	145,000	12,000	13,408	23,837	16,686	5,959	3,576	3,576	3,576	16,686	5,959	0	0	0	0	1,192	0	7,151	23,837
2010	206,871	145,000	12,000	20,744	29,127	20,389	7,282	4,369	4,369	4,369	20,389	7,282	0	0	0	0	1,456	0	8,738	29,127
2011	207,484	145,000	12,000	21,130	29,355	20,548	7,339	4,403	4,403	4,403	20,548	7,339	0	0	0	0	1,468	0	8,806	29,355
2012	208,089	145,000	12,000	21,515	29,574	20,702	7,393	4,436	4,436	4,436	20,702	7,393	0	0	0	0	1,479	0	8,872	29,574
2013	208,704	145,000	12,000	21,900	29,804	20,863	7,451	4,471	4,471	4,471	20,863	7,451	0	0	0	0	1,490	0	8,941	29,804
2014	209,311	145,000	12,000	22,285	30,026	21,018	7,507	4,504	4,504	4,504	21,018	7,507	0	0	0	0	1,501	0	9,008	30,026
2015	209,917	145,000	12,000	22,670	30,247	21,173	7,562	4,537	4,537	4,537	21,173	7,562	0	0	0	0	1,512	0	9,074	30,247
2016	210,015	145,000	12,000	23,057	29,958	20,971	7,490	4,494	4,494	4,494	20,971	7,490	0	0	0	0	1,498	0	8,987	29,958
2017	210,126	145,000	12,000	23,443	29,683	20,778	7,421	4,452	4,452	4,452	20,778	7,421	0	0	0	0	1,484	0	8,905	29,683
2018	210,229	140,000	12,000	23,830	34,399	24,079	8,600	5,160	5,160	5,160	24,079	8,600	0	0	0	0	1,720	0	10,320	34,399
2019	210,328	140,000	12,000	24,216	34,112	23,879	8,528	5,117	5,117	5,117	23,879	8,528	0	0	0	0	1,706	0	10,234	34,112
2020	210,423	140,000	12,000	24,602	33,821	23,675	8,455	5,073	5,073	5,073	23,675	8,455	0	0	0	0	1,691	0	10,146	33,821
2021	210,427	140,000	12,000	24,602	33,825	23,677	8,456	5,074	5,074	5,074	23,677	8,456	0	0	0	0	1,691	0	10,147	33,825
2022	210,427	140,000	12,000	24,602	33,825	23,677	8,456	5,074	5,074	5,074	23,677	8,456	0	0	0	0	1,691	0	10,147	33,825
2023	210,427	140,000	12,000	24,602	33,825	23,677	8,456	5,074	5,074	5,074	23,677	8,456	0	0	0	0	1,691	0	10,147	33,825
2024	210,423	140,000	12,000	24,602	33,821	23,675	8,455	5,073	5,073	5,073	23,675	8,455	0	0	0	0	1,691	0	10,146	33,821
2025	210,427	140,000	12,000	24,602	33,825	23,677	8,456	5,074	5,074	5,074	23,677	8,456	0	0	0	0	1,691	0	10,147	33,825
2026	210,427	140,000	12,000	24,602	33,825	23,677	8,456	5,074	5,074	5,074	23,677	8,456	0	0	0	0	1,691	0	10,147	33,825
2027	210,427	140,000	12,000	24,602	33,825	23,677	8,456	5,074	5,074	5,074	23,677	8,456	0	0	0	0	1,691	0	10,147	33,825
2028	210,423	140,000	12,000	24,602	33,821	23,675	8,455	5,073	5,073	5,073	23,675	8,455	0	0	0	0	1,691	0	10,146	33,821

Note — Recharge allocated to facilities that are assumed at being on line in 2004



Main Features

- Flood Control and Conservation Basins
- Chino Basin

Geology

Water-Bearing Sediments

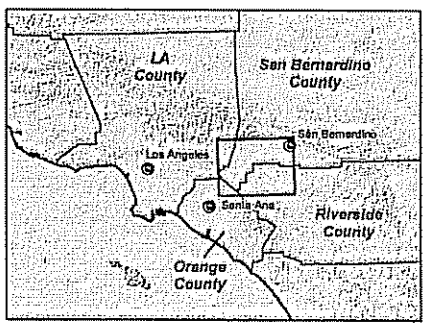
- Quaternary Alluvium

Consolidated Bedrock

- Cretaceous to Miocene Sedimentary Rocks

Faults

- Location Certain
- Location Approximate
- Location Concealed
- Location Uncertain



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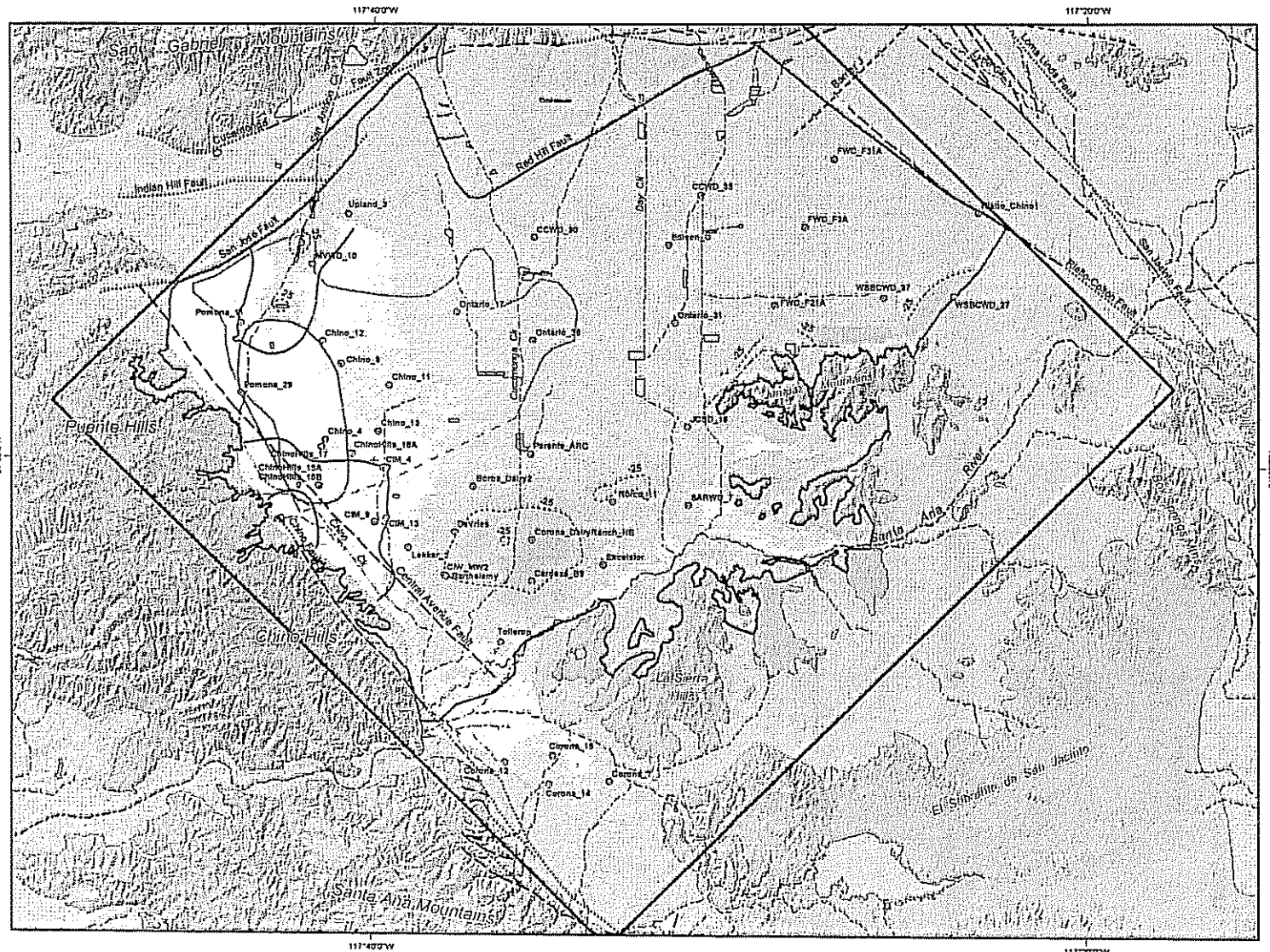
0 1 2 3 4 Miles
0 2 4 6 KM

Chino Basin Dry-Year Yield Program
Geology and Hydrogeology

Inland Empire Utilities Agency

Chino Groundwater Basin and Surface Water Spreading Facilities

Figure 1-1



Main Features

- Contours of Equal Change in Groundwater-Level *(ft-msl)*
- Grid of Change in Groundwater-Level *(ft-msl)*
- Primary Zone of Subsidence
- Zone of Subsidence (1992-2001) (as indicated by InSAR; southern extent uncertain)

Geology

Water-Bearing Sediments

- Quaternary Alluvium

Consolidated Bedrock

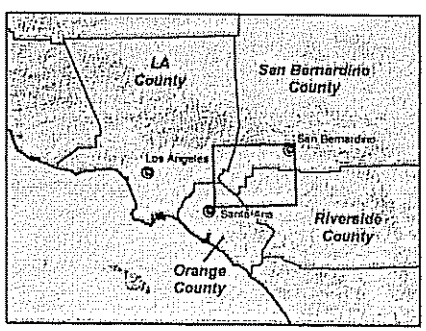
- Undifferentiated Pre-Tertiary to Early Pleistocene Igneous, Metamorphic, and Sedimentary Rocks

Faults

- Location Certain
- Location Concealed
- Location Approximate
- Location Uncertain

Other Features

- Well Used in Model Calibration
- Chino Basin
- Model Grid Boundary
- Flood Control and Conservation Basins



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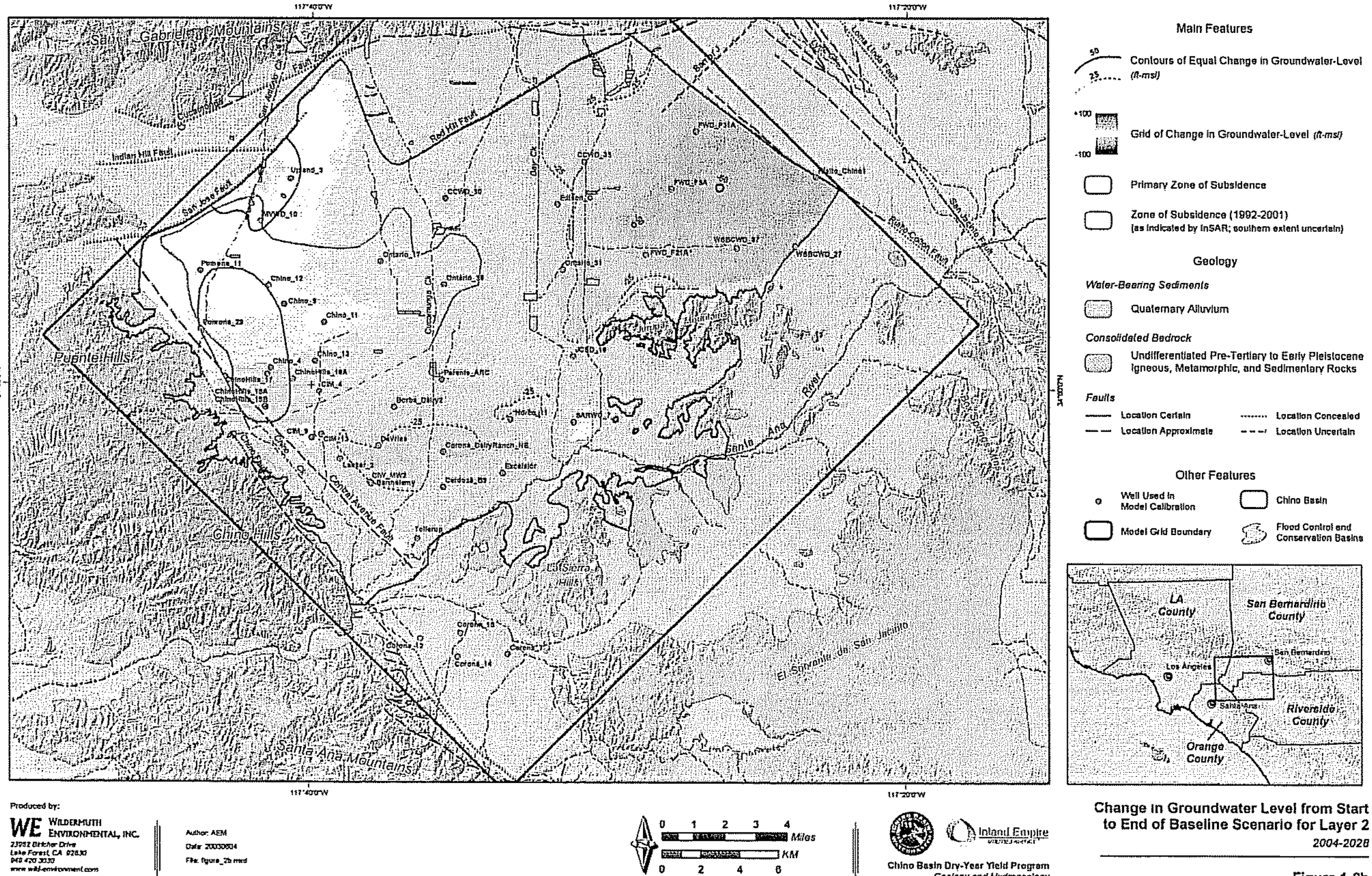
0 1 2 3 4 Miles
0 2 4 6 KM

Chino Basin Dry-Year Yield Program
Geology and Hydrogeology

Change in Groundwater Level from Start to End of Baseline Scenario for Layer 1
2004-2028

Figure 1-2a



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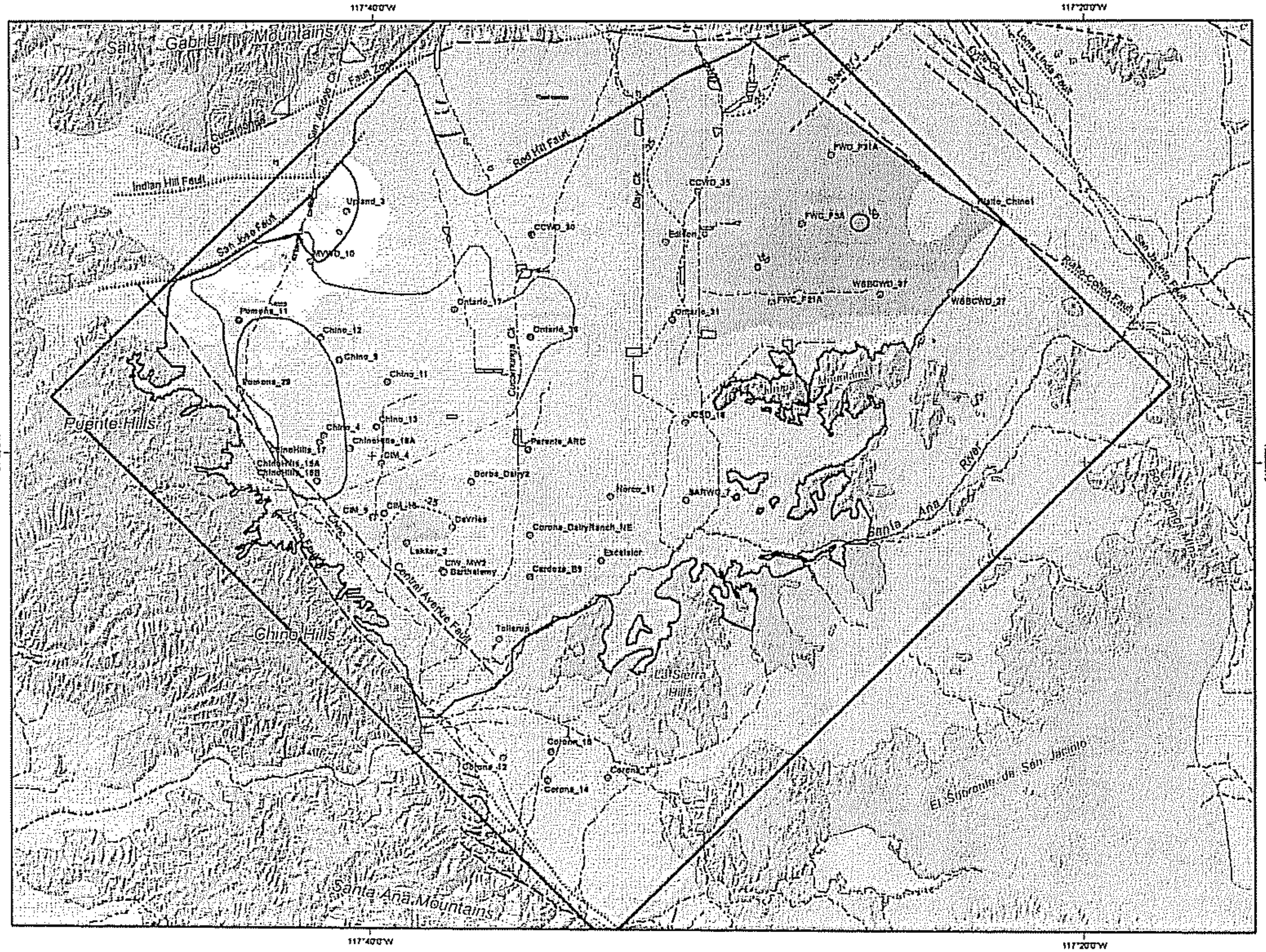
Inland Empire Utilities Agency

Chino Basin Dry-Year Yield Program
Geology and Hydrogeology

Change in Groundwater Level from Start to End of Baseline Scenario for Layer 2
2004-2028

Figure 1-2b



Main Features

- Contours of Equal Change in Groundwater-Level (ft-msl) — 50, 25
- Grid of Change in Groundwater-Level (ft-msl) — +100 to -100
- Primary Zone of Subsidence
- Zone of Subsidence (1992-2001) (as indicated by InSAR; southern extent uncertain)

Geology

Water-Bearing Sediments

- Quaternary Alluvium

Consolidated Bedrock

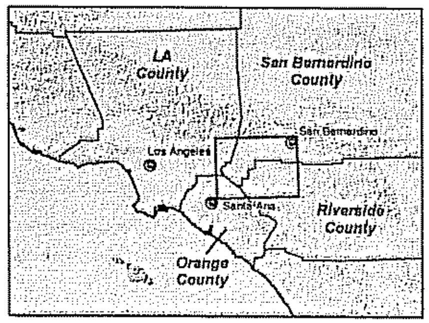
- Undifferentiated Pre-Tertiary to Early Pleistocene Igneous, Metamorphic, and Sedimentary Rocks

Faults

- Location Certain
- Location Concealed
- Location Approximate
- Location Uncertain

Other Features

- Well Used in Model Calibration
- Chino Basin
- Model Grid Boundary
- Flood Control and Conservation Basins



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Date: 20030604
File: figure_2c.mxd

0 1 2 3 4 Miles
0 2 4 6 KM

Inland Empire

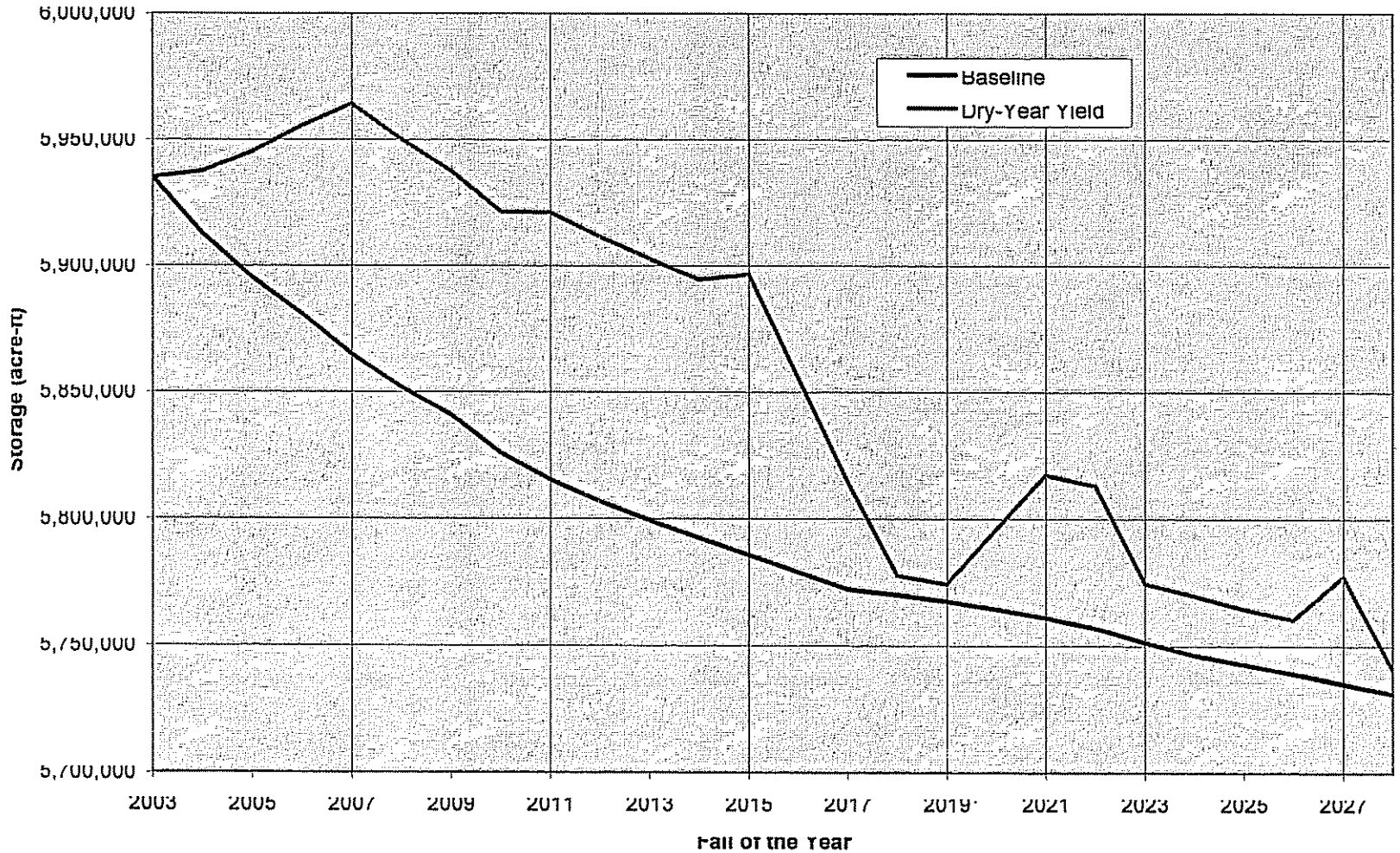
Chino Basin Dry-Year Yield Program
Geology and Hydrogeology

Change in Groundwater Level from Start to End of Baseline Scenario for Layer 3

2004-2028

Figure 1-2c

Figure 1-3
Projected Time History of Total Storage in the Chino Basin for Baseline and Dry-Year Yield Scenarios



2. Analysis of Operational Storage Requirement, Safe Storage, and Safe Storage Capacity Pursuant to the Peace Agreement

2.1 Background

The Implementation Plan defines the *operational storage requirement* as the storage or volume in the Chino Basin that is necessary to maintain safe yield and sets the initial estimate of the operational storage requirement at 5,300,000 acre-ft, which corresponds to the estimated storage for the year 2000. The *safe storage* is defined as the maximum storage in the Basin that will not cause significant water quality and high-groundwater related problems. The *safe storage capacity* is the difference between the operational storage requirement and the safe storage. Watermaster committed to reassess the operational storage requirement and the safe storage in fiscal 2002/03. This technical memorandum contains an assessment of the operational storage requirement and safe storage.

2.2 Analysis

The Implementation Plan defines the *operational storage requirement* as the storage or volume in the Chino Basin that is necessary to maintain safe yield and sets an initial estimate of the *operational storage requirement* at 5,300,000 acre-ft, which corresponds to the estimated storage for the year 2000. The year 2000 estimate of storage developed from the baseline scenario is about 5,980,000 acre-ft. The *safe storage* was defined as the maximum storage in the Basin that will not cause significant water quality and high-groundwater related problems. The *safe storage capacity* is the difference between the operational storage requirement and the safe storage. During the development of the Peace Agreement, safe storage capacity was initially set at 500,000 acre-ft. Thus, safe storage was initially estimated at 5,800,000 acre-ft. Given the revised year 2000 estimate of storage, safe storage is about 6,480,000 acre-ft.

The safe storage capacity in the Peace Agreement was set at 500,000 acre-ft based on the observation that the change in storage during the base period for the determination of the safe yield (1965 through 1974) was at about 400,000 acre-ft and that the storage in the Basin was declining prior to the base period. It seemed reasonable that the Basin could be operated at these prior levels without causing significant water quality and other high-groundwater related problems. This assumption is maintained herein. The recharge and production plans in the OBMP that are represented in the baseline scenario will result in the Basin being operated at lower groundwater levels than that envisioned during the development of the OBMP. Thus, the concept of safe storage is not as relevant for future storage and recovery programs as was initially thought during the development of the OBMP.

WEI recently completed a hydrogeologic assessment of the proposed DYY Program (WEI, 2003). The maximum storage reached during the DYY scenario was estimated to be about 5,950,000 acre-ft (See Figure 1-3), which is about the storage reached in 2000 (operational storage capacity) and is otherwise less than the storage level of the year 2000. By adopting the supplemental recharge plan recommended above, the storage will always be less than the safe storage capacity of about 6,480,000 acre-ft. Thus, the anticipated future groundwater storage time histories, as projected for the baseline scenario DYY Program, are entirely consistent with the storage management program in the Implementation Plan.

3. Evaluation of the Cumulative Effects of Transfers Pursuant to the Peace Agreement

3.1 Background

Portions of Sections 5.1 and 5.3 of the Peace Agreement contain the basic Watermaster commitments to evaluate the transfers of water in storage or water rights that are used in place of the physical recharge of water to Chino Basin. The Peace Agreement and its Implementation Plan commit Watermaster to make an evaluation of transfers and the Watermaster Rules and Regulations further define the evaluation to include the "cumulative impacts of Transfers, if any." This analysis focuses on the Watermaster's implementation of the following portions of these documents:

> "5.1 (e) Watermaster shall exercise Best Efforts to (see Peace Agreement pages 20 - 21):
>
> (iv) evaluate the potential or threat for any Material Physical Injury to any party to the Judgment or the Chino Basin, including, but not limited to, any Material Physical Injury that may result from any Transfer of water in storage or water rights which is proposed in place of physical Recharge of water to Chino Basin in accordance with the provisions of Section 5.3;"
>
> (v) ensure a proper accounting of all sources of Recharge to the Chino Basin;
>
> 5.3 (b) (see Peace Agreement pages 32 and 33)
>
> (iii) There shall be a rebuttable presumption that the Transfer and the Production by the transferee does not result in Material Physical Injury to a party to the Judgment or the Basin;
>
> (iv) Watermaster shall base any decision to approve or disapprove any proposed Transfer upon the record after considering potential impacts associated with the individual Transfer alone and without regard to impacts attributable to any other Transfers;
>
> 5.3 (c) Watermaster shall allow Producers to lease water rights to make up for the lessee's over-Production."

Pursuant to the above and other Sections of the Peace Agreement, transfers of water have been occurring since the Peace Agreement was signed (and occurred since the Judgment was signed). Some of these transfers have resulted in an avoidance of a replenishment obligation, or the physical recharge of water, for the Producer undertaking to lease or purchase the water.

The *Implementation Plan* in Exhibit B to the Peace Agreement contains similar language to the Peace Agreement regarding 5.1 (e), but is mostly silent as to schedule for implementation of the specific commitments above (see Exhibit B, paragraph 11 on page 20 and the implementation schedule on pages 22 and 23). Paragraph 5 (iii) on page 19 of Exhibit B includes additional *guidelines* that Watermaster must consider:

> "The need to continue physical recharge under this paragraph [6,500 af/yr of supplemental water in MZ1] shall be evaluated by Watermaster after the conclusion of fiscal year 2004-2005. In evaluating further physical recharge pursuant to this paragraph, Watermaster shall take into account the provisions of this Article, the Judgment and the OBMP among all other relevant factors. Except as to Watermaster's determination of no material physical injury, the rights of each party to the Judgment to purchase or lease water to meet its over production obligation shall be unaffected by this provision;"

Page 21 of Exhibit B also commits Watermaster to:

> "(d) evaluate the potential or threat for any material physical injury to any party to the Judgment or the Chino Basin, including, but not limited to, any material physical injury that may result from any transfer of water in storage or water rights which is proposed in place of physical recharge of water to Chino Basin in accordance with the provisions of Section 5.3;
>
> (e) establish and periodically update criteria for the use of water from different sources for replenishment purposes;
>
> (f) ensure a proper accounting of all sources of recharge to the Chino Basin;"

Section 7 of the Watermaster Rules and Regulations repeats the commitments of the Peace Agreement and Implementation Plan and adds Section 9.2 (e) and 9.3 (see Rules and Regulations, page 55):

> "(e) Transfers which occur between the same parties in the same year shall be considered as a single Transfer for the purpose of determining Material Physical Injury.
>
> 9.3 Integrated Watermaster Review. In reviewing Transfers under these Rules and Regulations, Watermaster shall exercise reasonable discretion. Watermaster shall review each proposed Transfer based upon the record before it and considering the potential impacts of the proposed Transfer alone. However, Watermaster shall also consider the cumulative impacts of Transfers generally when carrying out its responsibilities to implement the OBMP and Recharge and monitoring programs authorized by these Rules and Regulations or the Judgment.
>
> (a) Watermaster will evaluate the cumulative physical impact of Transfers on the Basin, if any, by July 1, 2003, and a minimum of once every two years thereafter.
>
> (b) Watermaster will take the results of its evaluation into account when carrying out its obligations under section 7.1 of these Rules and Regulations."

This technical memorandum, which is being prepared pursuant to the requirements of the Peace Agreement and the Watermaster Rules and Regulations cited above, contains Watermaster's first evaluation of the "cumulative" impacts of transfers.

3.2 Analysis

The Peace Agreement defines Transfers as "the assignment, lease, or sale of a right to Produce water to another Producer within the Chino Basin or to another person or entity for use outside the Basin in conformance with the Judgment, whether the Transfer is of a temporary or permanent nature" (Peace Agreement page 11-12). Replenishment water means "Supplemental Water used to Recharge the Basin pursuant to the physical solution, either directly by percolating or injecting the water into the Basin or indirectly by delivering the water for use in lieu of Production and use of Safe Yield or Operating Safe Yield" (Peace Agreement page 10). Based on the Peace Agreement definition (and in actuality), not all transfers that occur replace the physical recharge of water to the Chino Basin. This technical memorandum focuses on an evaluation the cumulative physical impact of Transfers that replaced the physical recharge of water.

3.2.1 Historic Replenishment

WEI developed a new groundwater model (hereafter, the *2003 Watermaster Model*) for the Chino Basin in support of the Chino Basin Watermaster, IEUA, and Metropolitan Water District of Southern California (Metropolitan) Dry-Year Yield (DYY) Program. The 2003 Watermaster Model was also used to evaluate the cumulative impacts of transfers in this study. This was accomplished by determining and simulating the historic and a "reduced transfer - increased physical recharge" scenario for the model calibration period. Changes in the magnitude of groundwater level and storage throughout Chino Basin, the change in direction and speed of specific known water quality anomalies, and the losses from storage were then estimated.

3.2.2 Baseline Transfers and Replenishment

In order to determine the cumulative impacts of transfers, if any, the avoided physical recharge due to transfers had to be determined. However, since not all transfers represented avoided physical recharge and since Watermaster does not specifically determine avoided physical recharge each year, the calculation of the actual avoided physical recharge during the study period had to be estimated from historical operations of the Watermaster. First, data regarding historic transfer and replenishment activities were assembled and disaggregated into the "physically recharged" components and the "in-lieu" or "exchanged" components. This was accomplished by reviewing and tabulating transfer, recharge, and replenishment information from the Watermaster Assessment Packages and Annual Reports for the period FY 89-90 to FY 00-01 (see Appendices B & C). This was done for the major producers historically participating in transfers (CCWD, Chino, Chino Hills, FUWC, FWC, JCSD, Marygold, Ontario, Pomona, San Antonio, Santa Ana River WC, SoCal Water, and Upland). In addition, Metropolitan accounts and the ground water replenishment activities were tabulated.

To calculate the avoided replenishment or physical recharge of water that occurred during the study period, the following steps were taken:

1. Develop spreadsheets for the study period that duplicate the Watermaster Assessment Packages for each Producer listed above and check against the Assessment Packages (Appendix B).
2. Refine spreadsheets to break out water transfer activity, including known transfers from storage, Metropolitan exchanges, etc.
3. Create additional spreadsheets to summarize transfers identified in the Assessment Package based on where the transfers originated and went for the same period (Appendix C).
4. Calculate each producer's total replenishment obligation without transfers, both including and excluding any Metropolitan exchanges from production.
5. Develop spreadsheets summarizing the total replenishment obligation calculated for each producer by year for both including and excluding any Metropolitan exchanges for the study period. These tables represent what the total obligation would have been, by producer, had the Producers not completed the transfers (Table 3-1A and 3-2A).
6. Develop a spreadsheet summarizing net over-production from the Assessment Package for each producer (Table 3-1B and 3-2B).
7. Develop summary spreadsheets subtracting the net over-production from the Assessment Package from the total replenishment obligation by producer, both for including and excluding

Metropolitan exchanges. These tables represent the avoided physical recharge or replenishment by producer (Table 3-1C and 3-2C).

8. Develop spreadsheets summarizing actual groundwater replenishment, including the total unmet replenishment obligation from the Assessment Packages, and indicating how Watermaster satisfied the obligation each year (i.e. sources of water) (Table 3-3).
9. Develop spreadsheet summarizing Metropolitan cyclic account activity during the study period. Calculate the percentage of cyclic water used for replenishment that was delivered by exchange or physically recharged (Table 3-4).
10. Evaluate the results both including and excluding Metropolitan exchange.

The tables in Appendix B show the historic water transfer activity and net replenishment obligation for each producer. These tables duplicate the results of the Watermaster Assessment Package. Because exchanges with Metropolitan are included in the assessment packages as part of production, the effect of exchanges that did not avoid the physical recharge of water had to be accounted for in the calculation (See Table 3-5, Calculation of Avoided Physical Recharge).

Based on an evaluation of the information above, approximately 225,000 acre-feet of avoided physical recharge occurred between 1989 and 2001. The greatest volume of avoided physical recharge occurred in MZ2 and the least volume occurred in MZ1.

*Below to be completed after Watermaster review of Tables 3-1 through 3-5 and Appendices B & C

3.2.3 Analysis of Material Physical Injury

3.2.4 Limitations of this Analysis

3.3 Recommended Regarding Transfers for the Next Five Years

Table 3-1

A. Total Replenishment Obligation Without Transfers & Including MWD Exchange in Production

FY	CCWD	Chino	Chino Hills	FUWC	FWC	JCSD	Marygold	MVWD	Ontario	Pomona	San Antonio	Santa Ana	SoCal Wtr	Upland	Total Repl Obligation
1989-90	11,270.8	2,622.7	0.0	2,330.5	0.0	9,824.4	0.0	0.0	9,237.9	0.0	0.0	0.0	0.0	0.0	35,286.3
1990-91	0.0	2,753.0	0.0	7,349.8	1,408.9	7,710.3	0.0	0.0	8,155.2	0.0	0.0	0.0	0.0	0.0	25,374.8
1991-92	0.0	2,084.7	0.0	2,514.8	2,902.8	8,600.5	0.0	0.0	10,491.1	0.0	0.0	0.0	0.0	0.0	26,593.9
1992-93	0.0	304.8	0.0	739.7	2,878.9	8,689.1	0.0	0.0	3,456.5	0.0	0.0	0.0	0.0	0.0	16,068.8
1993-94	0.0	0.0	0.0	0.0	6,277.2	8,126.5	0.0	0.0	2,264.8	0.0	0.0	0.0	0.0	0.0	16,668.5
1994-95	0.0	0.0	0.0	0.0	6,537.6	4,534.5	0.0	0.0	998.9	0.0	0.0	0.0	0.0	0.0	12,071.0
1995-96	0.0	358.0	0.0	0.0	6,530.3	5,284.4	0.0	0.0	13,745.4	0.0	0.0	0.0	0.0	0.0	25,918.1
1996-97	0.0	1,368.9	0.0	0.0	11,831.8	7,530.3	0.0	0.0	15,114.3	0.0	0.0	0.0	0.0	0.0	35,845.2
1997-98	0.0	0.0	0.0	0.0	10,973.7	5,075.1	0.0	0.0	14,658.7	0.0	0.0	0.0	0.0	0.0	30,707.4
1998-99	0.0	1,683.8	0.0	0.0	10,373.8	6,183.8	0.0	122.8	15,915.8	0.0	0.0	0.0	0.0	0.0	34,279.2
1999-00	0.0	0.0	0.0	0.0	20,946.8	5,419.5	0.0	0.0	10,839.2	0.0	0.0	0.0	0.0	0.0	37,205.5
2000-01	0.0	0.0	0.0	0.0	17,068.0	0.0	0.0	227.0	8,943.0	300.8	0.0	0.0	0.0	0.0	26,538.8
2001-02	0.0	0.0	0.0	0.0	19,595.7	0.0	0.0	5,497.4	13,984.5	483.3	0.0	0.0	0.0	0.0	39,561.0
TOTALS	11,270.8	11,373.4	0.0	12,934.5	118,919.1	76,778.7	0.0	5,847.0	125,805.0	784.1	0.0	0.0	0.0	0.0	381,712.5

B. Net Overproduction from Assessment Package by Producer

FY	CCWD	Chino	Chino Hills	FUWC	FWC	JCSD	Marygold	MVWD	Ontario	Pomona	San Antonio	Santa Ana	SoCal Wtr	Upland	Total Repl Obligation
1989-90	0.0	2,585.8	0.0	6,145.0	0.0	8,324.4	0.0	0.0	9,237.9	0.0	0.0	0.0	0.0	0.0	26,273.9
1990-91	0.0	2,389.2	0.0	13,748.3	0.0	5,910.3	0.0	0.0	8,155.2	0.0	0.0	0.0	0.0	0.0	28,200.9
1991-92	0.0	404.7	0.0	6,699.1	664.5	5,320.5	0.0	0.0	8,811.1	0.0	0.0	0.0	0.0	0.0	21,899.9
1992-93	0.0	0.0	0.0	2,564.5	2,678.9	1,978.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7,219.9
1993-94	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994-95	0.0	0.0	0.0	0.0	2,797.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2,797.6
1995-96	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11,745.4	0.0	0.0	0.0	0.0	0.0	11,745.4
1996-97	0.0	135.9	0.0	0.0	10,931.8	3,759.5	0.0	0.0	5,037.6	0.0	0.0	0.0	0.0	0.0	19,864.7
1997-98	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1998-99	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999-00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001-02	0.0	0.0	0.0	0.0	4,891.7	0.0	0.0	0.0	851.4	0.0	0.0	0.0	0.0	0.0	5,743.1
TOTALS	0.0	5,495.3	0.0	29,155.9	21,962.4	25,293.3	0.0	0.0	41,838.8	0.0	0.0	0.0	0.0	0.0	123,745.5

C. Avoided Physical Recharge - Including MWD Exchange in Production

FY	CCWD	Chino	Chino Hills	FUWC	FWC	JCSD	Marygold	MVWD	Ontario	Pomona	San Antonio	Santa Ana	SoCal Wtr	Upland	Avoided Phys. Recharge
1989-90	11,270.8	257.1	0.0	-3,815.6	0.0	1,300.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9,012.5
1990-91	0.0	383.8	0.0	-6,398.7	1,408.9	1,800.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2,826.0
1991-92	0.0	1,880.0	0.0	-4,184.3	2,238.3	3,280.0	0.0	0.0	1,680.0	0.0	0.0	0.0	0.0	0.0	4,894.0
1992-93	0.0	304.8	0.0	-1,824.8	0.0	6,710.8	0.0	0.0	3,456.5	0.0	0.0	0.0	0.0	0.0	8,646.8
1993-94	0.0	0.0	0.0	0.0	6,277.2	8,126.5	0.0	0.0	2,264.8	0.0	0.0	0.0	0.0	0.0	16,668.5
1994-95	0.0	0.0	0.0	0.0	3,740.0	4,534.5	0.0	0.0	998.9	0.0	0.0	0.0	0.0	0.0	9,273.3
1995-96	0.0	358.0	0.0	0.0	6,530.3	5,284.4	0.0	0.0	2,000.0	0.0	0.0	0.0	0.0	0.0	14,170.7
1996-97	0.0	1,233.0	0.0	0.0	700.0	3,770.8	0.0	0.0	10,076.7	0.0	0.0	0.0	0.0	0.0	15,780.4
1997-98	0.0	0.0	0.0	0.0	10,973.7	5,075.0	0.0	0.0	14,658.7	0.0	0.0	0.0	0.0	0.0	30,707.4
1998-99	0.0	1,683.8	0.0	0.0	10,373.8	6,183.8	0.0	122.8	15,915.8	0.0	0.0	0.0	0.0	0.0	34,279.2
1999-00	0.0	0.0	0.0	0.0	20,946.8	5,419.5	0.0	0.0	10,839.2	0.0	0.0	0.0	0.0	0.0	37,205.5
2000-01	0.0	0.0	0.0	0.0	17,068.0	0.0	0.0	227.0	8,943.0	300.8	0.0	0.0	0.0	0.0	26,538.8
2001-02	0.0	0.0	0.0	0.0	14,704.0	0.0	0.0	5,497.4	13,133.1	483.3	0.0	0.0	0.0	0.0	33,817.8
TOTALS	11,270.8	5,878.0	0.0	-18,221.4	94,956.7	51,485.3	0.0	5,847.0	83,988.4	784.1	0.0	0.0	0.0	0.0	237,987.0

Table 3-2

A. Total Replenishment Obligation Without Transfers & Excluding MWD Exchange from Production

FY	CCWD	Chino	Chino Hills	FUWC	FWC	JCSD	Marygold	MVWD	Ontario	Pomona	San Antonio	Santa Ana	SoCal Wtr	Upland	Total Repl Obligation
1989-90	0.0	2,822.7	0.0	2,330.5	0.0	9,824.4	0.0	0.0	4,362.0	0.0	0.0	0.0	0.0	0.0	19,139.6
1990-91	0.0	2,753.0	0.0	7,349.8	1,408.9	7,710.3	0.0	0.0	2,578.1	0.0	0.0	0.0	0.0	0.0	21,795.7
1991-92	0.0	2,011.0	0.0	2,514.8	2,902.8	8,800.5	0.0	0.0	8,586.2	0.0	0.0	0.0	0.0	0.0	24,815.3
1992-93	0.0	0.0	0.0	739.7	2,678.9	8,889.1	0.0	0.0	2,345.7	0.0	0.0	0.0	0.0	0.0	14,451.4
1993-94	0.0	0.0	0.0	0.0	6,277.2	8,126.6	0.0	0.0	2,264.6	0.0	0.0	0.0	0.0	0.0	16,668.5
1994-95	0.0	0.0	0.0	0.0	6,537.6	4,534.5	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0	11,074.2
1995-96	0.0	356.0	0.0	0.0	6,530.3	5,284.4	0.0	0.0	12,232.7	0.0	0.0	0.0	0.0	0.0	24,403.4
1996-97	0.0	1,368.9	0.0	0.0	11,631.6	7,530.3	0.0	0.0	16,114.3	0.0	0.0	0.0	0.0	0.0	35,845.2
1997-98	0.0	0.0	0.0	0.0	10,973.7	5,075.1	0.0	0.0	14,658.7	0.0	0.0	0.0	0.0	0.0	30,707.4
1998-99	0.0	1,863.6	0.0	0.0	10,373.6	6,183.8	0.0	122.8	15,915.6	0.0	0.0	0.0	0.0	0.0	34,279.2
1999-00	0.0	0.0	0.0	0.0	20,946.6	5,419.6	0.0	0.0	10,839.2	0.0	0.0	0.0	0.0	0.0	37,205.5
2000-01	0.0	0.0	0.0	0.0	17,068.0	0.0	0.0	227.0	8,943.0	300.8	0.0	0.0	0.0	0.0	26,538.8
2001-02	0.0	0.0	0.0	0.0	19,595.7	0.0	0.0	5,497.4	13,984.5	483.3	0.0	0.0	0.0	0.0	39,561.0
TOTALS	0.0	10,995.1	0.0	12,934.5	116,919.1	78,778.7	0.0	5,847.0	111,824.8	784.1	0.0	0.0	0.0	0.0	338,083.2

B. Net Overproduction from Assessment Package by Producer

FY	CCWD	Chino	Chino Hills	FUWC	FWC	JCSD	Marygold	MVWD	Ontario	Pomona	San Antonio	Santa Ana	SoCal Wtr	Upland	Total Repl Obligation
1989-90	0.0	2,585.8	0.0	8,146.0	0.0	8,324.4	0.0	0.0	9,237.9	0.0	0.0	0.0	0.0	0.0	28,273.9
1990-91	0.0	2,389.2	0.0	13,748.3	0.0	5,910.3	0.0	0.0	6,155.2	0.0	0.0	0.0	0.0	0.0	28,200.9
1991-92	0.0	404.7	0.0	6,699.1	684.5	5,320.5	0.0	0.0	8,811.1	0.0	0.0	0.0	0.0	0.0	21,899.9
1992-93	0.0	0.0	0.0	2,564.5	2,678.9	1,978.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7,219.9
1993-94	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994-95	0.0	0.0	0.0	0.0	2,797.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2,797.8
1995-96	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11,745.4	0.0	0.0	0.0	0.0	0.0	11,745.4
1996-97	0.0	135.9	0.0	0.0	10,931.8	3,759.5	0.0	0.0	5,037.8	0.0	0.0	0.0	0.0	0.0	19,864.7
1997-98	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1998-99	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999-00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001-02	0.0	0.0	0.0	0.0	4,891.7	0.0	0.0	0.0	851.4	0.0	0.0	0.0	0.0	0.0	5,743.1
TOTALS	0.0	5,495.3	0.0	29,155.9	21,982.4	25,293.3	0.0	0.0	41,838.8	0.0	0.0	0.0	0.0	0.0	123,745.5

C. Avoided Physical Recharge - Excluding MWD Exchange from Production

FY	CCWD	Chino	Chino Hills	FUWC	FWC	JCSD	Marygold	MVWD	Ontario	Pomona	San Antonio	Santa Ana	SoCal Wtr	Upland	Avoided Phys. Recharge
1989-90	0.0	257.1	0.0	-3,815.5	0.0	1,300.0	0.0	0.0	-4,875.9	0.0	0.0	0.0	0.0	0.0	-7,134.3
1990-91	0.0	363.8	0.0	-8,398.7	1,408.9	1,800.0	0.0	0.0	-3,579.1	0.0	0.0	0.0	0.0	0.0	-8,405.1
1991-92	0.0	1,606.3	0.0	-4,184.3	2,238.3	3,280.0	0.0	0.0	-224.9	0.0	0.0	0.0	0.0	0.0	2,715.4
1992-93	0.0	0.0	0.0	-1,824.8	0.0	6,710.6	0.0	0.0	2,345.7	0.0	0.0	0.0	0.0	0.0	7,231.5
1993-94	0.0	0.0	0.0	0.0	6,277.2	8,126.6	0.0	0.0	2,264.6	0.0	0.0	0.0	0.0	0.0	16,668.5
1994-95	0.0	0.0	0.0	0.0	3,740.0	4,534.5	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0	8,276.5
1995-96	0.0	356.0	0.0	0.0	6,530.3	5,284.4	0.0	0.0	487.3	0.0	0.0	0.0	0.0	0.0	12,658.0
1996-97	0.0	1,233.0	0.0	0.0	700.0	3,770.8	0.0	0.0	10,076.7	0.0	0.0	0.0	0.0	0.0	15,780.4
1997-98	0.0	0.0	0.0	0.0	10,973.7	5,075.0	0.0	0.0	14,658.7	0.0	0.0	0.0	0.0	0.0	30,707.4
1998-99	0.0	1,863.6	0.0	0.0	10,373.6	6,183.8	0.0	122.8	15,915.6	0.0	0.0	0.0	0.0	0.0	34,279.2
1999-00	0.0	0.0	0.0	0.0	20,946.6	5,419.6	0.0	0.0	10,839.2	0.0	0.0	0.0	0.0	0.0	37,205.5
2000-01	0.0	0.0	0.0	0.0	17,068.0	0.0	0.0	227.0	8,943.0	300.8	0.0	0.0	0.0	0.0	26,538.8
2001-02	0.0	0.0	0.0	0.0	14,704.0	0.0	0.0	5,497.4	13,133.1	483.3	0.0	0.0	0.0	0.0	33,817.9
TOTALS	0.0	5,499.6	0.0	-18,221.4	94,956.7	51,485.3	0.0	5,847.0	69,966.2	784.1	0.0	0.0	0.0	0.0	212,337.7

Table 3-3
GROUNDWATER REPLENISHMENT

FY	Total Unmet Replenishment Obligation From Assessment Package	Spreading						Net to be Met From Non-Wet Sources	Indirect		Balance Replenishment	Other Accounts		
		CB-131 San Sevaine	CB-591 Montclair	Day	CB-141 Etiwanda	Deer Turner	Total Spread		In Lieu Exchange	Cyclic Purchase		Trust	Co Op	Mini Conj Use
											5,679.7	14,098.8		
1989-90	30,344.5	0.0	0.0	0.0	0.0	0.0	0.0	30,344.5	0.0	19,324.2	16,700.0	16,377.1	0.0	0.0
1990-91	31,814.9	0.0	1,987.6	475.1	828.0	0.0	3,290.7	28,524.2	0.0	0.0	45,224.2	14,929.1	0.0	0.0
1991-92	23,870.4	0.0	2,583.0	501.4	705.1	0.0	3,789.5	20,080.9	5,387.1	17,726.0	42,192.0	-45,405.0	0.0	0.0
1992-93	7,501.5	3,181.6	6,443.9	0.0	2,909.3	0.0	12,534.8	-5,033.3	8,794.7	21,883.5	6,480.5	0.0	0.0	4,806.1
1993-94	432.0	2,688.0	4,885.9	0.0	1,284.9	0.0	8,858.8	-8,426.8	8,984.5	0.0	-10,930.9	0.0	0.0	-61.1
1994-95	3,060.9	0.0	0.0	0.0	0.0	0.0	0.0	3,060.9	432.1	0.0	-8,302.0	0.0	3,170.8	-1.5
1995-96	12,903.7	82.4	0.0	0.0	0.0	0.0	82.4	12,821.3	4,701.0	0.0	-181.8	0.0	2,611.9	-0.4
1996-97	20,578.2	0.0	0.0	0.0	0.0	0.0	0.0	20,578.2	4,672.7	0.0	15,723.8	0.0	-4,672.7	-0.6
1997-98	770.9	0.0	8,322.6	0.0	0.0	0.0	8,322.6	-7,551.7	0.0	0.0	8,172.1	0.0	0.0	-0.4
1998-99	657.5	1,513.3	2,960.6	0.0	1,223.4	0.0	5,697.3	-5,039.8	0.0	1,473.9	1,656.4	0.0	0.0	-1.3
1999-00	579.3		1,000.8	0.0	0.0	0.0	1,000.8	-421.5	0.0	657.5	579.4	0.0	0.0	0.0
2000-01	198.7	0.0	29.7	0.0	0.0	0.0	29.7	169.0	0.0	748.3	0.1	0.0	-1,110.0	-0.2
2001-02	5,872.9	0.0	0.1	0.0	0.0	0.0	0.1	5,872.8	0.0	0.0	5,872.8	0.0	0.0	-1.1
TOTALS	138,585.3	7,465.3	28,214.2	976.5	6,950.7	0.0	43,606.7		32,972.1	61,813.4		0.0	0.0	4,739.5

Table 3-4
CYCLIC ACTIVITIES[1]

FY	Beginning Balance	Puts: Spreading CB-131 San Sevaine	Puts: Spreading CB-591 Montclair	Puts: Spreading Day	Puts: Spreading CB-141 Etiwanda	Puts: Spreading Deer Turner	Puts: Total Puts Spread	Puts: Balance Spread	Puts: Other Del by Exchange	Puts: Total Exchange	Puts: Balance Exchange	Puts: Total Puts Spread & Other	% Total Spread	% Total Exchange	Takes: Pur for Repl	Takes: Total Spread at	Takes: Total Exchange at	Ending Balance	Bal in Ann Rept	Diff
																		47,808.3		
1989-90	47,808.3	0.0	0.0	0.0	0.0	0.0	0.0	28,484.1	0.0	0.0	0.0	0.0	100.0%	0.0%	-19,324.2	-19,324.2	0.0	28,484.1	28,482.9	21.2
1990-91	28,484.1	0.0	0.0	129.2	373.5	0.0	502.7	28,986.8	0.0	0.0	0.0	502.7	100.0%	0.0%		0.0	0.0	28,986.8	28,965.6	21.2
1991-92	28,986.8	0.0	1,270.3	0.0	490.8	0.0	1,761.1	13,021.9	7,205.7	7,205.7	7,205.7	8,966.8	64.4%	35.6%	-17,726.0	-17,726.0	0.0	20,227.6	20,206.4	21.2
1992-93	20,227.6	0.0	945.3	0.0	731.8	0.0	1,677.1	611.1	0.0	0.0	-589.9	1,677.1	2684.6%	-2784.6%	-21,883.5	-14,087.9	-7,795.6	21.2	0.0	21.2
1993-94	21.2	516.6	5,466.8	0.0	1,850.8	0.0	7,834.2	6,245.3	11,210.2	11,210.2	10,620.3	18,844.4	43.7%	56.3%	0.0	0.0	0.0	18,865.6	18,844.5	21.1
1994-95	18,865.6	6,942.7	716.1	0.0	2,641.2	0.0	10,300.0	16,545.3	1,051.1	1,051.1	11,671.4	11,351.1	61.4%	38.6%	0.0	0.0	0.0	30,216.7	30,193.8	22.9
1995-96	30,216.7	0.0	0.0	0.0	0.0	0.0	0.0	16,545.3	3,555.3	3,555.3	15,226.7	3,555.3	54.9%	45.1%	0.0	0.0	0.0	33,772.0	33,749.1	22.9
1996-97	33,772.0	0.0	16.5	0.0	0.0	0.0	16.5	16,561.8	0.0	0.0	15,226.7	16.5	54.9%	45.1%	0.0	0.0	0.0	33,788.5	33,765.6	22.9
1997-98	33,788.5	0.0	0.0	0.0	0.0	0.0	0.0	16,561.8	4,491.9	4,491.9	19,718.6	4,491.9	48.5%	51.5%		0.0	0.0	38,280.4	38,257.5	22.9
1998-99	38,280.4	0.0	0.0	0.0	0.0	0.0	0.0	17,647.1	0.0	0.0	18,959.4	0.0	48.5%	51.5%	-1,473.9	-714.7	-759.2	36,806.5	36,796.1	10.4
1999-00	36,806.5	0.0	0.0	0.0	0.0	0.0	0.0	17,525.3	0.0	0.0	18,620.7	0.0	48.5%	51.5%	-657.5	-318.8	-338.7	36,149.0	36,126.1	22.9
2000-01	36,149.0	0.0	0.0	0.0	0.0	0.0	0.0	17,165.4	0.0	0.0	18,235.2	0.0	48.5%	51.5%	-748.3	-362.8	-385.5	35,400.7	35,546.8	-146.1
2001-02	35,400.7	0.0	0.0	0.0	0.0	0.0	0.0	17,165.4	0.0	0.0	18,235.2	0.0	48.5%	51.5%		0.0	0.0	35,400.7	35,543.8	-142.9
TOTALS		7,459.3	8,415.0	129.2	5,888.1	0.0	21,891.8		27,514.2	27,514.2		49,405.8	38.1	-23.1	-61,813.4	-52,534.4	-9,279.0			

[1] From Watermaster Annual Reports and Assessment Packages

Table 3-5

CALCULATION OF AVOIDED PHYSICAL RECHARGE

	Including MWD Exchange		Excluding MWD Exchange	Average
Total Replenishment Obligation	361,712.5		336,083.2	
Less Net Obligation from Pkg.	123,745.5		123,745.5	
Gross Avoided Physical Recharge	237,967.0		212,337.7	
Plus Effect of Exchange/In Lieu*	-14,646.7		14,646.7	
Net Avoided Physical Recharge	223,320.3		226,984.4	225,152.4
* See Below				
Groundwater In Lieu for Replenishment	32,972.1			
Plus Cyclic In Lieu for Replenishment	9,279.0			
Total Exchange/In Lieu for Replenishment		42,251.1		
Net Groundwater Replenishment				
Required from Assessment Package	123,745.5			
Less Direct Spread for Repl	43,606.7			
Less Cyclic Spread for Repl	52,534.4			
Groundwater Replenishment by Exchange/In Lieu		-27,604.4		
Net Additional Avoided Physical Recharge due to Exchange/In Lieu		14,646.7		

4. REFERENCES

Chino Basin Watermaster, *Peace Agreement*, June 2000.

Chino Basin Watermaster, *Rules and Regulations*, June 2001.

Wildermuth Environmental, Inc., *Optimum Basin Management Program, Chino Basin Dry-Year Yield Program, Final Modeling Report*, July 2003.

APPENDIX A

APPENDIX A. IMPACT OF DRY-YEAR YIELD PROGRAM TO AGRICULTURAL PUMPING COST

A.1 Introduction

In the modeling report for Chino Basin Dry-Year Yield Program by Wildermuth Environmental, Inc. (WEI, 2003), it was assumed that half of the replenishment obligation of the desalters would come from reduced groundwater outflow to the Santa Ana River near Prado dam and from an increase in streambed recharge in the Santa Ana River. To achieve this new recharge the groundwater levels in the eastern two-thirds of the Basin will have to be operated at lower levels – on the order of about 20 feet. Members of the Agricultural pool expressed concerns at their August Pool meeting regarding the increased power cost from operating at this lower level. The analysis described herein was performed to estimate the power impact on Agricultural Pool producers from operating the Basin at lower levels as suggested in Section 1

A.2 The Impact of Reduced Recharge

The water supply plan in the baseline scenario described in the Modeling Report for the Chino Basin Dry-Year Yield Program is based on a modified version of water supply plan from the Implementation Plan in the OBMP Peace Agreement. It was assumed that OBMP desalter capacity would be increased from the current level of 8 million gallons per day (mgd) in 2002/2003 to 40 mgd by 2020. About half of the production from the desalter wells is assumed to come from decreased rising water and increased stream bed recharge in the Santa Ana River report. The supplemental water recharge plan associated with the baseline is shown in Section 1 as Table 1-1 and in this appendix as Table A-1. Figure A-1 shows the quarterly groundwater production during the planning period. Groundwater production in the basin will increase from 196,000 acre-ft/yr in 2003 to about 210,000 acre-ft/yr in 2020 and remain constant thereafter. Agricultural pumping is projected to decrease from about 40,000 acre-ft/yr to about 10,000 acre-ft/yr during the same period.

To estimate the increased cost of agricultural production from operating the Basin at lower levels a revised recharge plan was created that provided for full supplemental water recharge of all desalter production. This new recharge plan is shown in Table A-2. The 2003 Watermaster Model was used to simulate the groundwater level response of this revised recharge plan. The incremental power cost at each agricultural well was computed by comparing the model estimated groundwater-level time histories at each well and estimating a time history groundwater level differences. The increased power cost for each agricultural well was computed for each year from the formula below:

$$dC_i = f * P_i * dH_i * EC / e$$

where dC_i = incremental pumping cost ($/yr) for i^{th} well

f = unit conversion factor

P_i = pumping rate (acre-ft/yr) for i^{th} well

dH_i = groundwater level change (ft) for i^{th} well

e = overall pumping efficiency, assumed to be 0.6

EC = cost of energy, assumed to be $0.10/kw-h

The unit conversion factor is:

$$f = 43560\ ft^2/acre * 62.4\ lbs/ft^3 / 2655000\ ft\text{-}lbs/kw\text{-}h$$
$$= 1.024\ kw\text{-}h / (acre\text{-}ft\ of\ water * 1\ ft\ change)$$

Total pumping cost change is calculated by summing cost change for all agricultural wells. The change of annual agricultural pumping cost change is shown in Figure A-3.

Since total agricultural pumping decreases almost linearly from year 2004 to 2020 and water level drop steadily increases during the period, the product of two variable exhibits the characteristics of a quadratic equation, peaking at year 2016. After year 2020, as agricultural pumping remains constant until year 2028, the pumping cost steadily increases with the decreasing water level. Annual pumping cost change increases to maximum of about $22,000 per year in year 2028 with total increase of about $340,000 in 25 years.

Figure A-4 shows the estimated annual agricultural pumping cost increase per acre-foot of production. It takes about 13 years for the average power cost increase to reach $1.00 per acre-foot and it steadily increases with the increasing water level difference to a maximum of about $2.20 per acre-foot of water in year 2028.

Table A-1
Total Chino Basin Production, Watermaster Replenishment Requirement and Replenishment Plan That Balances Recharge and Discharge for Baseline Scenario

(1) Fiscal Year	(2) Production	(3) Operating Yield	(4) New Stormwater	(5) SAR Inflow	(6)=(2)-(3)-(4)-(5) Replenishment Obligation	(7) MZ1 Goal	(8) Montclair 1-4 0.3	(9) Upland 0.15	(10) College Hts 0.15	(11) Brooks 0.15	(12)=Σ(8)..(11) Subtotal	(13) San Sevaine 0.2	(14) Victoria	(15) Banana + Hickory	(16) Etiwanda Cons	(17) Etiwanda Pits	(18) RP3 0.05	(19) Declez	(20)=Σ(13)..(19) Subtotal	(21)=(12)+(20) Total
						Supplemental Water Recharge Plan — MZ1 Recharge Basins						MZ2 and MZ3 Recharge Basins								
2004	196,577	145,000	12,000	9,989	29,588	22,191	22,191	0	0	0	22,191	6,018	0	0	0	0	1,479	0	7,497	29,688
2005	197,542	145,000	12,000	10,710	29,832	22,374	8,949	4,475	4,475	4,475	22,374	5,966	0	0	0	0	1,492	0	7,458	29,832
2006	195,715	145,000	12,000	10,888	27,827	20,871	8,348	4,174	4,174	4,174	20,871	5,565	0	0	0	0	1,391	0	6,957	27,827
2007	197,912	145,000	12,000	13,053	27,859	20,894	8,358	4,179	4,179	4,179	20,894	5,572	0	0	0	0	1,393	0	6,965	27,859
2008	196,068	145,000	12,000	13,231	25,837	19,378	7,751	3,876	3,876	3,876	19,378	5,187	0	0	0	0	1,272	0	6,459	25,837
2009	194,245	145,000	12,000	13,408	23,837	17,876	7,151	3,575	3,575	3,575	17,876	4,767	0	0	0	0	1,192	0	5,959	23,837
2010	206,871	145,000	12,000	20,744	29,127	21,845	8,738	4,369	4,369	4,369	21,845	5,826	0	0	0	0	1,456	0	7,282	29,127
2011	207,484	145,000	12,000	21,130	29,355	22,016	8,806	4,403	4,403	4,403	22,016	5,871	0	0	0	0	1,468	0	7,339	29,355
2012	208,089	145,000	12,000	21,515	29,574	22,180	8,872	4,436	4,436	4,436	22,180	5,915	0	0	0	0	1,479	0	7,393	29,574
2013	208,704	145,000	12,000	21,900	29,804	22,353	8,941	4,471	4,471	4,471	22,353	5,961	0	0	0	0	1,490	0	7,451	29,804
2014	209,311	145,000	12,000	22,285	30,026	22,520	9,008	4,504	4,504	4,504	22,520	6,005	0	0	0	0	1,501	0	7,507	30,026
2015	209,917	145,000	12,000	22,670	30,247	22,685	9,074	4,537	4,537	4,537	22,685	6,049	0	0	0	0	1,512	0	7,562	30,247
2016	210,015	145,000	12,000	23,057	29,958	22,469	8,987	4,494	4,494	4,494	22,469	5,992	0	0	0	0	1,498	0	7,490	29,958
2017	210,128	145,000	12,000	23,443	29,683	22,262	8,905	4,452	4,452	4,452	22,262	5,937	0	0	0	0	1,484	0	7,421	29,683
2018	210,229	140,000	12,000	23,830	34,399	25,799	10,320	5,160	5,160	5,160	25,799	6,880	0	0	0	0	1,720	0	8,600	34,399
2019	210,328	140,000	12,000	24,216	34,112	25,584	10,234	5,117	5,117	5,117	25,584	6,822	0	0	0	0	1,706	0	8,528	34,112
2020	210,423	140,000	12,000	24,602	33,821	25,366	10,146	5,073	5,073	5,073	25,366	6,764	0	0	0	0	1,691	0	8,455	33,821
2021	210,427	140,000	12,000	24,602	33,825	25,368	10,147	5,074	5,074	5,074	25,368	6,765	0	0	0	0	1,691	0	8,456	33,825
2022	210,427	140,000	12,000	24,602	33,825	25,368	10,147	5,074	5,074	5,074	25,368	6,765	0	0	0	0	1,691	0	8,456	33,825
2023	210,427	140,000	12,000	24,602	33,825	25,368	10,147	5,074	5,074	5,074	25,368	6,765	0	0	0	0	1,691	0	8,456	33,825
2024	210,423	140,000	12,000	24,602	33,821	25,366	10,146	5,073	5,073	5,073	25,366	6,764	0	0	0	0	1,691	0	8,455	33,821
2025	210,427	140,000	12,000	24,602	33,825	25,368	10,147	5,074	5,074	5,074	25,368	6,765	0	0	0	0	1,691	0	8,456	33,825
2026	210,427	140,000	12,000	24,602	33,825	25,368	10,147	5,074	5,074	5,074	25,368	6,765	0	0	0	0	1,691	0	8,456	33,825
2027	210,427	140,000	12,000	24,602	33,825	25,368	10,147	5,074	5,074	5,074	25,368	6,765	0	0	0	0	1,691	0	8,456	33,825
2028	210,423	140,000	12,000	24,602	33,821	25,366	10,146	5,073	5,073	5,073	25,366	6,764	0	0	0	0	1,691	0	8,455	33,821

Table A-2

Total Chino Basin Production, Watermaster Replenishment Requirement and Replenishment Plan for Baseline Scenario without SAR Inflow

(1) Fiscal Year	(2) Production	(3) Operating Yield	(4) New Stormwater	(5) SAR Inflow	(6)=(2)-(3)-(4)-(5) Replenishment Obligation	(7) MZ1 Goal	(8) Montclair 1-4 0.35	(9) Upland 0.21	(10) College Hts 0.21	(11) Brooks 0.21	(12)=Σ(8 thru 11) Subtotal
2004	196,577	145,000	12,000	0	39,577	29,568	[illegible]	[illegible]	[illegible]	[illegible]	29,568
2005	197,542	145,000	12,000	0	40,542	29,832	[illegible]	[illegible]	[illegible]	[illegible]	29,832
2006	195,715	145,000	12,000	0	38,715	27,827	[illegible]	[illegible]	[illegible]	[illegible]	27,827
2007	197,912	145,000	12,000	0	40,912	27,858	[illegible]	[illegible]	[illegible]	[illegible]	27,858
2008	196,068	145,000	12,000	0	39,068	25,837	[illegible]	[illegible]	[illegible]	[illegible]	25,837
2009	194,245	145,000	12,000	0	37,245	23,837	[illegible]	[illegible]	[illegible]	[illegible]	23,837
2010	206,871	145,000	12,000	0	49,871	29,127	[illegible]	[illegible]	[illegible]	[illegible]	29,127
2011	207,464	145,000	12,000	0	50,464	29,355	[illegible]	[illegible]	[illegible]	[illegible]	29,355
2012	208,069	145,000	12,000	0	51,069	29,574	[illegible]	[illegible]	[illegible]	[illegible]	29,574
2013	208,704	145,000	12,000	0	51,704	29,804	[illegible]	[illegible]	[illegible]	[illegible]	29,804
2014	209,311	145,000	12,000	0	52,311	30,028	[illegible]	[illegible]	[illegible]	[illegible]	30,028
2015	209,917	145,000	12,000	0	52,917	30,247	[illegible]	[illegible]	[illegible]	[illegible]	30,247
2016	210,015	145,000	12,000	0	53,015	29,958	[illegible]	[illegible]	[illegible]	[illegible]	29,958
2017	210,128	145,000	12,000	0	53,128	29,683	[illegible]	[illegible]	[illegible]	[illegible]	29,683
2018	210,229	140,000	12,000	0	58,229	34,399	[illegible]	7,371	7,371	7,371	34,399
2019	210,328	140,000	12,000	0	58,328	34,112	[illegible]	7,310	7,310	7,310	34,112
2020	210,423	140,000	12,000	0	58,423	33,821	12,078	7,247	7,247	7,247	33,821
2021	210,427	140,000	12,000	0	58,427	33,825	12,080	7,248	7,248	7,248	33,825
2022	210,427	140,000	12,000	0	58,427	33,825	12,080	7,248	7,248	7,248	33,825
2023	210,427	140,000	12,000	0	58,427	33,825	12,080	7,248	7,248	7,248	33,825
2024	210,423	140,000	12,000	0	58,423	33,821	12,078	7,247	7,247	7,247	33,821
2025	210,427	140,000	12,000	0	58,427	33,825	12,080	7,248	7,248	7,248	33,825
2026	210,427	140,000	12,000	0	58,427	33,825	12,080	7,248	7,248	7,248	33,825
2027	210,427	140,000	12,000	0	58,427	33,825	12,080	7,248	7,248	7,248	33,825
2028	210,423	140,000	12,000	0	58,423	33,821	12,078	7,247	7,247	7,247	33,821

Supplemental Water Recharge Plan — MZ2 and MZ3 Recharge Basins

(1) Fiscal Year	(13) Ben Bevens 0.25	(14) Victoria 0.1	(15) Wineville + Hickory 0.25	(16) Edwards Lime	(17) Edwards Park 0.1	(18) RP3 0.25	(19) Valdez 0.05	(20)=Σ(13 thru 19) Subtotal	(21)=(12)+(20) Total
2004	2,497	999	2,497	0	999	2,497	499	[illegible]	39,577
2005	2,678	1,071	2,678	0	1,071	2,678	535	10,710	40,542
2006	2,722	1,089	2,722	0	1,089	2,722	544	10,888	38,715
2007	[illegible]	1,305	[illegible]	0	1,305	[illegible]	653	13,053	40,912
2008	[illegible]	1,323	[illegible]	0	1,323	[illegible]	662	13,231	39,068
2009	[illegible]	1,341	[illegible]	0	1,341	[illegible]	670	13,408	37,245
2010	[illegible]	2,074	[illegible]	0	2,074	[illegible]	1,037	20,744	49,871
2011	[illegible]	2,113	[illegible]	0	2,113	[illegible]	1,056	21,130	50,464
2012	[illegible]	2,151	[illegible]	0	2,151	[illegible]	1,076	21,515	51,069
2013	[illegible]	2,190	[illegible]	0	2,190	[illegible]	1,095	21,900	51,704
2014	[illegible]	2,228	[illegible]	0	2,228	[illegible]	1,114	22,285	52,311
2015	[illegible]	2,267	[illegible]	0	2,267	[illegible]	1,134	22,670	52,917
2016	[illegible]	2,306	[illegible]	0	2,306	[illegible]	1,153	23,057	53,015
2017	[illegible]	2,344	[illegible]	0	2,344	[illegible]	1,172	23,443	53,128
2018	[illegible]	2,383	[illegible]	0	2,383	[illegible]	1,191	23,830	58,229
2019	[illegible]	2,422	[illegible]	0	2,422	[illegible]	1,211	24,216	58,328
2020	6,151	2,460	6,151	0	2,460	6,151	1,230	24,602	58,423
2021	6,151	2,460	6,151	0	2,460	6,151	1,230	24,602	58,427
2022	6,151	2,460	6,151	0	2,460	6,151	1,230	24,602	58,427
2023	6,151	2,460	6,151	0	2,460	6,151	1,230	24,602	58,427
2024	6,151	2,460	6,151	0	2,460	6,151	1,230	24,602	58,423
2025	6,151	2,460	6,151	0	2,460	6,151	1,230	24,602	58,427
2026	6,151	2,460	6,151	0	2,460	6,151	1,230	24,602	58,427
2027	6,151	2,460	6,151	0	2,460	6,151	1,230	24,602	58,427
2028	6,151	2,460	6,151	0	2,460	6,151	1,230	24,602	58,423

[illegible] Technical Memorandum – [illegible] Watermaster Replenishment Calculation [illegible]
Created on [illegible]
Printed on [illegible]

Wildermuth Environmental, Inc.

Figure A-1
Total Quarterly Pumping by Pool - Baseline Scenario

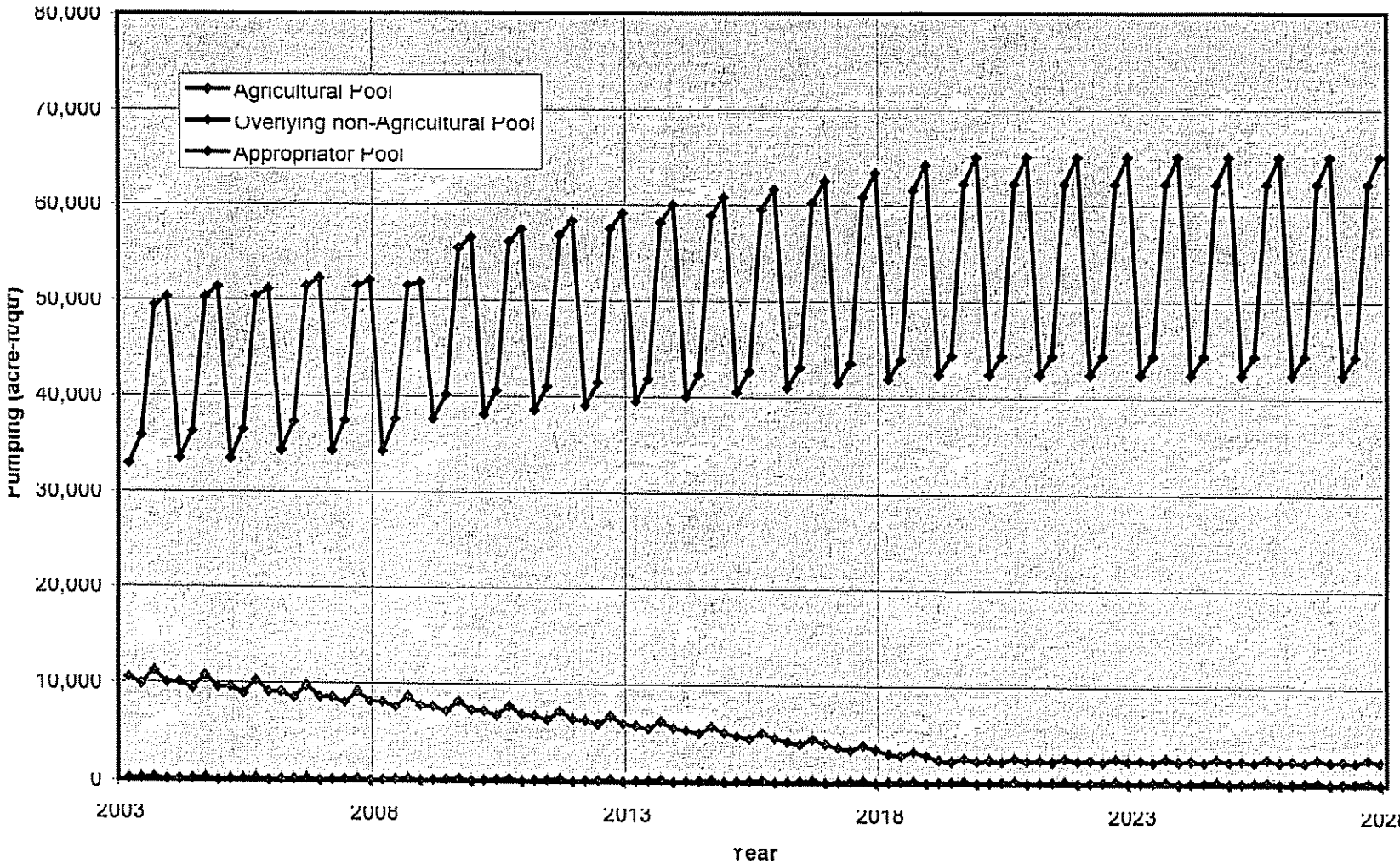


Figure A-2
Average Groundwater Level Change for Agricultural Pumping Wells

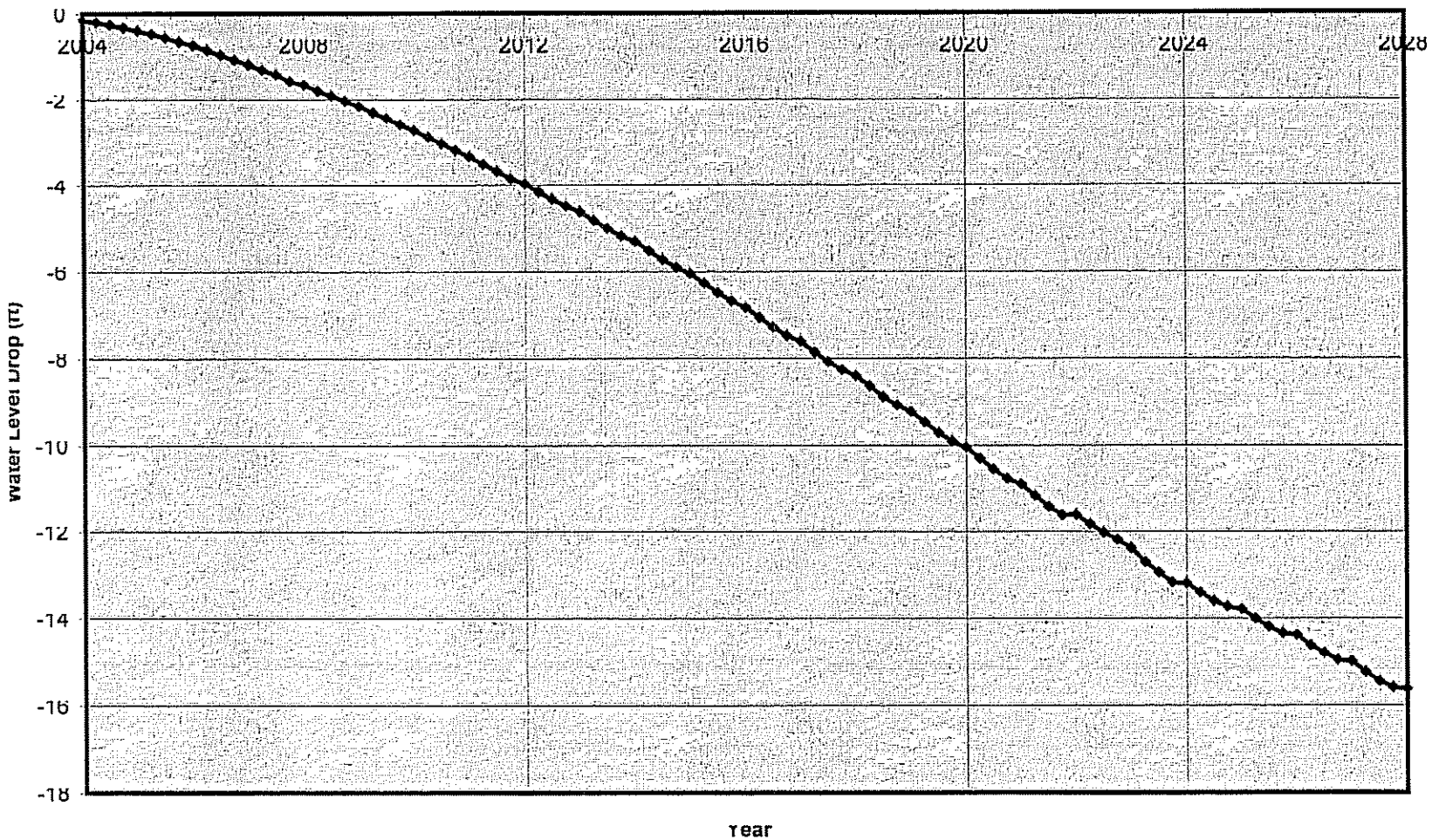


Figure A-3
Total Annual Pumping Cost Increase for Agricultural Pumping Wells

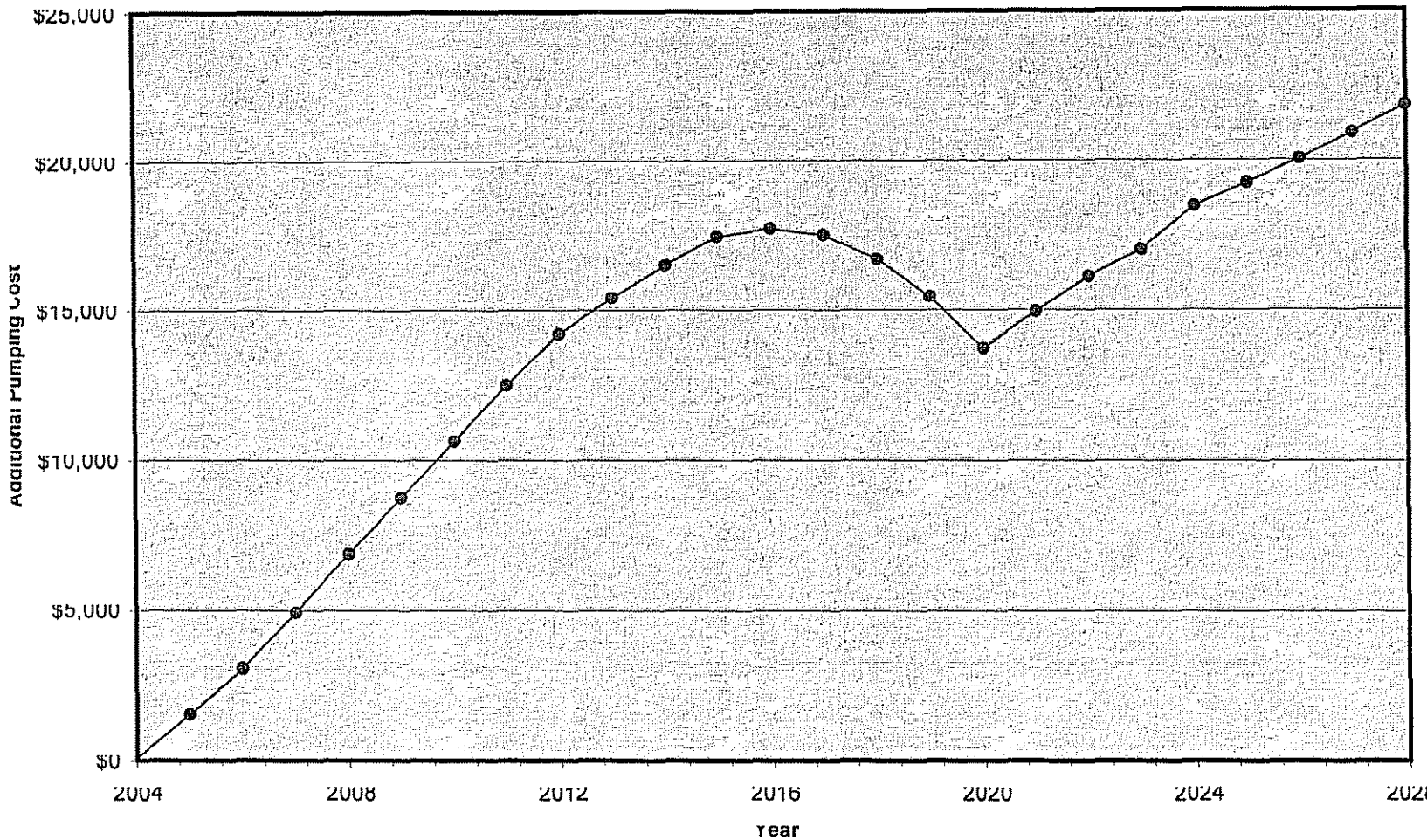
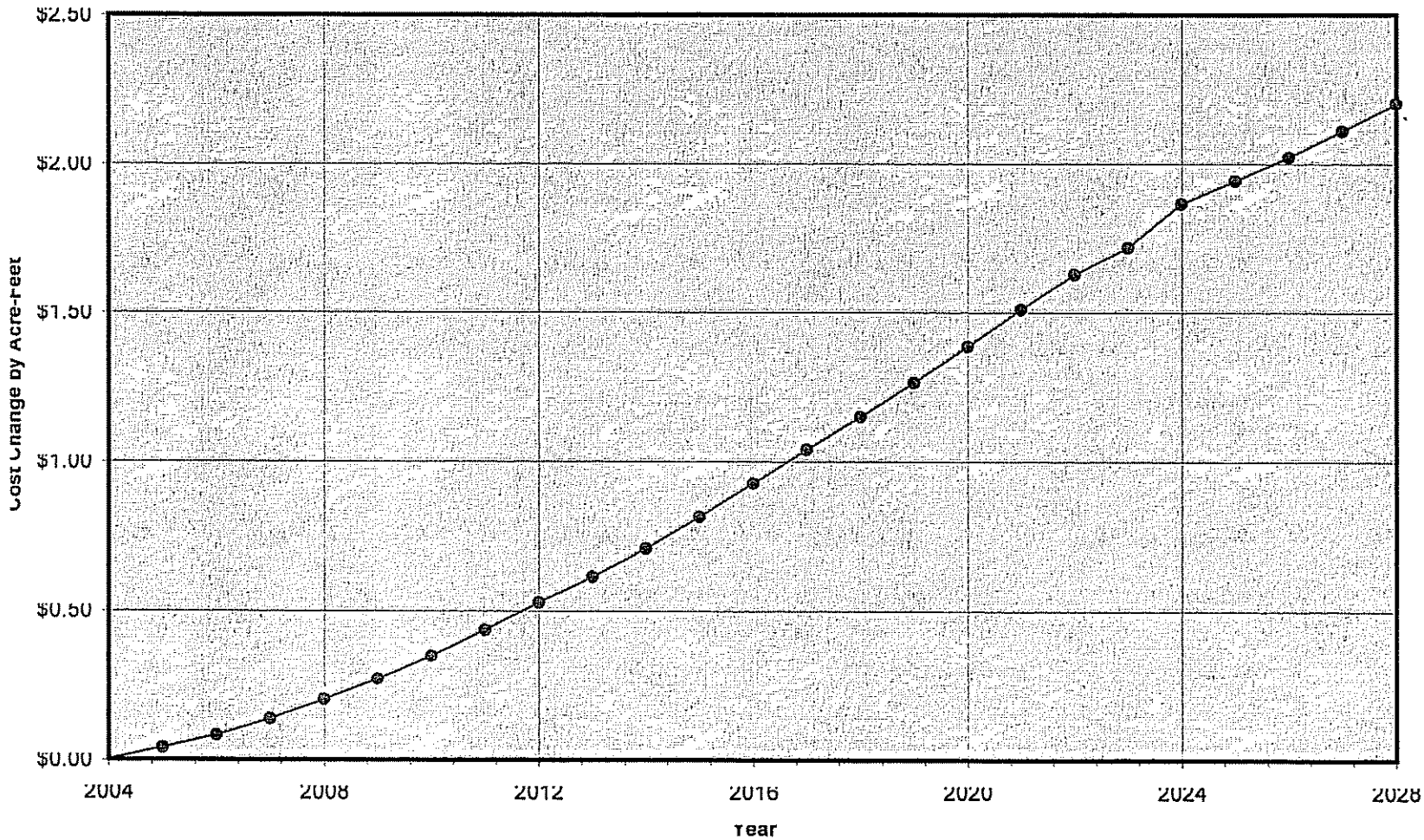


Figure A-4
Change of Agricultural Pumping Cost per Unit Production



APPENDIX B

CCWD History of Operations

FY	Carry-Over From Prior Year Operations	Assigned Share of Safe Yield	FUWC Safe Yield	Water Transfer Activity: Non-Wet	Water Transfer Activity: Wet Water	Ag Pool: From FUWC	Ag Pool: Safe Yield Reallocation	Annual Production Right
1989-90	3,819.454	3,819.454		14,880.270			2,251.979	24,481.154
1990-91 [1]	3,819.454	3,819.454	8,398.739	11,250.000		511.481	2,242.582	27,739.707
1991-92	3,819.454	3,819.454	8,398.739	0.000		3,430.921	2,254.655	19,331.220
1992-93	3,819.454	3,819.454	8,398.739	0.000	828.918	4,002.372	2,459.311	20,954.245
1993-94	3,819.454	3,819.454	8,398.739	0.000		4,455.157	2,528.310	20,652.011
1994-95	2,134.411	3,819.454	8,398.739	0.000	200.000	4,112.822	2,327.151	18,790.574
1995-96	3,819.454	3,819.454	8,398.739	(3,050.948)		2,557.429	2,045.471	15,177.605
1996-97	3,819.454	3,819.454	8,398.739	(2,139.664)		2,622.223	2,789.801	18,098.104
1997-98	3,819.454	3,819.454	8,398.739	0.000	122.750	3,590.435	2,828.934	19,976.763
1998-99	3,819.454	3,819.454	8,398.739	0.000		3,808.839	2,840.913	18,989.395
1999-00	3,819.454	3,819.454	8,398.739	0.000	125.000	7,371.770	4,789.550	25,902.294
2000-01	3,819.454	3,819.454	8,398.739	(13,832.056)	70.100	3,374.479	2,507.753	6,784.940
2001-02	0.000	3,819.454	8,391.739	(7,751.319)	101.500	3,400.897	2,524.058	8,288.100
TOTALS	0.000	47,052.902	76,755.832	459.307	1,455.569	44,262.704	34,088.355	248,073.084

FY	Production	MWD Exchanges	Net Over-Production: 15%/85%	Net Over-Production: 100%	Under Production Balances: Total Under-Produced	Applications: Carry-Over to Next Year	Applications: Deposit to Storage	Local Storage: Withdrawn From Storage	Local Storage: Storage Account Balance
									43,916.189
1989-90	9,390.500	11,501.200	0.000	0.000	3,819.454	3,819.454	0.000	10,674.719	33,340.469
1990-91	3,717.900	11,250.000	0.000	0.000	12,871.807	3,819.454	9,052.353	11,250.040	31,042.782
1991-92	5,634.300	8,548.800	0.000	0.000	7,148.120	3,819.454	3,329.666		34,571.448
1992-93	6,529.000	9,127.800	0.000	0.000	5,297.445	3,819.454	1,677.992		35,249.440
1993-94	8,350.700	10,137.900	0.000	0.000	2,134.411	2,134.411	0.000		35,249.440
1994-95	8,815.500	0.000	0.000	0.000	12,175.074	3,819.454	8,355.620	10,542.950	34,262.100
1995-96	7,183.170	75.300	0.000	0.000	7,942.135	3,819.454	4,322.682		38,584.782
1996-97	7,949.900	0.000	0.000	0.000	10,148.204	3,819.454	6,328.750		45,113.532
1997-98	5,597.280	0.000	0.000	0.000	14,091.483	3,819.454	11,272.029	18,721.190	39,664.371
1998-99	8,082.950	0.000	0.000	0.000	13,803.445	3,819.454	10,183.991	18,839.187	33,006.185
1999-00	7,249.720	0.000	0.000	0.000	18,852.544	3,819.454	15,033.090	24,745.752	23,295.503
2000-01	6,784.940	0.000	0.000	0.000	0.000	0.000	0.000	23,295.503	0.000
2001-02	8,281.750	0.000	0.000	0.000	4.350	4.350	0.000		0.000
TOTALS	89,783.810	45,741.000	0.000	0.000	105,499.474	38,333.301	70,155.173	114,070.281	

FY	Supplemental Storage: Deposit to Storage	Supplemental Storage: Withdrawn From Storage	Supplemental Storage: Storage Account Balance	Replenishment Obligations: WD Transfers & Excluding MWD Exchg	Replenishment Obligations: Equal to Net OverPrd	Replenishment Obligations: Difference	Replenishment Obligations: WD Transfers & Including MWD Exchg	Replenishment Obligations: Equal to Net OverPrd	Replenishment Obligations: Difference
1989-90				0.000	0.000	0.000	11,270.818	0.000	11,270.818
1990-91				0.000	0.000	0.000	0.000	0.000	0.000
1991-92				0.000	0.000	0.000	0.000	0.000	0.000
1992-93				0.000	0.000	0.000	0.000	0.000	0.000
1993-94				0.000	0.000	0.000	0.000	0.000	0.000
1994-95				0.000	0.000	0.000	0.000	0.000	0.000
1995-96				0.000	0.000	0.000	0.000	0.000	0.000
1996-97				0.000	0.000	0.000	0.000	0.000	0.000
1997-98				0.000	0.000	0.000	0.000	0.000	0.000
1998-99				0.000	0.000	0.000	0.000	0.000	0.000
1999-00			0.000	0.000	0.000	0.000	0.000	0.000	0.000
2000-01	24,482.658	667.954	23,814.694	0.000	0.000	0.000	0.000	0.000	0.000
2001-02	1,188.782	1746.065	23,252.971	0.000	0.000	0.000	0.000	0.000	0.000
TOTALS				0.000	0.000	0.000	11,270.818	0.000	11,270.818

[1] CCWD begins receiving all FUWC OST & Ag ST Reallocation yrly

Chino History of Operations

FY	Carry-Over From Prior Year Operations	Assigned Share of Safe Yield	Water Transaction Activity Non-Wet	Water Transaction Activity Wet Water	Ag Pool Safe Yield Reallocation	Annual Production Right	Production	MWD Exchanges
1989-90	0.000	3,870.057	257.145		2,581.100	6,508.312	9,073.900	0.000
1990-91	0.000	3,870.057	383.790		2,470.176	6,504.033	8,893.200	0.000
1991-92	0.000	4,033.857	1,680.000		2,720.177	8,434.034	8,765.000	73.700
1992-93	0.000	4,033.857	1,810.565	333.028	2,970.555	9,148.029	7,265.900	356.100
1993-94	1,508.028	4,033.857	0.000		3,013.907	8,553.792	5,718.600	0.000
1994-95	2,835.192	4,033.857	0.000	101.000	3,464.528	10,434.577	8,530.100	0.000
1995-96	1,904.477	4,033.857	1,048.000		3,079.086	10,065.420	9,373.370	0.000
1996-97	692.050	4,033.857	1,232.982		4,135.543	10,093.432	10,231.351	0.000
1997-98	692.050	4,033.857	0.000	49.436	4,055.506	8,830.849	8,821.135	0.000
1998-99	0.000	4,033.857	1,653.606		4,363.817	10,051.282	10,051.282	0.000
1999-00	0.000	4,033.857	2,000.000	1.500	7,017.314	13,052.671	10,200.825	0.000
2000-01	2,851.846	4,033.857	2,700.000	104.000	5,124.578	14,814.281	7,147.209	0.000
2001-02	4,033.857	4,033.857	0.000	51.500	5,199.149	13,318.363	5,612.931	0.000
TOTALS	0.000	51,712.581	12,776.113	640.464	50,195.435	129,841.074	109,734.603	429.800

FY	Net Over-Production 15%/85%	Net Over-Production 100%	Under Production Balances: Total Under-Produced	Applications: Carry-Over to Next Year	Applications: Deposit to Storage	Local Storage: Withdrawals From Storage	Local Storage: Storage Account Balance	Supplemental Storage: Deposit to Storage	Supplemental Storage: Withdrawals From Storage	Supplemental Storage: Storage Account Balance
							75.327			
1989-90	2,565.588	0.000	0.000	0.000	0.000		75.327			
1990-91	2,369.187	0.000	0.000	0.000	0.000		75.327			
1991-92	404.699	0.000	0.000	0.000	1,000.000		1,075.327			
1992-93	0.000	0.000	1,508.028	1,508.028	1,000.000		2,075.327			
1993-94	0.000	0.000	2,835.192	2,835.192	700.000		2,775.327			
1994-95	0.000	0.000	1,904.477	1,904.477	0.000		2,775.327			
1995-96	0.000	0.000	692.050	692.050	0.000		2,775.327			
1996-97	135.919	0.000	0.000	0.000	0.000		2,775.327			
1997-98	0.000	0.000	9.714	9.714	0.000	682.335	2,092.991			
1998-99	0.000	0.000	0.000	0.000	0.000	183.606	1,909.385			
1999-00	0.000	0.000	2,851.846	2,851.846	0.000	602.870	1,306.513			0.000
2000-01	0.000	0.000	7,897.072	4,033.857	3,633.215	1,306.513	3,633.215	1,764.718		1,764.718
2001-02	0.000	0.000	7,705.432	4,033.857	3,671.575		7,304.790	478.205		2,242.923
TOTALS	5,495.340	0.000	25,171.811	17,887.021	10,004.790	2,775.327				

FY	Replenishment Obligations: WD Transfers & Excluding MWD Exchg	Equal to Net OverProd	Difference	WD Transfers & Including MWD Exchg	Equal to Net OverProd	Difference
1989-90	2,822.733	2,565.588	257.145	2,822.733	2,565.588	257.145
1990-91	2,752.957	2,369.187	383.790	2,752.957	2,369.187	383.790
1991-92	2,010.999	404.699	1,606.300	2,084.699	404.699	1,680.000
1992-93	0.000	0.000	0.000	304.550	0.000	304.550
1993-94	0.000	0.000	0.000	0.000	0.000	0.000
1994-95	0.000	0.000	0.000	0.000	0.000	0.000
1995-96	355.950	0.000	355.950	355.950	0.000	355.950
1996-97	1,368.901	135.919	1,232.982	1,368.901	135.919	1,232.982
1997-98	0.000	0.000	0.000	0.000	0.000	0.000
1998-99	1,653.606	0.000	1,653.606	1,653.606	0.000	1,653.606
1999-00	0.000	0.000	0.000	0.000	0.000	0.000
2000-01	0.000	0.000	0.000	0.000	0.000	0.000
2001-02	0.000	0.000	0.000	0.000	0.000	0.000
TOTALS	10,995.115	5,495.340	5,499.775	11,373.375	5,495.340	5,878.035

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Appendix B

Chino Hills History of Operations

FY		Carry-Over From Prior Year Operations	Assigned Share of Safe Yield	Water Transaction Activity Non-Wet	Water Transaction Activity Wet Water	Ag Pool Safe Yield Reallocation	Annual Production Right	Production	MWD Exchanges	Net Over-Production 15%/85%	Net Over-Production 100%	Under Production Balances: Total Under-Produced	Applications: Carry-Over to Next Year	Applications: Deposit to Storage
1989-90		3,150.822	3,150.822	(734.700)		2,047.452	7,814.995	2,578.300	0.000	0.000	0.000	5,036.095	3,150.822	1,885.274
1990-91	¹	3,150.822	3,150.822	(1,039.400)		1,952.221	7,214.465	3,700.900	0.000	0.000	0.000	3,513.565	3,150.822	362.743
1991-92	¹	3,150.822	2,111.422	0.000		1,321.095	6,583.339	2,066.200	0.000	0.000	0.000	4,517.139	2,111.422	2,405.717
1992-93		2,111.422	2,111.422	0.000	174.315	1,452.149	5,849.308	3,299.300	168.800	0.000	0.000	2,381.208	2,111.422	249.786
1993-94		2,111.422	2,111.422	0.000		1,474.840	5,697.684	3,225.700	0.000	0.000	0.000	2,471.984	2,111.422	360.562
1994-95		2,111.422	2,111.422	0.000	54.800	1,357.552	5,635.298	3,430.200	0.000	0.000	0.000	2,205.098	2,111.422	93.674
1995-96		2,111.422	2,111.422	0.000		1,374.437	5,597.281	4,058.840	284.000	0.000	0.000	1,253.441	1,253.441	0.000
1996-97		1,253.441	2,111.422	0.000		1,890.690	5,255.553	2,201.905	0.000	0.000	0.000	3,053.648	2,111.422	942.226
1997-98		2,111.422	2,111.422	0.000	25.878	1,904.111	6,152.831	2,908.949	0.000	0.000	0.000	3,243.882	2,111.422	1,132.460
1998-99		2,111.422	2,111.422	0.000		2,062.874	6,285.718	4,342.653	0.000	0.000	0.000	1,943.065	1,943.065	0.000
1999-00		1,943.065	2,111.422	0.000		3,350.321	7,404.808	4,263.569	0.000	0.000	0.000	3,141.239	2,111.422	1,029.817
2000-01		2,111.422	2,111.422	(2,209.315)	99.000	2,030.797	4,063.326	4,063.326	0.000	0.000	0.000	0.000	0.000	0.000
2001-02		0.000	2,111.422	0.000	49.800	2,040.189	4,201.411	3,398.021	0.000	0.000	0.000	803.390	803.390	0.000
TOTALS		0.000	29,527.285	(4,083.415)	403.893	24,256.728	77,555.416	43,537.983	473.700	0.000	0.000	33,543.753	25,081.494	8,482.259

FY	Local Storage: Withdrawals From Storage	Local Storage: Storage Account Balance	Supplemental Storage: Deposit to Storage	Supplemental Storage: Withdrawal From Storage	Supplemental Storage: Storage Account Balance	Replenishment Obligations: WD Transfers & Excluding MWD Exchg	Replenishment Obligations: Equal to Net OverProd	Replenishment Obligations: Difference	WD Transfers & Including MWD Exchg	Equal to Net OverProd	Difference
		12,925.559									
1989-90		14,810.833				0.000	0.000	0.000	0.000	0.000	0.000
1990-91		15,173.576				0.000	0.000	0.000	0.000	0.000	0.000
1991-92	1,105.400	16,473.893				0.000	0.000	0.000	0.000	0.000	0.000
1992-93		16,723.679				0.000	0.000	0.000	0.000	0.000	0.000
1993-94		17,084.241				0.000	0.000	0.000	0.000	0.000	0.000
1994-95		17,177.915				0.000	0.000	0.000	0.000	0.000	0.000
1995-96		17,177.915				0.000	0.000	0.000	0.000	0.000	0.000
1996-97		18,120.141				0.000	0.000	0.000	0.000	0.000	0.000
1997-98		19,252.601				0.000	0.000	0.000	0.000	0.000	0.000
1998-99	9,000.000	10,252.601				0.000	0.000	0.000	0.000	0.000	0.000
1999-00	1,868.340	9,414.078	9,414.078		9,414.078	0.000	0.000	0.000	0.000	0.000	0.000
2000-01	9,414.078	0.000	250.315	2210.685	7,453.708	0.000	0.000	0.000	0.000	0.000	0.000
2001-02		0.000	250.315		7,704.023	0.000	0.000	0.000	0.000	0.000	0.000
TOTALS	21,387.818					0.000	0.000	0.000	0.000	0.000	0.000

¹ = City of Chino Hills

FUWC History of Operations

FY		Carry-Over From Prior Year Operations	Assigned Share of Safe Yield	Water Transaction Activity Non-Wet	Water Transaction Activity Wet Water	Ag Pool Safe Yield Reallocation	Annual Production Right	Production	MWD Exchanges	Net Over-Production 15%/85%	Net Over-Production 100%
1989-90	1	4,909.879	6,396.736	(3,815.511)		0.000	7,491.104	13,837.100	0.000	6,145.996	0.000
1990-91	1	0.000	6,396.736	(6,396.736)		0.000	0.000	13,746.300	0.000	13,746.300	0.000
1991-92		0.000	6,396.736	(4,184.295)		0.000	2,212.441	8,911.500	0.000	6,699.059	0.000
1992-93		0.000	6,396.736	(1,824.839)	528.103	0.000	5,100.000	7,664.500	0.000	2,564.500	0.000
1993-94		0.000	6,396.736	(6,396.736)		0.000	0.000	0.000	0.000	0.000	0.000
1994-95		0.000	6,396.736	(6,396.736)		0.000	0.000	0.000	0.000	0.000	0.000
1995-96		0.000	6,396.736	(6,396.736)		0.000	0.000	0.000	0.000	0.000	0.000
1996-97		0.000	6,396.736	(6,396.736)		0.000	0.000	0.000	0.000	0.000	0.000
1997-98		0.000	6,396.736	(6,475.129)	78.393	0.000	0.000	0.000	0.000	0.000	0.000
1998-99		0.000	6,396.736	(6,396.736)		0.000	0.000	0.000	0.000	0.000	0.000
1999-00		0.000	6,396.736	(6,396.736)		0.000	0.000	0.000	0.000	0.000	0.000
2000-01		0.000	6,396.736	(6,396.736)		0.000	0.000	0.000	0.000	0.000	0.000
2001-02		0.000	6,396.736	(6,396.736)		0.000	0.000	0.000	0.000	0.000	0.000
TOTALS		0.000	83,157.568	(73,870.398)	606.496	0.000	14,803.545	43,959.400	0.000	29,155.855	0.000

FY	Under Production Balances: Total Under-Produced	Applications: Carry-Over to Next Year	Applications: Deposit to Storage	Local Storage: Withdrawals From Storage	Local Storage: Storage Account Balance	Supplemental Storage: Deposit to Storage	Supplemental Storage: Withdrawal From Storage	Supplemental Storage: Storage Account Balance	Replenishment Obligations: WO Transfers & Excluding MWD Exchg	Replenishment Obligations: Equal to Net OverProd	Replenishment Obligations: Difference	WO Transfers & Including MWD Exchg	Equal to Net OverProd	Difference
					1,869.072									
1989-90	0.000	0.000	0.000		1,869.072				2,330.485	6,145.996	(3,815.511)	2,330.485	6,145.996	(3,815.511)
1990-91	0.000	0.000	0.000	1,869.072	0.000				7,349.564	13,746.300	(6,396.736)	7,349.564	13,746.300	(6,396.736)
1991-92	0.000	0.000	0.000		0.000				2,514.764	6,699.059	(4,184.295)	2,514.764	6,699.059	(4,184.295)
1992-93	0.000	0.000	0.000		0.000				739.661	2,564.500	(1,824.839)	739.661	2,564.500	(1,824.839)
1993-94	0.000	0.000	0.000		0.000				0.000	0.000	0.000	0.000	0.000	0.000
1994-95	0.000	0.000	0.000		0.000				0.000	0.000	0.000	0.000	0.000	0.000
1995-96	0.000	0.000	0.000		0.000				0.000	0.000	0.000	0.000	0.000	0.000
1996-97	0.000	0.000	0.000		0.000				0.000	0.000	0.000	0.000	0.000	0.000
1997-98	0.000	0.000	0.000		0.000				0.000	0.000	0.000	0.000	0.000	0.000
1998-99	0.000	0.000	0.000		0.000				0.000	0.000	0.000	0.000	0.000	0.000
1999-00	0.000	0.000	0.000		0.000			0.000	0.000	0.000	0.000	0.000	0.000	0.000
2000-01	0.000	0.000	0.000		0.000			0.000	0.000	0.000	0.000	0.000	0.000	0.000
2001-02	0.000	0.000	0.000		0.000			0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTALS	0.000	0.000	0.000	1,869.072					12,934.474	29,155.855	(16,221.381)	12,934.474	29,155.855	(16,221.381)

[1] to CCWD

Appendix B

FWC History of Operations

FY	Carry-Over From Prior Year Operations	Assigned Share of Safe Yield	Water Transaction Activity Non-Wet	Water Transaction Activity Wet Water	Ag Pool Safe Yield Reallocation	Annual Production Right	Production	MWD Exchanges	Net Over-Production 15%/85%	Net Over-Production 100%	Under Production Balances: Total Under-Produced	Applications: Carry-Over to Next Year	Applications: Deposit to Storage	Local Storage: Withdrawals From Storage	Local Storage: Storage Account Balance	Supplemental Storage: Deposit to Storage	Supplemental Storage: Withdrawal From Storage	Supplemental Storage: Storage Account Balance	Replenishment Obligations: WD Transfers & Excluding MWD Exchg	Replenishment Obligations: Equal to Net OverProd	Replenishment Obligations: Difference	WD Transfers & Including MWD Exchg	Equal to Net OverProd	Difference
															0.000									
1989-90	0.000	0.000	341.145		0.000	341.145	0.000	0.000	0.000	0.000	341.145	0.000	341.145	341.145	0.000				0.000	0.000	0.000	0.000	0.000	0.000
1990-91	0.000	0.000	3,845.215		0.000	3,845.215	1,409.900	0.000	0.000	0.000	2,238.315	0.000	2,238.315	2,238.315	0.000				1,409.900	0.000	1,409.900	1,409.900	0.000	1,409.900
1991-92	0.000	0.000	2,238.315		0.000	2,238.315	2,902.800	0.000	664.485	0.000	0.000	0.000	0.000		0.000				2,902.800	664.485	2,238.315	2,902.800	664.485	2,238.315
1992-93	0.000	0.000	0.000		0.000	0.000	2,878.900	0.000	2,878.900	0.000	0.000	0.000	0.000		0.000				2,878.900	2,878.900	0.000	2,878.900	2,878.900	0.000
1993-94	0.000	0.000	8,592.000		0.000	8,592.000	6,277.200	0.000	0.000	0.000	2,314.800	0.000	2,314.800	2,314.800	0.000				6,277.200	0.000	6,277.200	6,277.200	0.000	6,277.200
1994-95	2,314.800	0.000	3,740.000	54.500	0.000	6,109.300	8,906.937	0.000	2,797.637	0.000	0.000	0.000	0.000		0.000				6,537.637	2,797.637	3,740.000	6,537.637	2,797.637	3,740.000
1995-96	0.000	0.000	8,662.870		0.000	8,662.870	8,530.300	0.000	0.000	0.000	132.870	0.000	132.870	132.870	0.000				8,530.300	0.000	8,530.300	8,530.300	0.000	8,530.300
1996-97	132.870	0.000	700.000		0.000	832.870	11,764.501	0.000	10,931.631	0.000	0.000	0.000	0.000		0.000				11,631.631	10,931.631	700.000	11,631.631	10,931.631	700.000
1997-98	0.000	0.000	10,973.690		0.000	10,973.690	10,973.678	0.000	0.000	0.000	0.014	0.000	0.014	0.014	0.000				10,973.678	0.000	10,973.678	10,973.678	0.000	10,973.678
1998-99	0.014	0.000	10,373.565		0.000	10,373.579	10,373.579	0.000	0.000	0.000	0.000	0.000	0.000		0.000				10,373.565	0.000	10,373.565	10,373.565	0.000	10,373.565
1999-00	0.000	0.000	20,948.752		0.000	20,948.752	20,948.752	0.000	0.000	0.000	0.000	0.000	0.000		0.000			0.000	20,948.752	0.000	20,948.752	20,948.752	0.000	20,948.752
2000-01	0.000	0.000	20,200.000		834.000	21,034.000	17,900.029	0.000	0.000	0.000	3,133.971	0.000	3,133.971	3,133.971	0.000			0.000	17,066.029	0.000	17,066.029	17,066.029	0.000	17,066.029
2001-02	3,133.971	1.000	14,704.000		834.583	18,673.554	23,565.281	0.000	4,891.727	0.000	0.000	0.000	0.000		0.000	0.119		0.119	19,595.727	4,891.727	14,704.000	19,595.727	4,891.727	14,704.000
TOTALS	0.000	1.000	103,117.852	54.500	1,668.583	110,423.190	124,224.855	0.000	21,992.360	0.000	8,160.915	0.000	8,160.915	8,160.915					118,919.117	21,992.360	94,958.737	118,919.117	21,992.360	94,958.737

JCSD History of Operations

FY	Carry-Over From Prior Year Operations	Assigned Share of Safe Yield	Water Transaction Activity Non-Wet	Water Transaction Activity Wet Water	Ag Pool Safe Yield Reallocation	Annual Production Right	Production	MWU Exchanges
1989-90	0.000	1,593.144	1,300.000		1,035.249	3,928.393	12,252.800	0.000
1990-91 [1]	0.000	1,593.144	1,800.000		987.098	4,380.242	10,290.500	0.000
1991-92	0.000	1,593.144	3,280.000		996.813	5,869.957	11,190.500	0.000
1992-93	0.000	1,593.144	6,710.588	131.527	1,095.699	9,530.958	11,509.500	0.000
1993-94	0.000	1,593.144	9,275.000		1,112.820	11,980.964	10,832.800	0.000
1994-95	1,148.364	1,593.144	7,200.000	114.400	2,434.822	12,490.730	9,825.200	0.000
1995-96	1,593.144	1,593.144	5,300.000	82.400	3,143.445	11,712.133	11,598.570	0.000
1996-97 [2]	28.620	2,081.118	3,770.800		3,771.076	9,829.614	13,599.363	0.000
1997-98	28.620	2,081.118	5,075.000	25.259	4,354.841	11,542.838	11,542.888	0.000
1998-99	0.000	2,081.118	6,183.805		5,165.991	13,430.914	13,430.914	0.000
1999-00	0.000	2,081.118	7,150.000		8,031.870	17,242.988	15,512.558	0.000
2000-01	1,730.430	2,081.118	2,650.000		8,634.029	15,075.577	11,436.428	0.000
2001-02	2,081.118	2,081.118	2,850.000		8,799.674	15,571.910	12,588.389	0.000
TOTALS	0.000	23,518.718	62,345.393	353.586	49,583.227	142,387.418	155,499.205	0.000

FY	Net Over-Production 15%/85%	Net Over-Production 100%	Under Production Balances: Total Under-Produced	Applications: Carry-Over to Next Year	Applications: Deposit to Storage	Local Storage: Withdrawals From Storage	Local Storage: Storage Account Balance	Supplemental Storage: Deposit to Storage	Supplemental Storage: Withdrawals From Storage	Supplemental Storage: Storage Account Balance
							0.000			
1989-90	8,324.407	0.000	0.000	0.000	0.000		0.000			
1990-91	5,910.258	0.000	0.000	0.000	0.000		0.000			
1991-92	5,320.543	0.000	0.000	0.000	0.000		0.000			
1992-93	1,978.542	0.000	0.000	0.000	0.000		0.000			
1993-94	0.000	0.000	1,148.364	1,148.364	2,694.383		2,694.383			
1994-95	0.000	0.000	2,665.530	1,593.144	4,172.366		6,866.749			
1995-96	0.000	0.000	15.563	15.563	6,000.000		12,866.749			
1996-97	3,769.549	0.000	0.000	0.000	0.000	4,555.000	8,311.749			
1997-98	0.050	0.000	0.000	0.000	298.181		8,609.930			
1998-99	0.000	0.000	0.000	0.000	0.000	1,658.805	6,951.125			
1999-00	0.000	0.000	1,730.430	1,730.430	0.000		6,951.125			0.000
2000-01	0.000	0.000	3,659.151	2,081.118	1,578.033		8,529.158	244.335		244.335
2001-02	0.000	0.000	2,985.521	2,081.118	924.403	2,500.000	6,953.561	244.335		488.670
TOTALS	25,293.349	0.000	12,184.559	8,609.737	15,687.389	8,713.805				

FY	Replenishment Obligations: WU Transfers & Excluding MWU Exchg	Equal to Net OverProd	Difference	WU Transfers & Including MWU Exchg	Equal to Net OverProd	Difference
1989-90	9,624.407	8,324.407	1,300.000	9,624.407	8,324.407	1,300.000
1990-91	7,710.258	5,910.258	1,800.000	7,710.258	5,910.258	1,800.000
1991-92	8,600.543	5,320.543	3,280.000	8,600.543	5,320.543	3,280.000
1992-93	8,689.130	1,978.542	6,710.588	8,689.130	1,978.542	6,710.588
1993-94	8,128.638	0.000	8,128.638	8,128.638	0.000	8,128.638
1994-95	4,534.470	0.000	4,534.470	4,534.470	0.000	4,534.470
1995-96	5,284.437	0.000	5,284.437	5,284.437	0.000	5,284.437
1996-97	7,530.349	3,769.549	3,770.800	7,530.349	3,769.549	3,770.800
1997-98	5,075.050	0.050	5,075.000	5,075.050	0.050	5,075.000
1998-99	6,183.805	0.000	6,183.805	6,183.805	0.000	6,183.805
1999-00	5,419.570	0.000	5,419.570	5,419.570	0.000	5,419.570
2000-01	0.000	0.000	0.000	0.000	0.000	0.000
2001-02	0.000	0.000	0.000	0.000	0.000	0.000
TOTALS	76,778.655	25,293.349	51,485.306	76,778.655	25,293.349	51,485.306

[2] JCSD acquires 487.974af of OSY from Mutual Water Co of Glen Avon

Marygold History of Operations

FY	Carry-Over From Prior Year Operations	Assigned Share of Safe Yield	Water Transaction Activity: Non-Wet	Water Transaction Activity: Wet Water	Ag Pool Safe Yield Reallocation	Annual Production Right	Production	MWD Exchanges	Net Over-Production 15%/85%	Net Over-Production 100%
1989-90	655.317	655.317	(800.000)		425.835	936.469	134.800	0.000	0.000	0.000
1990-91 [1]	655.317	655.317	0.000		408.029	1,718.663	293.800	0.000	0.000	0.000
1991-92	655.317	655.317	0.000		410.025	1,720.659	73.300	0.000	0.000	0.000
1992-93	655.317	655.317	0.000	54.102	450.700	1,815.436	16.800	0.000	0.000	0.000
1993-94	655.317	655.317	0.000		457.743	1,768.377	0.000	0.000	0.000	0.000
1994-95 [1]	655.317	655.317	0.000	8.300	421.340	1,740.274	9.800	0.000	0.000	0.000
1995-96	655.317	655.317	0.000		261.998	1,572.632	0.000	0.000	0.000	0.000
1996-97	655.317	655.317	0.000		392.605	1,703.239	0.000	0.000	0.000	0.000
1997-98	655.317	655.317	0.000	8.031	347.824	1,666.489	0.000	0.000	0.000	0.000
1998-99	655.317	655.317	0.000		369.812	1,680.446	0.148	0.000	0.000	0.000
1999-00	655.317	655.317	0.000		755.123	2,065.757	0.000	0.000	0.000	0.000
2000-01	655.317	655.317	(1,200.000)		345.663	456.297	0.633	0.000	0.000	0.000
2001-02	455.664	655.317	(1,200.000)		348.614	259.595	0.030	0.000	0.000	0.000
TOTALS	0.000	8,519.121	(3,200.000)	70.433	5,413.311	19,122.333	527.311	0.000	0.000	0.000

FY	Under Production Balances: Total Under-Produced	Applications: Carry-Over to Next Year	Applications: Deposit to Storage	Local Storage: Withdrawals From Storage	Local Storage: Storage Account Balance	Supplemental Storage: Deposit to Storage	Supplemental Storage: Withdrawal From Storage	Supplemental Storage: Storage Account Balance
					1,033.515			
1989-90	801.669	655.317	146.352		1,179.867			
1990-91 [1]	1,424.863	655.317	769.546		1,949.413			
1991-92	1,647.359	655.317	992.042		2,941.455			
1992-93	1,798.636	655.317	1,143.319		4,084.774			
1993-94	1,768.377	655.317	1,113.060	3,000.000	2,197.834			
1994-95 [1]	1,730.474	655.317	1,075.157		3,272.991			
1995-96	1,572.632	655.317	917.315	2,500.000	1,690.306			
1996-97	1,703.239	655.317	1,047.922	700.000	2,038.228			
1997-98	1,666.489	655.317	1,011.172	1,200.000	1,849.400			
1998-99	1,680.298	655.317	1,024.981	1,200.000	1,674.381			
1999-00	2,065.757	655.317	1,410.440	1,200.000	1,884.821			0.000
2000-01	455.664	455.664	0.000	1,866.490	18.331	1,896.321	(77.875)	1,974.196
2001-02	259.565	259.565	0.000		18.331	77.875		2,051.871
TOTALS	18,595.022	7,923.719	10,673.308	11,666.490				

FY	Replenishment Obligations: WO Transfers & Excluding MWD Exchg	Equal to Net OverProd	Difference	WO Transfers & Including MWD Exchg	Equal to Net OverProd	Difference
1989-90	0.000	0.000	0.000	0.000	0.000	0.000
1990-91 [1]	0.000	0.000	0.000	0.000	0.000	0.000
1991-92	0.000	0.000	0.000	0.000	0.000	0.000
1992-93	0.000	0.000	0.000	0.000	0.000	0.000
1993-94	0.000	0.000	0.000	0.000	0.000	0.000
1994-95 [1]	0.000	0.000	0.000	0.000	0.000	0.000
1995-96	0.000	0.000	0.000	0.000	0.000	0.000
1996-97	0.000	0.000	0.000	0.000	0.000	0.000
1997-98	0.000	0.000	0.000	0.000	0.000	0.000
1998-99	0.000	0.000	0.000	0.000	0.000	0.000
1999-00	0.000	0.000	0.000	0.000	0.000	0.000
2000-01	0.000	0.000	0.000	0.000	0.000	0.000
2001-02	0.000	0.000	0.000	0.000	0.000	0.000
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000

[1] Wet Water credit not received

MVWD History of Operations

FY	Carry-Over From Prior Year Operations	Assigned Share of Safe Yield	Water Transaction Activity: Non-Wet	Water Transaction Activity: Wet Water	Ag Pool Safe Yield Reallocation	Annual Production Right	Production	MVWD Exchanges	Net Over-Production 15%/85%	Net Over-Production 100%	Under Production Balances: Total Under-Produced	Applications: Carry-Over to Next Year	Applications: Deposit to Storage	Local Storage: Withdrawn From Storage	Local Storage: Storage Account Balance	Supplemental Storage: Deposit to Storage	Supplemental Storage: Withdrawn From Storage	Supplemental Storage: Storage Account Balance	Replenishment Obligations: WQ Transfers & Excluding MVWD Exchg	Equal to Net OverProd	Difference	WQ Transfers & Including MVWD Exchg	Equal to Net OverProd	Difference
															0.000									
1989-90	1,333.405	4,148.344	1,277.555		2,895.697	9,454.981	7,121.000	0.000	0.000	0.000	2,333.981	2,333.981	0.000		0.000				0.000	0.000	0.000	0.000	0.000	0.000
1990-91	2,333.981	4,148.344	675.610		2,570.277	9,728.192	5,250.800	0.000	0.000	0.000	4,477.392	4,148.344	329.048		329.048				0.000	0.000	0.000	0.000	0.000	0.000
1991-92	4,148.344	4,823.954	0.000		3,018.298	11,990.596	7,834.200	164.200	0.000	0.000	4,172.195	4,172.195	0.000		329.048				0.000	0.000	0.000	0.000	0.000	0.000
1992-93	4,172.195	4,823.954	0.000	599.657	3,317.717	12,712.124	5,900.700	289.600	0.000	0.000	6,522.824	4,823.954	1,698.870		2,027.918				0.000	0.000	0.000	0.000	0.000	0.000
1993-94	4,823.954	4,823.954	0.000		3,309.550	13,017.468	5,787.900	0.000	0.000	0.000	7,229.568	4,823.954	2,405.614		4,433.532				0.000	0.000	0.000	0.000	0.000	0.000
1994-95	4,823.954	4,823.954	0.000	111.700	3,101.591	12,861.199	7,134.300	0.000	0.000	0.000	5,726.899	4,823.954	902.945		5,336.477				0.000	0.000	0.000	0.000	0.000	0.000
1995-96	4,823.954	4,823.954	0.000		1,928.834	11,576.542	8,128.110	2,607.300	0.000	0.000	2,841.132	2,841.132	0.000		5,336.477				0.000	0.000	0.000	0.000	0.000	0.000
1996-97	2,841.132	4,823.954	0.000		2,926.656	10,591.742	9,125.686	0.000	0.000	0.000	1,266.056	1,266.056	0.000		5,336.477				0.000	0.000	0.000	0.000	0.000	0.000
1997-98	2,841.132	4,823.954	0.000	59.118	2,744.241	10,258.445	6,579.928	1,148.200	0.000	0.000	2,293.317	2,293.317	0.000		5,336.477				0.000	0.000	0.000	0.000	0.000	0.000
1998-99	918.241	4,823.954	122.557		2,756.873	8,623.625	8,623.625	0.000	0.000	0.000	0.000	0.000	0.000		5,336.477				122.557	0.000	122.557	122.557	0.000	122.557
1999-00	0.000	4,823.954	700.000	1,000.000	5,595.436	12,120.192	9,313.324	0.000	0.000	0.000	2,806.869	2,806.869	0.000	1,142.110	4,194.367			0.000	0.000	0.000	0.000	0.000	0.000	0.000
2000-01	2,806.869	4,823.954	227.006	48.000	2,599.194	10,505.024	10,505.024	0.000	0.000	0.000	0.000	0.000	227.006	4,421.375	0.000	4,766.172	227.006	4,539.164	227.006	0.000	227.006	227.006	0.000	227.006
2001-02	0.000	4,823.954	5,500.000	25.000	2,621.402	12,970.956	12,968.365	0.000	0.000	0.000	2.590	2.590	0.000		0.000	571.805		5,110.969	5,497.410	0.000	5,497.410	5,497.410	0.000	5,497.410
TOTALS	0.000	61,360.182	8,502.730	1,843.475	39,247.535	146,221.059	107,321.963	4,426.300	0.000	0.000	39,472.603	34,139.378	5,563.485	5,563.485					5,846.975	0.000	5,846.975	5,846.975	0.000	5,846.975

Appendix B

Chino Basin History of Operations

FY	Carry-Over From Prior Year Operations	Assigned Share of Safe Yield	Water Transaction Activity: Non-Wet	Water Transaction Activity: Wet Water	Ag Pool Safe Yield Reallocation	Annual Production Right	Production	MWD Exchanges	Net Over-Production 15%/85%	Net Over-Production 100%
1989-90	0.000	11,373.816	0.000		7,600.278	18,974.094	23,335.100	4,875.900	9,237.906	0.000
1990-91	0.000	11,373.816	0.000		7,256.517	18,630.333	21,209.400	3,579.100	6,155.167	0.000
1991-92	0.000	11,373.816	1,680.000		7,325.879	20,379.695	27,285.900	1,904.900	6,811.105	0.000
1992-93	0.000	11,373.816	3,457.000	939.003	8,031.642	23,801.461	22,690.400	1,110.800	0.000	0.000
1993-94	0.461	11,373.816	11,681.300		8,154.076	31,209.653	21,793.000	0.000	0.000	0.000
1994-95	9,416.653	11,373.816	5,000.000	334.100	8,277.567	34,402.136	29,404.200	999.800	0.000	0.000
1995-96	4,001.136	11,373.816	2,000.000		5,301.240	22,676.192	32,909.870	1,512.700	11,745.378	0.000
1996-97	0.000	11,373.816	10,076.665		7,607.403	29,057.884	34,095.507	0.000	5,037.623	0.000
1997-98	0.000	11,373.816	14,658.705	139.388	7,253.756	33,425.665	33,425.665	0.000	0.000	0.000
1998-99	0.000	11,373.816	15,915.632		7,313.086	34,602.534	34,602.534	0.000	0.000	0.000
1999-00	0.000	11,373.816	17,413.000	308.800	14,001.470	43,097.086	36,523.255	0.000	0.000	0.000
2000-01	6,573.831	11,373.816	8,943.007	124.400	6,972.518	33,987.572	33,987.572	0.000	0.000	0.000
2001-02	0.000	11,373.816	13,133.133	219.300	7,023.749	31,749.998	32,601.410	0.000	851.412	0.000
TOTALS	0.000	147,859.608	103,956.442	2,064.991	102,118.381	375,994.503	383,880.613	13,980.200	41,839.591	0.000

FY	Under Production Balances: Total Under-Produced	Applications: Carry-Over to Next Year	Applications: Deposit to Storage	Local Storage: Withdrawals From Storage	Local Storage: Storage Account Balance	Supplemental Storage: Deposit to Storage	Supplemental Storage: Withdrawal From Storage	Supplemental Storage: Storage Account Balance
					10,000.000			
1989-90	0.000	0.000	0.000		10,000.000			
1990-91	0.000	0.000	0.000		10,000.000			
1991-92	0.000	0.000	0.000		10,000.000			
1992-93	0.461	0.461	0.000		10,000.000			
1993-94	9,416.653	9,416.653	0.000		10,000.000			
1994-95	4,001.136	4,001.136	0.000		10,000.000			
1995-96	0.000	0.000	0.000		10,000.000			
1996-97	0.000	0.000	0.000		10,000.000			
1997-98	0.000	0.000	0.000		10,000.000			
1998-99	0.000	0.000	0.000		10,000.000			
1999-00	6,573.831	6,573.831	0.000		10,000.000			0.000
2000-01	0.000	0.000	0.000	10,000.000	0.000	11,348.230	143.007	11,205.223
2001-02	0.000	0.000	0.000		0.000	1,348.230		12,553.453
TOTALS	19,992.081	19,992.081	0.000	10,000.000				

FY	Replenishment Obligations: YVU Transfers & Excluding MWD Exchg	Equal to Net OverProd	Difference	YVU Transfers & Including MWD Exchg	Equal to Net OverProd	Difference
1989-90	4,362.006	9,237.906	(4,875.900)	9,237.906	9,237.906	0.000
1990-91	2,576.067	6,155.167	(3,579.100)	6,155.167	6,155.167	0.000
1991-92	6,586.205	6,811.105	(224.900)	10,491.105	6,811.105	1,680.000
1992-93	2,345.739	0.000	2,345.739	3,458.539	0.000	3,458.539
1993-94	2,264.647	0.000	2,264.647	2,264.647	0.000	2,264.647
1994-95	2.064	0.000	2.064	999.864	0.000	999.864
1995-96	12,232.678	11,745.378	487.300	13,745.378	11,745.378	2,000.000
1996-97	15,114.288	5,037.623	10,076.665	15,114.288	5,037.623	10,076.665
1997-98	14,658.705	0.000	14,658.705	14,658.705	0.000	14,658.705
1998-99	15,915.632	0.000	15,915.632	15,915.632	0.000	15,915.632
1999-00	10,639.169	0.000	10,639.169	10,639.169	0.000	10,639.169
2000-01	8,943.007	0.000	8,943.007	8,943.007	0.000	8,943.007
2001-02	13,984.545	851.412	13,133.133	13,984.545	851.412	13,133.133
TOTALS	111,824.752	41,839.591	69,985.161	125,604.952	41,839.591	83,865.361

Pomona History of Operations

FY	Carry-Over From Prior Year Operations	Assigned Share of Safe Yield	Water Transaction Activity: Non-Wet	Water Transaction Activity: Wet Water	Ag Pool Safe Yield Reallocation	Annual Production Right	Production	MWD Exchanges	Net Over-Production: 15%/85%	Net Over-Production: 100%
1989-90	11,215.852	11,215.852	0.000		7,288.231	29,719.935	14,306.500	0.000	0.000	0.000
1990-91	11,215.852	11,215.852	0.000		6,949.243	29,380.947	8,700.900	0.000	0.000	0.000
1991-92	11,215.852	11,215.852	0.000		7,017.642	29,449.346	7,974.300	2,004.000	0.000	0.000
1992-93	11,215.852	11,215.852	0.000	925.981	7,713.801	31,071.486	8,739.400	1,593.000	0.000	0.000
1993-94	11,215.852	11,215.852	0.000		7,834.337	30,266.041	10,052.300	8,360.700	0.000	0.000
1994-95	11,215.852	11,215.852	0.000	230.100	7,211.302	29,873.106	12,860.600	3,225.100	0.000	0.000
1995-96	11,215.852	11,215.852	0.000		4,484.139	26,915.843	15,516.920	0.000	0.000	0.000
1996-97	10,398.923	11,215.852	0.000		6,719.484	28,334.259	16,731.673	0.000	0.000	0.000
1997-98	10,398.923	11,215.852	(12,082.328)	137.452	6,295.307	15,965.206	14,124.166	1,841.100	0.000	0.000
1998-99	818.929	11,215.852	(1,500.000)		6,329.385	16,862.165	16,554.043	0.000	0.000	0.000
1999-00	298.122	11,215.852	(5,453.190)		12,924.926	18,985.710	18,966.264	0.000	0.000	0.000
2000-01	19.446	11,215.852	300.794		5,916.475	17,452.557	17,452.557	0.000	0.000	0.000
2001-02	0.000	11,215.852	483.211		5,988.994	17,671.057	17,666.185	0.000	0.000	0.000
TOTALS	0.000	145,805.076	(18,248.513)	1,293.533	92,851.326	321,947.706	180,852.818	15,023.900	0.000	0.000

FY	Under Production Balances: Total Under-Produced	Applications: Carry-Over to Next Year	Applications: Deposit to Storage	Local Storage: Withdrawals From Storage	Local Storage: Storage Account Balance	Supplemental Storage: Deposit to Storage	Supplemental Storage: Withdrawals From Storage	Supplemental Storage: Storage Account Balance
					25,859.956			
1989-90	15,413.435	11,215.852	4,197.583		30,057.539			
1990-91	20,680.047	11,215.852	9,464.195		39,531.734			
1991-92	19,471.046	11,215.852	8,255.194	608.200	47,178.728			
1992-93	20,742.086	11,215.852	9,526.214		56,704.942			
1993-94	13,853.041	11,215.852	2,637.189	20,000.000	39,342.131			
1994-95	13,787.406	11,215.852	2,571.554	9,131.987	32,781.698			
1995-96	10,398.923	10,398.923	0.000	2,976.000	29,805.698			
1996-97	11,602.586	11,215.852	386.734		30,192.432			
1997-98	0.000	0.000	0.000	576.377	29,616.055			
1998-99	298.122	298.122	0.000	1,000.000	28,616.055			
1999-00	19.446	19.446	0.000	4,949.810	23,666.245			0.000
2000-01	0.000	0.000	0.000	23,666.245	0.000	24,998.745	4,300.794	20,697.951
2001-02	4.872	4.872	4,988.210	4,988.210	0.000	1,329.510	4,988.211	17,039.250
TOTALS	129,270.990	69,232.327	47,026.913	67,895.829				

FY	Replenishment Obligations: WQ Transfers & Excluding MWD Exchg	Replenishment Obligations: Equal to Net OverProd	Replenishment Obligations: Difference	WQ Transfers & Including MWD Exchg	Equal to Net OverProd	Difference
1989-90	0.000	0.000	0.000	0.000	0.000	0.000
1990-91	0.000	0.000	0.000	0.000	0.000	0.000
1991-92	0.000	0.000	0.000	0.000	0.000	0.000
1992-93	0.000	0.000	0.000	0.000	0.000	0.000
1993-94	0.000	0.000	0.000	0.000	0.000	0.000
1994-95	0.000	0.000	0.000	0.000	0.000	0.000
1995-96	0.000	0.000	0.000	0.000	0.000	0.000
1996-97	0.000	0.000	0.000	0.000	0.000	0.000
1997-98	0.000	0.000	0.000	0.000	0.000	0.000
1998-99	0.000	0.000	0.000	0.000	0.000	0.000
1999-00	0.000	0.000	0.000	0.000	0.000	0.000
2000-01	300.794	0.000	300.794	300.794	0.000	300.794
2001-02	483.339	0.000	483.339	483.339	0.000	483.339
TOTALS	784.133	0.000	784.133	784.133	0.000	784.133

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San Antonio History of Operations

FY	Carry-Over From Prior Year Operations	Assigned Share of Safe Yield	Water Transaction Activity: Non-Wet	Water Transaction Activity: Wet Water	Ag Pool Safe Yield Reallocation	Annual Production Right	Production	MWU Exchanges
1989-90	1,505.888	1,505.888	0.000		979.198	3,992.974	654.000	0.000
1990-91	1,505.888	1,505.888	0.000		933.654	3,947.430	453.300	0.000
1991-92	1,505.888	1,505.888	0.000		942.844	3,956.620	942.400	0.000
1992-93	1,505.888	1,505.888	0.000	124.405	1,038.375	4,174.557	1,060.900	0.000
1993-94	1,505.888	1,505.888	0.000		1,052.578	4,066.346	788.100	0.000
1994-95	1,505.888	1,505.888	0.000	25.900	968.863	4,008.539	84.000	0.000
1995-96	1,505.888	1,505.888	0.000		802.459	3,818.235	0.000	0.000
1996-97	1,505.888	1,505.888	0.000		902.789	3,918.562	234.471	0.000
1997-98	1,505.888	1,505.888	(2,500.000)	18.487	845.804	1,378.047	97.675	0.000
1998-99	1,280.372	1,505.888	(2,500.000)		650.374	1,137.634	52.183	0.000
1999-00	1,085.451	1,505.888	0.000		1,738.487	4,328.809	293.780	0.000
2000-01	1,505.888	1,505.888	(3,738.401)		794.860	72.255	72.255	0.000
2001-02	0.000	1,505.888	0.000		801.667	2,306.555	931.929	0.000
TOTALS	0.000	19,569.544	(8,738.401)	168.773	12,447.941	40,904.560	5,874.993	0.000

FY	Net Over-Production 15%/85%	Net Over-Production 100%	Under Production Balances: Total Under-Produced	Applications: Carry-Over to Next Year	Applications: Deposit to Storage	Local Storage: Withdrawals From Storage	Local Storage: Storage Account Balance	Supplemental Storage: Deposit to Storage	Supplemental Storage: Withdrawals From Storage	Supplemental Storage: Storage Account Balance
							8,242.259			
1989-90	0.000	0.000	3,305.974	1,505.888	1,802.086		10,044.345			
1990-91	0.000	0.000	3,494.130	1,505.888	1,987.242		12,031.587			
1991-92	0.000	0.000	3,014.220	1,505.888	1,507.332		13,538.919			
1992-93	0.000	0.000	3,113.657	1,505.888	1,606.769		15,145.688			
1993-94	0.000	0.000	3,298.246	1,505.888	1,791.358		16,937.046			
1994-95	0.000	0.000	3,924.639	1,505.888	2,417.651		19,354.697			
1995-96	0.000	0.000	3,618.235	1,508.888	2,109.347	6,000.000	15,464.044			
1996-97	0.000	0.000	3,682.091	1,505.888	2,175.203	(2,055.000)	19,694.247			
1997-98	0.000	0.000	1,280.372	1,280.372	0.000	325.000	19,369.247			
1998-99	0.000	0.000	1,085.451	1,085.451	0.000	1,825.000	17,544.247			
1999-00	0.000	0.000	4,035.026	1,505.888	2,520.138	2,050.000	17,422.385			0.000
2000-01	0.000	0.000	0.000	0.000	0.000	4,913.599	12,508.786	178.620		178.620
2001-02	0.000	0.000	1,378.628	1,378.628	0.000	4,650.000	7,858.786	178.620		357.240
TOTALS	0.000	0.000	35,229.557	17,304.441	17,925.126	18,308.599				

FY	Replenishment Obligations: WU Transfers & Excluding MWU Exchg	Equal to Net OverProd	Difference	WU Transfers & Including MWU Exchg	Equal to Net OverProd	Difference
1989-90	0.000	0.000	0.000	0.000	0.000	0.000
1990-91	0.000	0.000	0.000	0.000	0.000	0.000
1991-92	0.000	0.000	0.000	0.000	0.000	0.000
1992-93	0.000	0.000	0.000	0.000	0.000	0.000
1993-94	0.000	0.000	0.000	0.000	0.000	0.000
1994-95	0.000	0.000	0.000	0.000	0.000	0.000
1995-96	0.000	0.000	0.000	0.000	0.000	0.000
1996-97	0.000	0.000	0.000	0.000	0.000	0.000
1997-98	0.000	0.000	0.000	0.000	0.000	0.000
1998-99	0.000	0.000	0.000	0.000	0.000	0.000
1999-00	0.000	0.000	0.000	0.000	0.000	0.000
2000-01	0.000	0.000	0.000	0.000	0.000	0.000
2001-02	0.000	0.000	0.000	0.000	0.000	0.000
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000

Santa Ana River History of Operations

FY	Carry-Over From Prior Year Operations	Assigned Share of Safe Yield	Water Transaction Activity: Non-Wet	Water Transaction Activity: Wet Water	Ag Pool Safe Yield Reallocation	Annual Production Right	Production	MWD Exchanges	Net Over-Production 15%/85%	Net Over-Production 100%	Under Production Balances: Total Under-Produced	Applications: Carry-Over to Next Year	Applications: Deposit to Storage	Local Storage: Withdrawals From Storage	Local Storage: Storage Account Balance	Supplemental Storage: Deposit to Storage	Supplemental Storage: Withdrawals From Storage	Supplemental Storage: Storage Account Balance	Replenishment Obligations: WO Transfers & Excluding MWD Exchg	Replenishment Obligations: Equal to Net OverProd	Replenishment Obligations: Difference	WO Transfers & Including MWD Exchg	Equal to Net OverProd	Difference
															271.977									
1989-90	864.769	1,301.374	(1,500.000)		845.655	1,451.793	475.000	0.000	0.000	0.000	976.793	976.793	0.000		271.977				0.000	0.000	0.000	0.000	0.000	0.000
1990-91	976.793	1,301.374	(1,600.000)		806.320	1,284.487	313.300	0.000	0.000	0.000	971.187	971.187	0.000		271.977				0.000	0.000	0.000	0.000	0.000	0.000
1991-92	971.187	1,301.374	(1,600.000)		814.258	1,486.817	468.200	0.000	0.000	0.000	1,018.617	1,018.617	0.000		271.977				0.000	0.000	0.000	0.000	0.000	0.000
1992-93	1,018.617	1,301.374	(1,600.000)	107.439	895.031	1,722.481	552.400	0.000	0.000	0.000	1,170.081	1,170.081	0.000		271.977				0.000	0.000	0.000	0.000	0.000	0.000
1993-94	1,170.081	1,301.374	(1,600.000)		909.017	1,780.452	592.000	0.000	0.000	0.000	1,188.452	1,188.452	0.000		271.977				0.000	0.000	0.000	0.000	0.000	0.000
1994-95	1,188.452	1,301.374	(1,600.000)	21.700	839.727	1,748.253	679.700	0.000	0.000	0.000	1,068.553	1,068.553	0.000		271.977				0.000	0.000	0.000	0.000	0.000	0.000
1995-96	1,068.553	1,301.374	(1,600.000)		520.294	1,090.221	961.790	0.000	0.000	0.000	128.431	128.431	0.000		271.977				0.000	0.000	0.000	0.000	0.000	0.000
1996-97	128.431	1,301.374	(800.000)		779.881	1,609.486	723.682	0.000	0.000	0.000	885.804	885.804	0.000		271.977				0.000	0.000	0.000	0.000	0.000	0.000
1997-98	885.804	1,301.374	(1,500.000)	15.949	730.450	1,433.577	491.448	0.000	0.000	0.000	942.129	942.129	0.000		271.977				0.000	0.000	0.000	0.000	0.000	0.000
1998-99	942.129	1,301.374	(1,200.000)		734.398	1,777.901	818.178	0.000	0.000	0.000	959.723	959.723	0.000		271.977				0.000	0.000	0.000	0.000	0.000	0.000
1999-00	959.723	1,301.374	(1,500.000)		1,409.504	2,260.601	692.815	0.000	0.000	0.000	1,567.786	1,301.374	266.412		538.389			0.000	0.000	0.000	0.000	0.000	0.000	0.000
2000-01	1,301.374	1,301.374	(2,000.000)		688.408	1,289.156	767.535	0.000	0.000	0.000	521.621	521.621	0.000		538.389	154.245		154.245	0.000	0.000	0.000	0.000	0.000	0.000
2001-02	521.621	1,301.374	(1,758.404)		692.269	758.860	758.295	0.000	0.000	0.000	0.565	0.565	0.000	243.596	294.793	154.245		308.490	0.000	0.000	0.000	0.000	0.000	0.000
TOTALS	0.000	16,917.862	(20,058.404)	145.088	10,749.958	19,894.045	8,294.323	0.000	0.000	0.000	11,399.722	11,133.310	266.412	243.596					0.000	0.000	0.000	0.000	0.000	0.000

SoCal Water History of Operations

FY	Carry-Over From Prior Year Operations	Assigned Share of Safe Yield	Water Transaction Activity Non-Wet	Water Transaction Activity Wet Water	Ag Pool Safe Yield Reallocation	Annual Production Right	Production	MWD Exchanges	Net Over-Production 15%/85%	Net Over-Production 100%	Under Production Balances: Total Under-Produced	Applications: Carry-Over to Next Year	Applications: Deposit to Storage	Local Storage: Withdrawals From Storage	Local Storage: Storage Account Balance	Supplemental Storage: Deposit to Storage	Supplemental Storage: Withdrawals From Storage	Supplemental Storage: Storage Account Balance	Replenishment Obligations: WD Transfers & Excluding MWD Exchg	Replenishment Obligations: Equal to Net OverProd	Replenishment Obligations: Difference	WD Transfers & Including MWD Exchg	Equal to Net OverProd	Difference
															35.122									
1989-90	380.221	411.476	0.000		267.383	1,059.080	513.800	0.000	0.000	0.000	545.280	411.476	133.804		168.926				0.000	0.000	0.000	0.000	0.000	0.000
1990-91	411.476	411.476	0.000		254.947	1,077.899	585.300	0.000	0.000	0.000	492.599	411.476	81.123		250.049				0.000	0.000	0.000	0.000	0.000	0.000
1991-92	411.476	411.476	0.000		257.458	1,080.409	440.800	144.600	0.000	0.000	495.208	411.476	83.732		333.781				0.000	0.000	0.000	0.000	0.000	0.000
1992-93	411.476	411.476	0.000	33.971	282.998	1,139.919	366.500	58.430	0.000	0.000	716.989	411.476	305.513		639.294				0.000	0.000	0.000	0.000	0.000	0.000
1993-94	411.476	411.476	0.000		287.418	1,110.370	199.400	19.550	0.000	0.000	891.420	411.476	479.944		1,119.238				0.000	0.000	0.000	0.000	0.000	0.000
1994-95	411.476	411.476	0.000	7.000	264.561	1,094.513	250.000	0.000	0.000	0.000	843.613	411.476	432.137		1,551.375				0.000	0.000	0.000	0.000	0.000	0.000
1995-96	411.476	411.476	0.000		164.510	987.462	305.710	0.000	0.000	0.000	681.752	411.476	270.276	500.000	1,321.651				0.000	0.000	0.000	0.000	0.000	0.000
1996-97	411.476	411.476	0.000		246.518	1,069.470	575.881	0.000	0.000	0.000	493.609	411.476	82.133	(373.200)	1,776.984				0.000	0.000	0.000	0.000	0.000	0.000
1997-98	411.476	411.476	0.000	5.043	230.958	1,058.953	379.849	0.000	0.000	0.000	679.104	411.476	267.628	750.000	1,294.612				0.000	0.000	0.000	0.000	0.000	0.000
1998-99	411.476	411.476	0.000		232.206	1,055.158	242.821	0.000	0.000	0.000	812.337	411.476	400.861		1,695.473				0.000	0.000	0.000	0.000	0.000	0.000
1999-00	411.476	411.476	0.000		473.927	1,296.879	482.052	0.000	0.000	0.000	814.827	411.476	403.351	2,098.824	0.000			0.000	0.000	0.000	0.000	0.000	0.000	0.000
2000-01	411.476	411.476	0.000		216.943	1,039.895	372.027	0.000	0.000	0.000	667.868	411.476	256.392		256.392	2,098.825	(48.750)	2,147.575	0.000	0.000	0.000	0.000	0.000	0.000
2001-02	411.476	411.476	0.000		218.798	1,041.746	224.848	0.000	0.000	0.000	816.902	411.476	405.426		661.818	48.750		2,196.325	0.000	0.000	0.000	0.000	0.000	0.000
TOTALS	0.000	5,349.188	0.000	46.014	3,398.919	14,111.754	4,939.888	220.580	0.000	0.000	8,951.508	5,349.188	3,602.320	2,975.824					0.000	0.000	0.000	0.000	0.000	0.000

Upland History of Operations

FY	Carry-Over From Prior Year Operations	Assigned Share of Safe Yield	Water Transaction Activity: Non-Wet	Water Transaction Activity: Wet Water	Ag Pool Safe Yield Reallocation	Annual Production Right	Production	MWD Exchanges
1989-90	2,852.401	2,852.401	0.000		1,853.534	7,558.336	2,445.600	0.000
1990-91	2,852.401	2,852.401	0.000		1,767.323	7,472.125	3,145.100	0.000
1991-92	2,852.401	2,852.401	0.000		1,784.718	7,489.520	2,565.500	237.000
1992-93	2,852.401	2,852.401	0.000	235.469	1,961.784	7,902.055	2,372.600	935.600
1993-94	2,852.401	2,852.401	0.000		1,992.419	7,697.221	2,182.200	3,696.100
1994-95	1,818.921	2,852.401	0.000	55.300	1,833.970	6,560.592	3,010.100	0.000
1995-96	2,852.401	2,852.401	0.000		1,140.401	6,845.203	2,489.610	1,467.000
1996-97	2,852.401	2,852.401	0.000		1,705.891	7,413.693	1,887.134	0.000
1997-98	2,852.401	2,852.401	0.000	34.957	1,601.029	7,340.788	1,923.610	1,251.500
1998-99	2,852.401	2,852.401	0.000		1,609.881	7,314.483	2,275.622	0.000
1999-00	2,852.401	2,852.401	0.000	69.200	3,267.155	9,081.157	1,739.969	0.000
2000-01	2,852.401	2,852.401	0.000	45.600	1,504.718	7,255.320	2,580.132	0.000
2001-02	2,852.401	2,852.401	0.000	67.200	1,517.599	7,279.566	2,390.151	0.000
TOTALS	0.000	37,081.213	0.000	497.946	23,563.169	97,190.091	31,024.326	7,607.400

FY	Net Over-Production 15%/85%	Net Over-Production 100%	Under Production Balances: Total Under-Produced	Applications: Carry-Over to Next Year	Applications: Deposit to Storage	Local Storage: Withdrawals From Storage	Local Storage: Storage Account Balance	Supplemental Storage: Deposit to Storage	Supplemental Storage: Withdrawals From Storage	Supplemental Storage: Storage Account Balance
							2,225.719			
1989-90	0.000	0.000	5,112.739	2,852.401	2,260.335		4,486.054			
1990-91	0.000	0.000	4,327.025	2,852.401	1,474.624		5,960.678			
1991-92	0.000	0.000	4,467.020	2,852.401	1,614.619		7,775.297			
1992-93	0.000	0.000	4,593.655	2,852.401	1,741.254		9,516.551			
1993-94	0.000	0.000	1,818.921	1,818.921	0.000		9,516.551			
1994-95	0.000	0.000	3,550.492	2,852.401	698.091		10,214.642			
1995-96	0.000	0.000	2,868.593	2,852.401	16.192	5,048.000	5,182.834			
1996-97	0.000	0.000	5,526.559	2,852.401	2,674.158	(1,676.800)	9,733.792			
1997-98	0.000	0.000	4,165.678	2,852.401	1,313.277	1,446.848	9,600.221			
1998-99	0.000	0.000	5,038.881	2,852.401	2,186.480		11,786.681			
1999-00	0.000	0.000	7,324.188	2,852.401	4,471.787	5,286.880	10,971.788			0.000
2000-01	0.000	0.000	4,675.188	2,852.401	1,822.787	10,971.788	1,822.787	11,309.918		11,309.918
2001-02	0.000	0.000	4,869.417	2,852.401	6,178.452	8,000.000	1.239	338.130	4,141.436	7,506.612
TOTALS	0.000	0.000	58,558.331	39,047.733	28,652.035	28,678.518				

FY	Replenishment Obligations: WU Transfers & Excluding MWD Exchg	Equal to Net OverProd	Difference	WU Transfers & Including MWD Exchg	Equal to Net OverProd	Difference
1989-90	0.000	0.000	0.000	0.000	0.000	0.000
1990-91	0.000	0.000	0.000	0.000	0.000	0.000
1991-92	0.000	0.000	0.000	0.000	0.000	0.000
1992-93	0.000	0.000	0.000	0.000	0.000	0.000
1993-94	0.000	0.000	0.000	0.000	0.000	0.000
1994-95	0.000	0.000	0.000	0.000	0.000	0.000
1995-96	0.000	0.000	0.000	0.000	0.000	0.000
1996-97	0.000	0.000	0.000	0.000	0.000	0.000
1997-98	0.000	0.000	0.000	0.000	0.000	0.000
1998-99	0.000	0.000	0.000	0.000	0.000	0.000
1999-00	0.000	0.000	0.000	0.000	0.000	0.000
2000-01	0.000	0.000	0.000	0.000	0.000	0.000
2001-02	0.000	0.000	0.000	0.000	0.000	0.000
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000

APPENDIX C

Appendix C

Water Transfers* by Year By Zone – Zone 1					
Production Year Ending	From Entity	From Mgmt Zone	To Entity	To Mgmt Zone	Quantity
1989	MARYGOLD	3	MVWD	1	800.0
1990	CHILLS(WW8)	1	CHINO	1	257.1
1990	CHILLS(WW8)	1	MVWD	1	477.6
1990	MARYGOLD	3	MVWD	1	800.0
1991	CHILLS(WW8)	1	CHINO	1	363.8
1991	CHILLS(WW8)	1	MVWD	1	675.6
1996	MVIC	1	CHINO	1	500.0
1996	UPLAND	1	CHINO	1	548.0
1997	WEST END CON	1	UPLAND	1	11,876.8
1997	WEST END CON	1	SOCAL	1	1,123.2
1997	CCWD	2	CHINO	1	1,233.0
1997	JCSD	3	SAWCO	1	4,555.0
1999	SAWCO	1	CHINO	1	1,500.0
2000	SAWCO	1	CHINO	1	2,000.0
2000	MVIC	1	MVWD	1	200.0
2000	CHILLS	1	MVWD	1	500.0
2001	SAWCO	1	CHINO	1	2,700.0
2002	UPLAND	1	MVWD	1	3,000.0
2002	MVIC	1	MVWD	1	2,500.0

* Not exhaustive - transfers involving only storage may not be included
Does not include MWD related transfers

Appendix C

Water Transfers* by Year By Zone – Zone 2					
Production Year Ending	From Entity	From Mgmt Zone	To Entity	To Mgmt Zone	Quantity
1989	WSBCWD	2	CCWD	2	1,076.2
1989	FUWC	2	CCWD	2	22,701.5
1990	MVWD	1	CCWD	2	500.0
1990	FUWC	2	CCWD	2	3,815.5
1991	FUWC	2	CCWD	2	6,908.2
1991	FUWC	2	FWC	2	3,645.2
1991	FUWC	2	CCWD	2	4,156.7
1992	FUWC	2	CCWD	2	9,827.7
1994	POMONA	1	FWC	2	5,592.0
1994	POMONA	1	ONTARIO	2	5,592.0
1994	MARYGOLD	3	FWC	2	3,000.0
1995	POMONA	1	SCE	2	1,800.0
1995	POMONA	1	ONTARIO	2	5,000.0
1995	CCWD	2	FWC	2	3,740.0
1996	SOCAL	1	FWC	2	500.0
1996	UPLAND	1	ONTARIO	2	2,000.0
1996	POMONA	1	SCE	2	2,976.0
1996	MARYGOLD	3	FWC	2	2,500.0
1997	SOCAL	1	EDISON	2	750.0
1997	SAWCO	1	ONTARIO	2	2,500.0
1997	SUNKIST	2	ONTARIO	2	5,966.6
1997	MARYGOLD	3	FWC	2	700.0
1997	M WCO GLEN AV	3	ONTARIO	2	108.2
1998	MVIC	1	ONTARIO	2	500.0
1998	SAWCO	1	ONTARIO	2	2,500.0
1998	POMONA	1	ONTARIO	2	4,800.0
1998	POMONA	1	ONTARIO	2	5,858.7
1998	WSBCWD	2	ONTARIO	2	1,000.0
1998	CCWD	2	FWC	2	9,773.7
1998	CCWD	2	EDISON	2	1,800.0
1998	MARYGOLD	3	FWC	2	1,200.0
1999	CHILLS	1	ONTARIO	2	9,000.0
1999	SAWCO	1	ONTARIO	2	2,500.0
1999	MVIC	1	ONTARIO	2	500.0
1999	POMONA	1	RELIANT	2	1,000.0
1999	POMONA	1	RELIANT	2	1,500.0
1999	CCWD	2	FWC	2	9,173.6
1999	CCWD	2	ONTARIO	2	3,915.6
1999	CCWD	2	RELIANT	2	750.0
1999	MARYGOLD	3	FWC	2	1,200.0

Appendix C

Water Transfers* by Year By Zone – Zone 2					
Production Year Ending	From Entity	From Mgmt Zone	To Entity	To Mgmt Zone	Quantity
2000	UPLAND	1	ONTARIO	2	5,000.0
2000	MVWD	1	ONTARIO	2	1,000.0
2000	MVWD CO-OP	1	ONTARIO	2	1,100.0
2000	POMONA	1	ONTARIO	2	7,900.0
2000	CHILLS	1	ONTARIO	2	1,368.3
2000	UPLAND	1	ONTARIO	2	289.7
2000	MVWD	1	ONTARIO	2	152.1
2000	CHINO	1	ONTARIO	2	602.9
2000	POMONA	1	RELIANT	2	2,500.0
2000	CCWD	2	FWC	2	19,746.8
2000	MARYGOLD	3	FWC	2	1,200.0
2001	POMONA	1	ONTARIO	2	2,000.0
2001	CHILLS	1	ONTARIO	2	4,500.0
2001	SAWCO	1	ONTARIO	2	1,300.0
2001	SAWCO	1	ONTARIO	2	1,000.0
2001	POMONA	1	FWC	2	2,000.0
2001	CCWD	2	FWC	2	14,000.0
2001	MARYGOLD	3	FWC	2	1,200.0
2001	SAWCO	1	FWC	2	3,000.0
2001	CSI	2	RELIANT	2	1,300.0
2001	WSBCWD	2	CCWD	2	500.0
2002	POMONA	1	ONTARIO	2	2,500.0
2002	SAWCO	1	FWC	2	1,500.0
2002	UPLAND	1	ONTARIO	2	5,000.0
2002	SAWCO	1	ONTARIO	2	2,500.0
2002	POMONA	1	FWC	2	2,000.0
2002	CCWD	2	FWC	2	10,000.0
2002	NICHOLSON TR	2	FWC	2	4.0
2002	FUWC	2	FWC	2	1.0
2002	WSBCWD	2	CCWD	2	500.0
2002	CSI	2	RELIANT	2	2,600.0
2002	JCSD	3	ONTARIO	2	2,500.0
2002	MARYGOLD	3	FWC	2	1,200.0

* Not exhaustive - transfers involving only storage may not be included
Does not include MWD related transfers

Appendix C

Water Transfers* by Year By Zone -- Zone 3					
Production Year Ending	From Entity	From Mgmt Zone	To Entity	To Mgmt Zone	Quantity
1990	SARWC	3	JCSD	3	1,300.0
1991	SARWC	3	JCSD	3	1,800.0
1992	SARWC	3	JCSD	3	1,600.0
1993	SARWCO	3	JCSD	3	1,600.0
1994	POMONA	1	JCSD	3	5,592.1
1994	POMONA	1	NORCO	3	3,223.8
1994	WSBCWD	2	JCSD	3	1,094.4
1994	SARWC	3	JCSD	3	1,600.0
1995	MVIC	1	JCSD	3	500.0
1995	POMONA	1	NORCO	3	1,200.0
1995	CCWD	2	JCSD	3	7,200.0
1995	WSBCWD	2	JCSD	3	1,000.0
1995	ONTARIO	2	JCSD - CO-OI	3	996.8
1995	SARWCO	3	JCSD	3	1,600.0
1996	SAWCO	1	JCSD	3	6,000.0
1996	UPLAND	1	JCSD	3	2,500.0
1996	WSBCWD	2	JCSD	3	1,000.0
1996	SARWCO	3	JCSD	3	1,800.0
1997	SARWCO	3	JCSD	3	600.0
1998	POMONA	1	JCSD	3	2,000.0
1998	SAWCO	1	JCSD	3	325.0
1998	CCWD	2	JCSD	3	1,575.0
1998	SARWCO	3	JCSD	3	1,500.0
1999	SAWCO	1	JCSD	3	325.0
1999	CCWD	2	JCSD	3	3,000.0
1999	SARWCO	3	JCSD	3	1,200.0
2000	SAWCO	1	JCSD	3	650.0
2000	CCWD	2	JCSD	3	5,000.0
2000	SARWCO	3	JCSD	3	1,500.0
2001	SAWCO	1	JCSD	3	650.0
2001	SARWCO	3	JCSD	3	2,000.0
2002	SAWCO	1	JCSD	3	650.0
2002	SARWCO	3	JCSD	3	2,000.0

* Not exhaustive - transfers involving only storage may not be included
Does not include MWD related transfers

CHINO BASIN WATERMASTER

September 25, 2003

10:00 a.m. – Advisory Committee Meeting
1:00 p.m. – Watermaster Board Meeting

III. REPORTS/UPDATES

C. INLAND EMPIRE UTILITIES AGENCY

Capital Projects Summary

Active Projects - Phase I

- RP-1/RP-4 Pump Station (Budget $7,748,000)

  The pump station will deliver recycled water from RP-1 to RP-4 to meet the anticipated demand in the RP-4 service area. The project also included a pump station at RP-4 to pressurize the distribution system. The construction contract was awarded in March. Construction will be complete by March 2004.

- RP-1 Chlorination Tank (Budget $4,817,000)

  This chlorination tank will increase the use of the TP-1 Outfall line as a transmission main to deliver recycled water to the farmers and dairies along the pipeline rather than using it as a contact chamber to meet the Title 22 requirement. The construction contract was awarded in March. Construction will be complete by March 2004.

- Pine Avenue Intertie (Phase I: Budget—Phase I & II $1,066,000)

  The Pine Avenue Intertie will connect the RP-2/CCWRF recycled water system with the RP-1 outfall thereby connecting all IEUA facilities. The Phase I construction contract was awarded in February. Phase II is under construction and will be complete by November 2003.

- Wineville Pipeline (Budget $2,307,200)

  The Wineville Pipeline will convey recycled water from the RP-4 outfall to Inland Paperboard and other customers in Ontario. The construction contract was awarded in March. Construction of the project is expected to take 8 months.

- Reliant Pipeline (Budget $1,115,476)

  The Reliant Pipeline will deliver recycled water to the Reliant Energy Plant from RP-4 and will serve future demands to the North along Etiwanda Ave. The construction is completed and Reliant started to use recycled water in August 2003.

- Philadelphia Pipeline (Budget $3,935,400)

  The Philadelphia Pipeline will serve recharge water to the Ely Basins and irrigation water to Ontario's soccer complex and to other customers. Design of the project is completed. Construction was scheduled for completion by November 2003. However, because of delay in constructing the planned soccer field which was needed for crossing the existing golf course, the construction of the pipeline may be delayed.

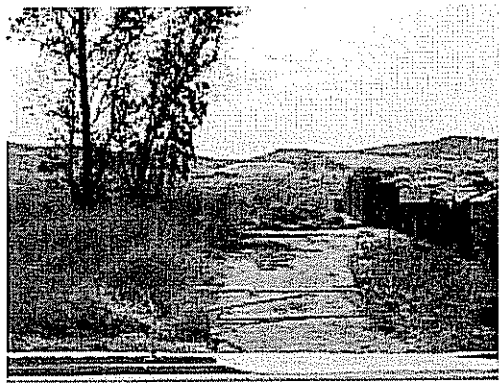
- Whittram Pipeline (Budget $3,620,000)

  The Whittram Pipeline will serve recharge water to the Banana and Hickory Basins. Project design is at 100% complete, construction is scheduled for completion by Spring 2004.

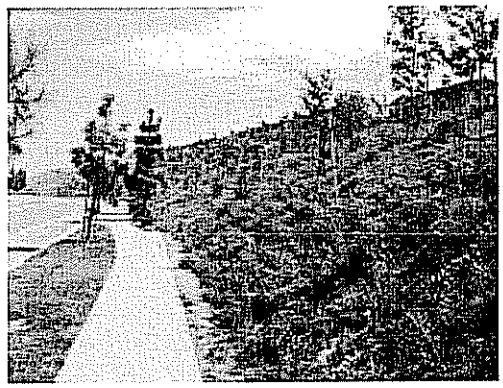
- RP-4 West Branch (Budget $9,849,000)

  Design for the RP-4 West Branch is in process and will be completed in early 2004. The pipeline will serve the Turner Recharge Basins and Empire Lakes Golf Course as well as other customers in Ontario and CCWD. The project will be complete by December 2004.

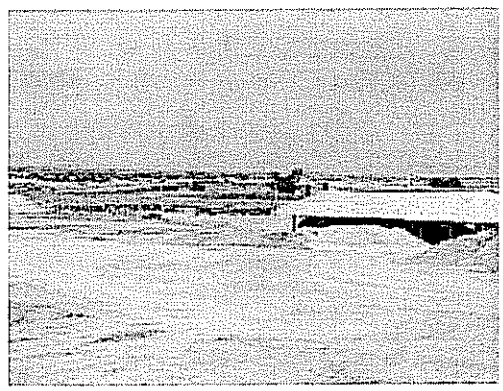
Total Budget—Active Projects—$34,458,076



New Recycled Water Reservoir in Chino Hills

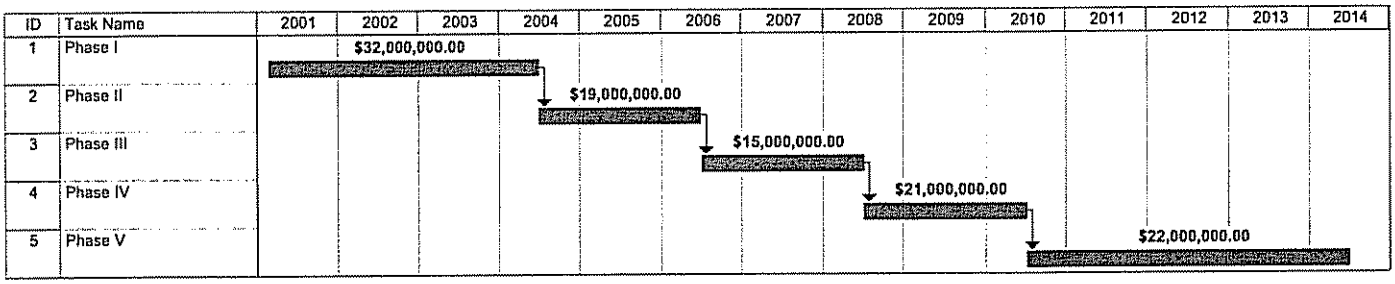


Artesian HOA

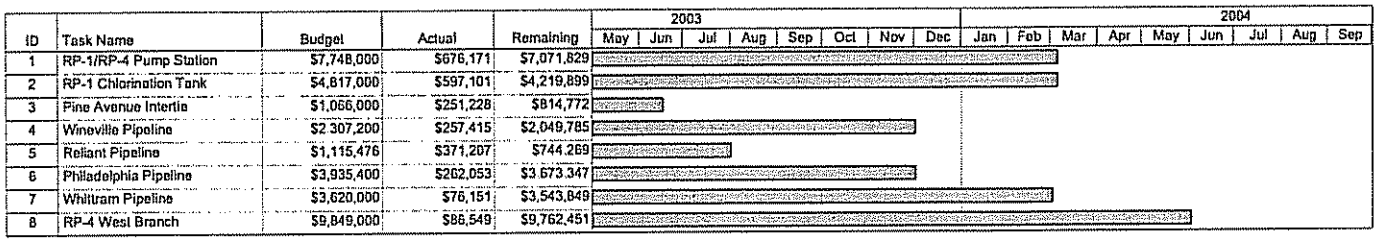


Higgins Brick

Total Implementation Plan



Phase I Implementation Plan



ID	Task Name	Budget	Actual	Remaining
1	RP-1/RP-4 Pump Station	$7,748,000	$676,171	$7,071,829
2	RP-1 Chlorination Tank	$4,817,000	$597,101	$4,219,899
3	Pine Avenue Intertie	$1,066,000	$251,228	$814,772
4	Wineville Pipeline	$2,307,200	$257,415	$2,049,785
5	Reliant Pipeline	$1,115,476	$371,207	$744,269
6	Philadelphia Pipeline	$3,935,400	$262,053	$3,673,347
7	Whittram Pipeline	$3,620,000	$76,151	$3,543,849
8	RP-4 West Branch	$9,849,000	$86,549	$9,762,451

Financing Plan

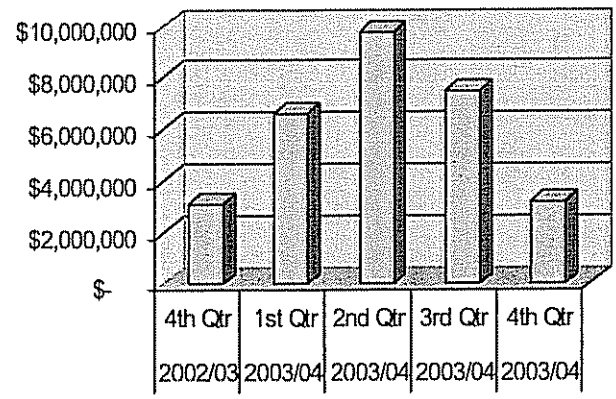
Program Financing Plan

■ Regional Capital Fund	25-30%
■ SWRCB Grants	25%
■ Federal Grants	25%
■ SWRCB Loans	20-35%
■ MWD LPP (Loan Repayment)	$2 Million Annually

Funding Phase I

■ Regional Capital Fund	$10,000,000
■ SWRCB Recycling Grant	$5,000,000
■ SWRCB Recycling Loan	$17,800,000
■ Application Submitted	3/02
■ Facility Plan Approval	1/03
■ Plans & Specification Approval	1/03
■ Approval to Award	3/03
■ SRF Loan Commitment	3/03
■ Grant Approval/Commitment	4/03
■ Grant Contract	5/03

Regional Recycled Water Phase I— Projected Cash Flow



ACTIVITY SUMMARY

New Customers in 2002

- Durrington Farms

  Started using recycled water on August 2002. On September 2002, they reached their peak, 263.5 AF in one month.
- Yoshimura Racing LLC

  Started using recycled water on July 2002 for their landscaped area. The annual estimated usage is about 10 AFY.

New Customers in 2003

- CW Farm (former Arthur Farms)

  Started to use recycled water in March.
- Big League Dreams

  Started to use recycled water in March.
- Fairfield Ranch Neighborhood Park

  Started to use recycled water in March.
- Higgins Brick

  Started to use recycled water in July
- Engelsma Dairy

  Started to use recycled water in August
- DBRS Medical System

  Started to use recycled water in August
- Central Chino Business Park

  Started to use recycled water in August
- Artesian HOA

  Started to use recycled water in August
- Reliant Energy

  Started to use recycled water in August
- Fairfield Ranch Business Park Phase I

  Received an approval for the engineer's report from DHS. Needs to complete the cross-connection test prior to using recycled water.
- Fairfield Ranch Business Park Phase II

  Submitted an engineer's report to DHS in March.
- New Chino Hills High School

  The City of Chino Hills is in the process of writing a letter to the school board for the final approval of use of recycled water on the school property.
- Inland Paper Board

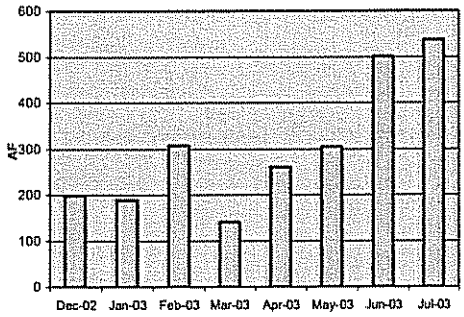
  Wineville Ave. Pipeline is expected to be completed by December 2003. Upon its completion Inland Paper Board will start using recycled water.
- Kaiser Hospital

  In the process of preparing the engineer's report. Expected to use recycled water in December 2003.

Potential Customers in 2004

- City of Chino
  OLS Energy, Paradise Textile, and Mission Linen
- City of Chino Hills
  Oak Crest Golf Course, and new elementary school

Recycled Water Sales



Delivery Period	FY 2002-03	FY 2003-04
July	502	537
Year to Date	2,146	2,248
FY Total	502	537
Budget		6,950

Operation & Planning

- Beginning from the fiscal year 2003/04, the original Carbon Canyon Reclamation Project Development and Utilization of Recycled Water agreement between the Metropolitan Water District of Southern California, and the Agency has been changed to include all beneficial recycled water distribution within the Agency's boundary excluding the first 3,500 acre-feet. However, this does not include beneficial use for groundwater recharge and in-plant usage.
- A shutdown is schedule on Wednesday, August 27, 2003 starting at 7:00 AM on TP-1 outfall line. This is to accommodate the replacement of the faulty flow meter at Pine Ave. It is estimated that the system will be down for approximately 8 hours or less.
- The City of Chino Hills has completed the construction of 3 million gallon recycled water reservoir on top of Pine Avenue. The reservoir will be filled during daytime for use at night.

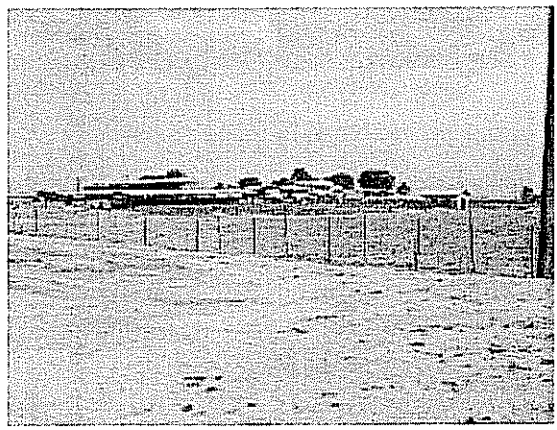
Customer Development

- Focused Customer Marketing

  Large customers with annual usage over 100 AFY will be targeted. IEUA staff is working closely with the retail agencies to develop an updated customer list and to coordinate marketing effort. The recycled water marketing database was distributed to the Cities of Chino, Chino Hills, Ontario, and Cucamonga Water District to aid with the customer and recycled water use tracking.

- Targeted Major Customers in 2004

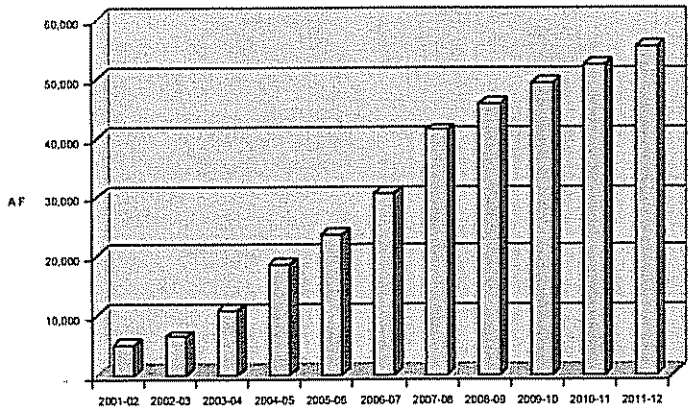
1.	Empire Lakes Golf Course (May 2004)	800 AFY
2.	Additional Farms on Outfall (Feb. 2004)	1,200 AFY
3.	Ontario Center Owners Association	260 AFY
4.	California Co-generation	250 AFY
5.	Oak Crest Golf Course	500 AFY



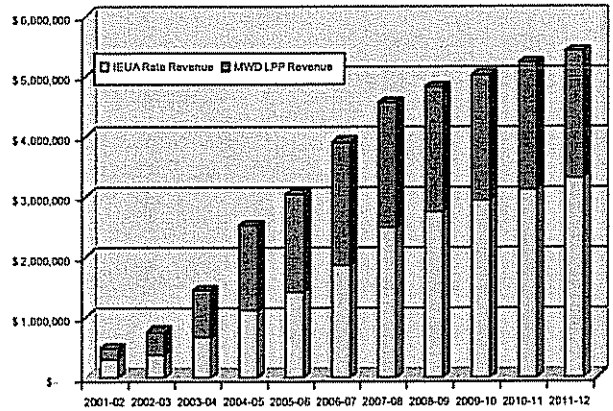
Engelsma Dairy

Projected Sales & Revenue

Projected Recycled Water Sales



Projected Recycled Water Revenue



Regulatory/Permits

CEQA—PEIR Certified	06/02
CBWM Article X—Approved	05/02
SARWQCB Basin Plan Amd.	08/03
DHS Title 22 Report (Recharge)	07/03
SARWQCB Discharge Permit	07/03

CHINO BASIN WATERMASTER
ADVISORY COMMITTEE
September 25, 2003

AGENDA

INTER-AGENCY WATER MANAGERS' REPORT

Inland Empire Utilities Agency
6075 Kimball Ave.
Chino, CA 91710

30 – 40 Minutes

PROPOSED ITEMS:

1. *Updates*
   - QSA Update – Rich Atwater
   - Imported Water Report – David Hill (handout)
   - MWD Dry Year Yield Program – John Rossi (oral)
   - Recycled Water Program – Tom Love (attached)
   - Chino Basin Facilities Improvement Project (Recharge) – Tom Love (attached)
   - IEUA August Water Resources Report – David Hill (handout)
   - State/Federal Legislation – Martha Davis (attached)
   - Public Relations – Sondra Elrod (oral)

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IEUA

Inland Empire

AUGUST 2003 CHINO BASIN FACILITIES IMPROVEMENT PROJECT SUMMARY

Project Purpose:

The purpose of the project is to provide storm water and imported water recharge facilities improvements required to increase groundwater recharge in the Chino Basin and to implement the Recharge Master Plan and Optimum Basin Management Program (OBMP)

Project Participant:

- Inland Empire Utilities Agency (Lead, Contracting Agency)
- Chino Basin Watermaster
- San Bernardino County Flood Control District
- Chino Basin Water Conservation District
- SAWPA

Design and Construction Management Team:

- Tettermer & Associates (Design Consultant)
- Black & Veatch (Program & Construction Management)
- URS (Geotechnical Consultant)

BID PACKAGE NO. 3

Bid package No. 3 consists of the Jurupa Regional force main from Mulberry and Jurupa Avenue to the RP-3 site.

Work Accomplished:
Rasic is submitting all documentation and then IEUA will give the NOP. Start date was August 6, 2003, date of Board contract award and runs 300 calendar days.

Time Remaining on contract:
95% [August 6, 2003 through August 20, 2003 (300 - 14 = 286 calendar days)].

BID PACKAGE NO. 2

Bid Package No. 2 includes three basins - Declez Basin, Ely Basins 1, 2, & 3, and 8th Street Basins; four rubber dam structures - College Height Basin (San Antonio Channel), Lower Day Basin (Day Creek Channel), RP-3 Basins (Declez Channel), Turner Basins No. 1 (Cucamonga Channel); three (3) drop inlet structures - Brooks Basin (San Antonio Channel), Turner Basins No. 1, 2, 3, & 4 (Deer Creek Channel), and Victoria Basin (Etiwanda Channel)

Work Accomplished:
Banshee has submitted all documentation and IEUA has given the NOP August 7, 2003. Start date was July 16, 2003, date of Board contract award and runs 238 calendar days.

Time Remaining on contract:
85% [July 16, 2003 through August 20, 2003 (238 - 35 = 203 calendar days)].

BID PACKAGE NO. 1

Bid Package No. 1: Bid Package No. 1 included the following basins:

1. Banana Basin - Jurisdictional
2. College Height Basins* - Non Jurisdictional
3. Lower Day Basin* - Non Jurisdictional
4. RP-3 Basins* - Non Jurisdictional
5. Turner Basin No. 1* - Jurisdictional
6. Turner Basins No. 2, 3, & 4* - Non Jurisdictional

*Indicated basins on which construction has begun

Work Accomplished:

RP-3 - Excavation 95% complete = 474,866 cu yds; concrete lining in RP-3 Trap Channel - 20% complete.

(Continued on page 2)

(Continued from page 1)

College Heights Basins: Excavation 85% complete = 700,000 cu yds; Turner 2, 3, & 4: Excavation 95% complete = 350,000 cu yds; buried 55 gallon drums & buried asphalt disposed in landfill; large boulders used as rip rap.

Lower Day Basin:

Excavation is 20% complete;

Time Remaining on contract:

38% [March 25, 2003 through August 20, 2003 (238 - 148 = 90 calendar days)].

Summary of Approved Change Orders and Pending Change Orders:

CO No. 1:

Alternate Bid Items - $519,090.00 - Approved on March 19, 2003

CO No. 2:

Clarifying Calendar Days and Work Days – CO No. 2 - Approved on April 28, 2003

CO No. 3:

Demolish & disposal of concrete and pipe at RP-3 Site, $6,498.00 - Approved May 15, 2003

CO No. 4:

Construction contour bottom – Turner Basins 2, 3, and 4 pending approval, $102,445.00, August 20, 2003

CO No. 5:

Purchase & install 10 Auma Sluice Gate Electric Actuators for automation for SCADA system $61,338.00 – pending approval August 13, 2003.

Summary of Potential Change Orders (Engineers Estimates):

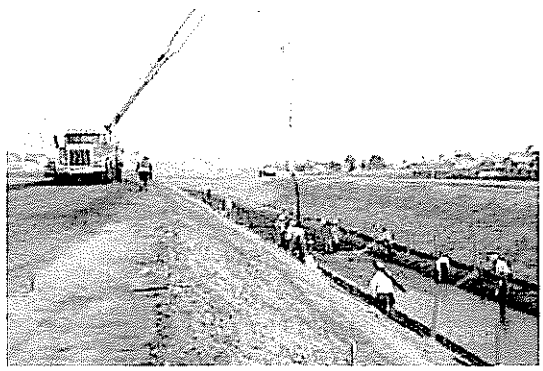
P.C.O (Potential Change Order): Excavate and haul off grit and bar screenings from RP-3 site pending approved September 3, 2003

P.C.O. RP-3 Concrete Quantities and Pipe Quantities: Increase trap channel concrete & 36" RCP drainage pipe increase estimate = $742,000

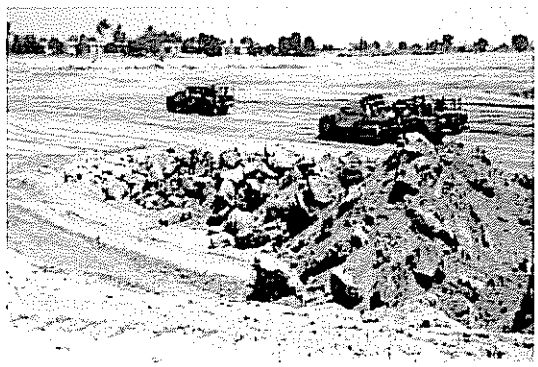
Bid Package No. 4

Bid package No.4 consists of the Jurupa Pump Station and 300 feet of CML & C steel pipe. The date for announcement for bid is September 10, 2003, plans & specification available September 15, 2003, tour of the project site is September 22, 2003, bid opening is October 7, 2003, award of contract is planned for October 15, 2003. SBCFCD will construct a section of concrete channel with a drop inlet and pipeline to deliver water to the Jurupa Basin.

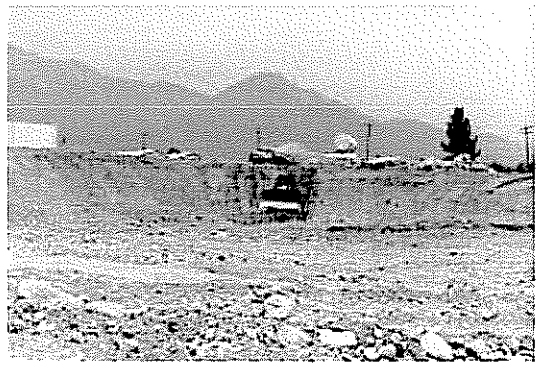
(Engineers Est. $4,500,000):



RP-3 Basins



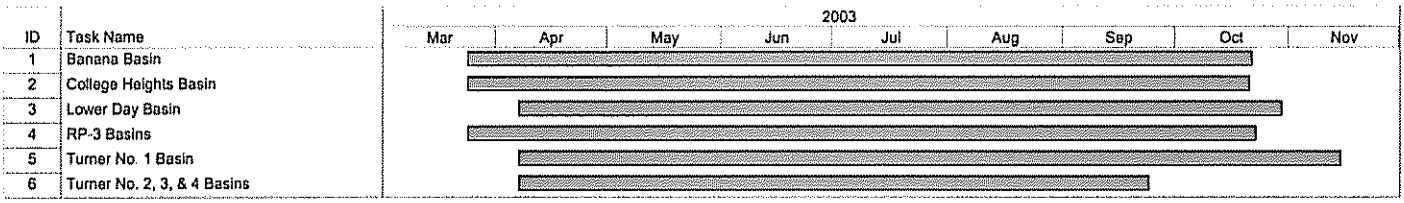
Turner Basins



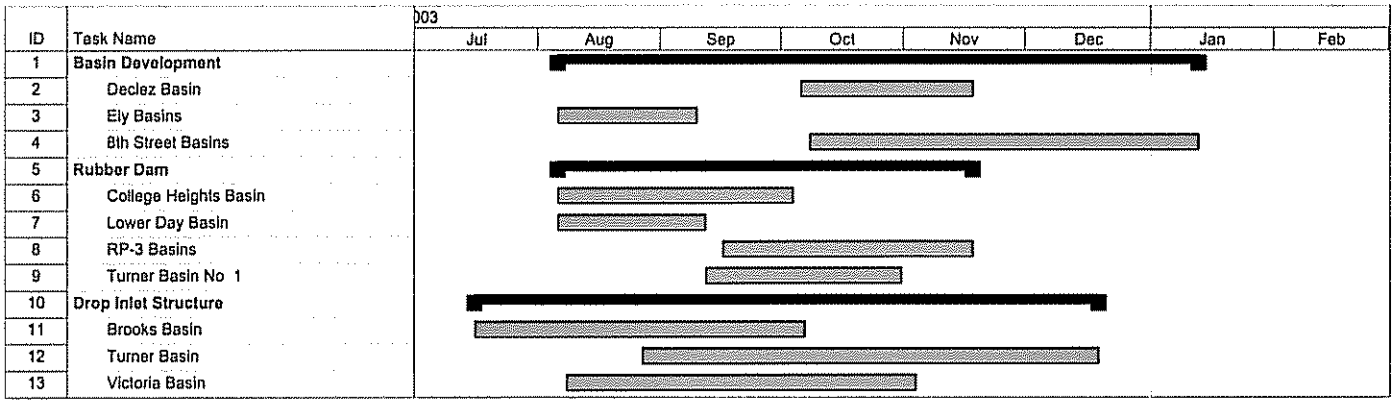
College Heights Basin

Lower Day Basin

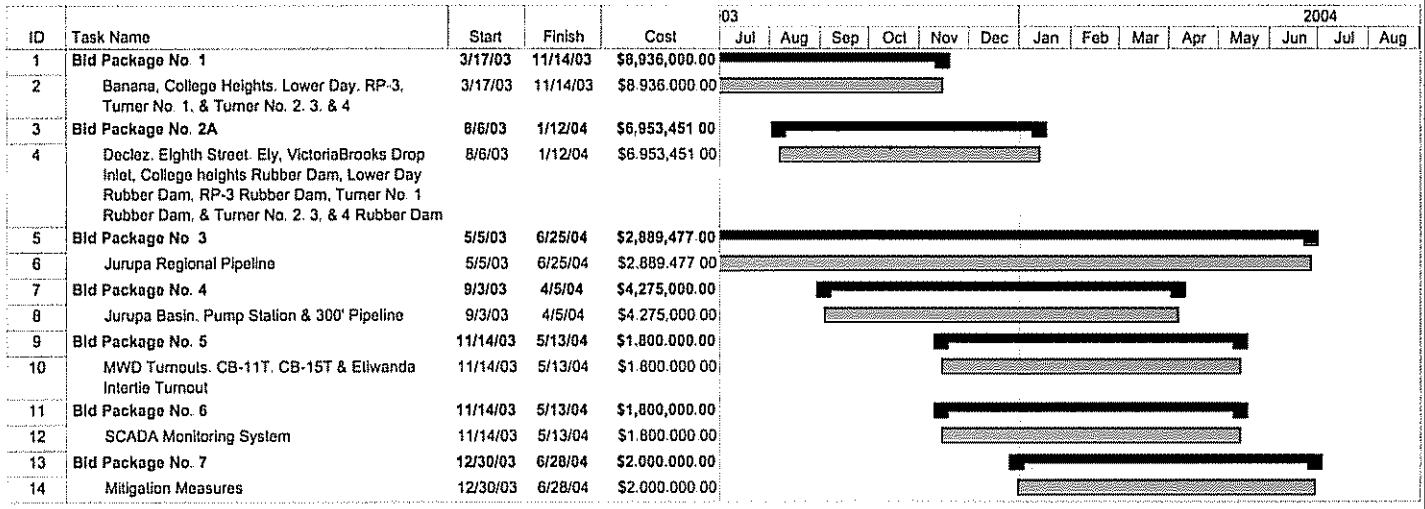
Bid Package No. 1 Construction Schedule



Bid Package No. 2 Construction Schedule



Groundwater Recharge Facilities Improvement Construction Schedule



ID	Task Name	Start	Finish	Cost
1	Bid Package No. 1	3/17/03	11/14/03	$8,936,000.00
2	Banana, College Heights, Lower Day, RP-3, Turner No. 1, & Turner No. 2, 3, & 4	3/17/03	11/14/03	$8,936,000.00
3	Bid Package No. 2A	8/6/03	1/12/04	$6,953,451.00
4	Declez, Eighth Street, Ely, VictoriaBrooks Drop Inlet, College heights Rubber Dam, Lower Day Rubber Dam, RP-3 Rubber Dam, Turner No. 1 Rubber Dam, & Turner No. 2, 3, & 4 Rubber Dam	8/6/03	1/12/04	$6,953,451.00
5	Bid Package No. 3	5/5/03	6/25/04	$2,889,477.00
6	Jurupa Regional Pipeline	5/5/03	6/25/04	$2,889,477.00
7	Bid Package No. 4	9/3/03	4/5/04	$4,275,000.00
8	Jurupa Basin, Pump Station & 300' Pipeline	9/3/03	4/5/04	$4,275,000.00
9	Bid Package No. 5	11/14/03	5/13/04	$1,800,000.00
10	MWD Turnouts, CB-11T, CB-15T & Etiwanda Intertie Turnout	11/14/03	5/13/04	$1,800,000.00
11	Bid Package No. 6	11/14/03	5/13/04	$1,800,000.00
12	SCADA Monitoring System	11/14/03	5/13/04	$1,800,000.00
13	Bid Package No. 7	12/30/03	6/28/04	$2,000,000.00
14	Mitigation Measures	12/30/03	6/28/04	$2,000,000.00

Revenue/Expenditure Summary

Expenditures	To Date	Budget
Land/Row	$4,300	$500,000
Pre-Design	$667,000	$718,000
CEQA		
Design/Const. Mgt.	$1,315,000	$4,150,000
Admin/Legal	$211,000	$150,000
Construction	$1,100	$32,142,000
Monitoring Plan/Wells	$83,000	$2,000,000

Project Financing

Capital Funding: $44 to $47 Million

- $19 Million (SAWPA Prop. 13 Grant)
- $20 Million (local revenue bond debt)
- $3 Million (IEUA Recycled Water Recharge Projects)
- Cooperating Agencies in-kind Services

Inland Empire
UTILITIES AGENCY

Date:	September 17. 2003
To:	Honorable Board of Directors
Through:	Public and Legislative Affairs Committee *(9/10/03)*
From:	Richard W. Atwater Chief Executive Officer/General Manager
Submitted by:	Martha Davis Executive Manager – Policy Development
Subject:	August Legislative Report from Agricultural Resources

RECOMMENDATION

This is an informational item regarding the August legislative report from Agricultural Resources

BACKGROUND

Dave Weiman provides a monthly report on his federal activities on behalf of IEUA.

PRIOR BOARD ACTION

None.

IMPACT ON BUDGET

None.

RWA:MD:jbs
G:\board-rec\2003\03304 August Leg Report from Ag Resources

Agricultural Resources
635 Maryland Avenue, N.E.
Washington, D.C. 20002-5811
(202) 546-5115
(202) 546-4472-fax
agresources@erols.com

August 31, 2003

Legislative Report

TO: **Richard W. Atwater**
General Manager, Inland Empire Utility Agency

FR: **David M. Weiman**
Agricultural Resources
LEGISLATIVE REPRESENTATIVE, IEUA

SU: **Legislative Report, August 2003**

Highlights:

- **Congresssional Recess**
- **Calvert to Hold Legislative Recycling Hearing on IEUA Bill**
- **IEUA/MPC Meeting at USDA on Funding Request**
- **DOI's Initiative, Water 2025 – Westwide Hearings Completed**
- **Perchlorate – Conflicting Reports from Conference on DOD Exemption Request**
- **IEUA Working Partners**
- **Other Issues**

Congressional Recess. Congress was out of session during all of August. It returns immediately after Labor Day.

Calvert Subcommittee Announces Legislative Hearings on Santa Ana River Water Recycling Hearings. The Calvert Subcommittee just announced legislative hearings on H.R. 142, the bill authorizing the IEUA water recycling program, the desalters and the brine line. In addition, and at the same hearing, testimony will be received on H.R. 1156, a bill to adjust the cost ceiling for OCWD's water recycling project and establish new authority for natural

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Richard Atwater

From: Ivey,Gilbert F [givey@mwdh2o.com]
Sent: Friday, September 05, 2003 2:55 PM
To: Aldrete,Isabel; Anthony R. Fellow (E-mail); Bermudez,Carmen; Bonny L. Herman (E-mail); Carol W. Kwan (E-mail); Chin,Dawn; David D. De Jesus (E-mail); Deborah Dentler (E-mail); Ergun Bakall (E-mail); Gastelum,Ronald R; George I. Loveland (E-mail 2); Glen D. Peterson (E-mail); Glenn A. Brown (E-mail); Hugo C. Mejia (E-mail); Ivey,Gilbert F; Jackson,Beverly; James M. Rez (E-mail); James Turner (E-mail); John M. Mylne III (E-mail); John T. Morris (E-mail); Jorge G. Castro (E-mail); Judy Abdo (E-mail); Kelly,Brenda Sue; Kenneth M. Orduna (E-mail); Larry D. Dick (E-mail); Randy A. Record (E-mail 2); Randy A. Record (E-mail); Robert Apodaca (E-mail); S. Dale Stanton (E-mail); Sergio Medina; Smith,David Ned; Thomas,Brian G; Timothy F Brick (E-mail); Wakiro,Rosalind; Walters,Geraldine J; Wesley M. Bannister (E-mail); Wheeler,Margie; William G. Luddy (E-mail); Wyatt L. Troxel (E-mail)
Cc: Anthony C. Zampiello (E-mail); Anthony Pack (E-mail); Benjamin F. Lewis Jr. (E-mail); Darryl Miller (E-mail); Donald C. Calkins (E-mail); Donald L. Harriger (E-mail); Donald R. Kendall (E-mail 2); Donald R. Kendall (E-mail); Ed Otsuka (E-mail); Edelen,Nona E; Gilbert Borboa (E-mail); James E. Colbaugh (E-mail); John M. Carlson (E-mail); Kambiz Shoghi (E-mail); Kevin Wattier; Maureen Stapleton (E-mail); Michael Drake (E-mail); Nazir Qureshi (E-mail 2); Nazir Qureshi (E-mail); Phyllis Currie (E-mail); Richard Atwater; Richard W. Hansen (E-mail); Ronald E. Davis (E-mail 2); Ronald E. Davis (E-mail); Stanley E. Sprague (E-mail); Tait,Joe,Joseph E; Thom Coughran (E-mail); Timothy C. Jochem (E-mail); Troncoso (E-mail 2); Troncoso (E-mail); Wiggs (E-mail 2); Wiggs (E-mail)
Subject: QSA Negotiations Update

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Date: September 5, 2003
To: Board of Directors and Member Agency Managers
From: General Counsel Jeffrey Kightlinger
Subject: QSA Negotiations

This memorandum and attachments provide a status report on the QSA negotiations and the accompanying state legislation that was amended today. There will be a detailed briefing at the Water Planning, Quality and Resources Committee on Monday, September 8, in open session.

An agreement was struck among the negotiators on a framework for a revised QSA package. A fact sheet describing the revised QSA package has been attached to this memorandum. Based on that framework, legislation to implement the package has been amended in the form of three separate bills: SB 317 (Kuehl); SB 277 (Ducheny); and SB 654 (Machado). Copies of the legislation were sent out earlier and are attached again to this memorandum. A hearing is scheduled for this afternoon, after the Assembly adjourns for the day, at the Assembly Water, Parks and Wildlife Committee. Board Chairman Phil Pace will testify for Metropolitan, and a copy of his testimony is also attached.

In essence, the three bills would do the following:

- SB 317 (Kuehl)

- Provides relief from California's fully protected species laws;
- IID is to make up to 800,000 AF of additional transfer water available for sale to the State at $175/AF which the State can then sell to Metropolitan at $250/AF;
- The proceeds from the IID/State/MWD transaction will be deposited into the Salton Sea Restoration Fund (SSRF);
- Metropolitan to pay $20/AF for special surplus water minus any shortage payback to Arizona into the SSRF in exchange for a credit against any MWD contributions to the Lower Colorado River Multi-Species Conservation Plan; and
- CVWD, IID and SDCWA to contribute $30 million to the SSRF.

- **SB 277 (Ducheny)**
  - Establishes the SSRF and declares intent of legislature to implement a Salton Sea restoration;
  - Requires Secretary of Food and Agriculture to work with IID on minimization of third party impacts associated with IID fallowing.
- **SB 654 (Machado)**
  - Extends time for the use of canal lining funds from 2006 to 2008 due to delays in design and construction of canal lining projects;
  - Appropriates funds for Salton Sea restoration studies
  - Outlines the framework of the QSA.

If you have any questions, please feel free to call me at 213-217-6115.

Jeffrey Kightlinger

JK:sk
Enclosures

Cc: Gilbert Ivey
Ron Gastelum
Dennis Underwood

QSA Negotiations Update.pdf (8...

FACT SHEET

PROPOSED QSA AND RELATED ACTIVITIES

QSA Water Transfers

- Transfer beneficiaries pay for their own costs and environmental mitigation

State Funds

- Proposition 50 funds reserved for local projects
- Canal Lining Projects remain funded by the State

Relief from Fully Protected Species Laws

- Coverage for the quantity and quality of water flowing in the Colorado River, the habitat sustained by those flows, and the collection of that water for delivery to authorized users
- Coverage for Salton Sea; Imperial Valley agricultural lands, Coachella and All American Canals, Imperial and Coachella Valley drains, Coachella Valley storm water drain, New and Alamo Rivers, and the habitat sustained by flows in those structures or water features

Special Surplus Water Fee

- MWD pays $20/AF on all special surplus water taken, if any, during the period of Interim Surplus Guidelines into a Salton Sea Restoration Fund to be used for ecosystem restoration associated with the Colorado River or Salton Sea.
- MWD gets credit against future mitigation obligations for any such funds used to conserve or mitigate species identified in the Lower Colorado River Multi-Species Conservation Program

Canal Lining Projects

- Coachella Canal and All American Canal lining conserved water to MWD/SDCWA and San Luis Rey Indian Water Right Settlement parties
- State to fund canal lining projects

Exchange Agreement

- SDCWA and MWD enter into exchange for SDCWA to receive Colorado River without Section 5 contract. No dedicated capacity required.

Proposed PVID Program Water

- CVWD and IID agree to not interfere with PVID/MWD program water for the term of the PVID agreement

Salton Sea Restoration

- Net proceeds from MWD's purchase of up to 1.6 MAF at $250/AF of IID conserved water sold to the State will be contributed to the Salton Sea restoration effort; Department of Water Resources is responsible for any environmental impacts related to Salton Sea salinity that are related to the use or transfer of such water
- As part of IID/SDCWA/CVWD water transfer mitigation, these agencies will contribute $30 million to Salton Sea restoration
- No further funding obligations or in-kind contributions for restoration of the Salton Sea will be required of CVWD, IID, MWD, SDCWA, including federal cost-sharing or other federal requirements
- Any future actions to restore the Salton Sea will be the sole responsibility of the State of California

Other MWD Supplies

- Access to special surplus water under the Interim Surplus Guidelines restored
- MWD's discretion to take special surplus water, if available, under the Interim Surplus Guidelines
- No shortage sharing/payback obligation to Arizona if MWD does not use special surplus water
- Additional IID conserved water to MWD, up to 1.6 MAF, with restoration of the Salton Sea

Peace Treaties

- SDCWA and MWD agree not to lobby or support any legislative change to wheeling laws for term of agreement
- Parties agree not to challenge each other regarding Colorado River water usage and transfers for the duration of the QSA
- QSA provides assurances to other Basin states that California can live within its basic annual apportionment thereby enhancing interstate cooperation on other Colorado River issues

MWD/SDCWA Arrangements (SDCWA to choose approach by October 1, 2003)

Option 1

- CVWD, IID, and SDCWA to pay for full mitigation of their transfers
- SDCWA pays 1988 Exchange Agreement discount wheeling rate for 35 years or for 5.1 MAF volume of water, whichever occurs first, and pays MWD full wheeling rate thereafter
- 390,000 AF of PVID/MWD program water made available to SDCWA at full cost and transported at the 1988 Exchange Agreement discount rate
- IID/SDCWA and PVID/MWD program water would have local supply status for MWD shortage issues

Option 2

- CVWD, IID, and SDCWA to pay for full mitigation of their transfers
- SDCWA receives no PVID/MWD program water
- SDCWA receives canal lining conserved water (available to MWD under Option 1)
- SDCWA pays full wheeling rate for IID/SDCWA transfer water and canal lining conserved water
- IID/SDCWA and canal lining conserved water would have local supply status for MWD shortage issues

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Statement of Board Chairman Phillip J. Pace
for the
Metropolitan Water District of Southern California
Regarding the
Quantification Settlement Agreement
Before the
Assembly Water, Parks and Wildlife Committee

September 5, 2003

Thank you Mr. Chairman and Members of the Committee for the opportunity to come before you today and testify on the status of the Quantification Settlement Agreement (QSA). My name is Phil Pace, and I am the Chairman of the Board for The Metropolitan Water District of Southern California. I am joined here today by our General Counsel Jeff Kightlinger who can provide you with specific details of where we stand today on the QSA.

For over seven years, Metropolitan has worked with the Imperial Irrigation District, the Coachella Valley Water District and the San Diego County Water Authority to put together a peaceful resolution of our differences regarding use and transfer of Colorado River water and to do so within the limits of California's Colorado River water basic annual apportionment of 4.4 million acre feet. This has been a long and difficult task that has had its share of ups and downs over the years. Today we are as close to a resolution of these issues as we have ever been

The current QSA proposal that is before the four water agencies is not a perfect deal by any means. No one agency will be able to go home and say they got everything they wanted. It does, however, represent a sound compromise that helps advance California water policy framework in a meaningful manner that should be acceptable to the boards of all four agencies.

From Metropolitan's perspective, the final QSA package reflects a number of important policy provisions that have been important to Metropolitan from the outset of the negotiations. These are:

- Beneficiaries Pay – Each party in the QSA will pay their own costs of implementing their components of the QSA, including the cost of environmental mitigation.
- Limited Public Funding – The final QSA package does not call for the use of Proposition 50 funds or other bond funds to pay for market-based water transfers. This will help ensure a balanced water market based on sound policy and economic and environmental values that are fiscally responsible.
- Long-Term Environmental Solutions – Metropolitan has long been concerned that a QSA that ignored the Salton Sea altogether would likely founder down the line when it came time to address the environmental problems at the Sea. The new QSA proposal paves the way for restoration of the Salton Sea at a reasonable cost sharing between the water agencies and the state and for ecosystem restoration on the Lower Colorado River.

With these issues resolved, we are confident that a reasonable balance has been struck by all parties and that the QSA can go forward. There is still a significant amount of work to be done to revise all the various related agreements, contracts and environmental documents so that all our boards can act. However, with everyone working together we expect to be in position to act on the QSA in early October.

Thank you for this opportunity to speak with you today.

Inland Empire
UTILITIES AGENCY

Date:	September 17, 2003
To:	Honorable Board of Directors
Through:	Public and Legislative Affairs Committee (*9/10/03*)
From:	Richard W. Atwater Chief Executive Officer/General Manager
Submitted by:	Martha Davis Executive Manager – Policy Development
Subject:	August Legislative Report from Dolphin Group

RECOMMENDATION

This is an informational item regarding the August legislative report from Dolphin Group.

BACKGROUND

Michael Boccodoro provides a monthly report on his activities on behalf of the Chino Basin/Optimum Basin Management Program Coalition

PRIOR BOARD ACTION

None.

IMPACT ON BUDGET

None.

RWA:MD:jbs
G:\board-rec\2003\03306 August Leg Report from Dolphin Group

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Chino Basin / OBMP Coalition

Status Report

August 2003

The Dolphin Group (DGI) and Lang, Hansen, O'Malley, and Miller (LHOM) continue to monitor and pursue a number of efforts and issues on behalf of the Chino Basin Coalition. Following is a brief update on activities:

1) **AB 2228 Implementation Dairy Biogas Digesters** – On August 7, 2003, Southern California Edison filed Advice 1729-E, establishing Interconnection Agreements for Biogas net-metering projects. These "guidelines" for physical connection to the electricity grid are being reviewed by appropriated IEUA staff.

2) **QSA Implementation** – DGI continues to monitor the legislative/administrative discussions regarding adoption of a QSA for Colorado River users. Initial efforts to use $200 million in Proposition 50 funds to subsidize the environmental mitigation associated with the San Diego/IID continue to remain off the table. Over the past several weeks, a number of alternatives have been discussed and ultimately rejected for a host of reasons. As of August 28, 2003, the negotiations were continuing. The looming recall election has appeared to provide a new impetus for San Diego and Imperial negotiators who, appropriately, recognize that a change of administration at this time will not be conducive to an ultimate resolution. No one will claim to be optimistic that a resolution will be achieved, given the extreme "ups and downs" experienced over the previous weeks. We continue to remain vigilant in our efforts to ensure the integrity of Proposition 50 funding.

3) **Proposition 50 Implementation** – The Governor signed AB 1747 on August 13, 2003. The integrity of Proposition 50 programs and development of competitive programs that Chino Basin interests will be well positioned to compete for, remain top priorities. The Dolphin Group has prepared a summary of Proposition 50 implementation, which we can make available to interested parties.

4) **Infrastructure Financing** – Discussions about future water bonds have not progressed and remain stalled. Ongoing concerns about the State's credit rating and ability to finance additional infrastructure at this time of fiscal crisis remains uncertain. The State's credit rating was recently downgraded to BBB by Standard & Poors. S & P's initial

reviews of the recently passed budget have been very negative and the low bond rating is not expected to be revised upward in the near future. Infrastructure Financing will be a special topic on the October 7 recall election ballot in the form of Proposition 53, the California Twenty First Century Infrastructure Investment Fund. Current polling by the Public Policy Institute of California shows voters are responding favorably to Prop 53 despite the state's ongoing budget and fiscal problems. A summary of Proposition 53 is attached for your information.

5) **Budget/ERAF** – Following submittal of the Governor's May Revise, legislative discussions have again focused on resolving the State's fiscal crisis and adopting a '03-'04 spending plan. As expected, proposals to raid local funds, including those of special districts, have begun to surface. Senate Bill 403 (Torlakson) seeks to shift property tax funds (ERAF) from local enterprise districts to state coffers and continues to be held on the Assembly Appropriations Suspense File. DGI continues to coordinate closely with ACWA, CSDA, and other impacted groups to counter all raids on local funds. SB 407 is set to be heard by the Assembly Appropriations Committee on August 29.

6) **Special Districts to be Audited** - The Joint Legislative Audit Committee (JLAC) recently approved of Special Districts. As a result, the Auditor General will be looking at Special District policies and procedures for accumulating and using cash reserves. We will be monitoring the implementation of the audit as it occurs.

Proposition 53

California Twenty-First Century Infrastructure Investment Fund Resolution Chapter 185, Statutes of 2002 (ACA 11, Richman)

A summary compiled by the Dolphin Group

Background

Figure 1 shows the major areas of state-owned infrastructure, which includes highways, universities, parks, office buildings, and prisons In addition, the state provides funds for local infrastructure in the areas of K-12 schools, community colleges, local streets and roads, local parks, wastewater treatment, flood control, and jails

Figure 1

Major State Infrastructure

Program Area	Major State Infrastructure
Water Resources	32 lakes and reservoirs 17 pumping plants 3 pumping-generating plants. 5 hydro-electric power plants. 660 miles of canals and pipelines 1,595 miles of levees and 55 flood control structures in the Central Valley.
Transportation	50,000 lane miles of highways. 9 toll bridges 11 million square feet of Department of Transportation offices and shops 209 Department of Motor Vehicles offices. 138 California Highway Patrol offices.
Higher Education	192 primary and satellite campuses of higher education, including 10,000 buildings containing 138 million square feet of facilities space.
Natural Resources	266 park units containing 1 4 million acres and 3,000 miles of trails 238 forest fire stations and 13 air attack bases 21 agricultural inspection stations.
Criminal Justice	33 prisons and 38 correctional conservation camps 11 youthful offender institutions 12 crime laboratories.
Health Services	4 mental health hospitals comprising over 4 million square feet of facilities and 2,300 acres. 5 developmental centers comprising over 5 million square feet of facilities and over 2,000 acres 2 public health laboratory facilities.
General state office space	8 5 million square feet of state-owned office space 16.6 million square feet of leased office space.

Over the next five years, California has an estimated $54 billion in identified state infrastructure needs.

Funding for State Infrastructure. Traditionally, the state has funded its infrastructure projects in the following ways:

- ***Dedicated Revenues.*** Some programs have dedicated revenues that must be used for specific purposes. Transportation-related infrastructure (highways and mass transportation) is currently the only major state infrastructure program that is funded by dedicated revenue sources (such as state gasoline taxes and federal funds). Over the past five years, the state has spent approximately $2.3 billion annually on transportation-related projects.

- ***Bond Financing.*** Other than transportation, most other state program areas have relied on long-term infrastructure financing through the sale of general obligation bonds and lease-revenue bonds. (The debt service on both types of bonds is typically paid from the state General Fund.) In recent years, the state has issued large amounts of bonds for K-12 schools, higher education, and protection of natural resources. Those capital programs funded through general obligation bonds must wait for a bond authorization to be placed on a ballot and approved by the voters. Those capital programs that use lease-revenue bonds require legislative approval of the bonds in legislation. The state has spent approximately $4.2 billion annually in bond proceeds over the past five years.

- ***Direct General Fund Appropriations.*** Some infrastructure programs use direct appropriations, also called "pay-as-you-go" financing, from the General Fund. However, these appropriations can vary significantly from year-to-year. In the early 1990s there were no General Fund appropriations for infrastructure due to state budget difficulties. Over the past five years, the state has spent approximately $275 million annually using direct General Fund appropriations.

The Initiative

Proposition 53 would increase the amount of General Fund revenue committed to "pay-as-you-go" capital outlay projects for both state and local governments. Figure 2 summarizes the basic provisions of the proposition

Figure 2

Basic Provisions of Proposition 53

Purpose
• Establishes the California Twenty-First Century Infrastructure Investment Fund (Infrastructure Fund) • Commits a percentage of the General Fund for "pay-as-you-go" infrastructure projects.
Scheduled Transfers to the Infrastructure Fund
• Transfers 1 percent of General Fund revenue to the Infrastructure Fund beginning with the 2006-07 fiscal year • Gradually increases the amount of General Fund committed to the Infrastructure Fund • Delays scheduled increases when General Fund revenue growth slows • Accelerates scheduled increases by one year when General Fund revenues increase significantly • Caps annual General Fund transfers to the Infrastructure Fund at 3 percent of General Fund revenues
General Fund Revenue Triggers
• Some trigger mechanisms reduce transfers to the Infrastructure Fund during periods when estimates of General Fund revenue growth decline • Other trigger mechanisms eliminate transfers to the Infrastructure Fund when General Fund revenues decline.
Special Adjustments
• School Funding—Reduces transfer amount when the percentage growth in the Proposition 98 guarantee exceeds the percentage growth in General Fund revenues. • Bond Debt Service—Caps the Infrastructure Fund transfer to the difference between 7.5 percent and the percentage of General Fund revenue devoted to prior-year debt payments for infrastructure-related bonds.

Scheduled Transfers. Beginning with the 2006-07 fiscal year, this measure would transfer 1 percent of General Fund revenue to the newly established California Twenty-First Century Infrastructure Investment Fund (Infrastructure Fund)

The amount of the transfer would increase by 0.3 percent annually under specified conditions until reaching a maximum of 3 percent of General Fund revenues in 2013-14 (see Figure 3). The initial 2006-07 transfer and any incremental increases in subsequent years would only take place if General Fund revenues grew by at least 4 percent (after adjusting for inflation) when compared to the previous year (Thus, assuming an inflation rate of 3 percent, it would take revenue growth of 7 percent to trigger these increases.) Transfer rates would remain the same in those years that the revenue growth target is not met. On the other hand, the scheduled transfers would be accelerated by a year when General Fund revenues increased by 8 percent or more (after adjusting for inflation) when compared to the previous year.

Figure 3

Proposition 53
Scheduled Transfers to the Infrastructure Fund[a]

Fiscal Year	Percentage of General Fund
2006-07	1.0%
2007-08	1.3
2008-09	1.6
2009-10	1.9
2010-11	2.2
2011-12	2.5
2012-13	2.8
2013-14 and thereafter	3.0 (maximum rate)

[a] Transfers would depend on meeting specified conditions (see text).

The measure requires the Legislature to allocate annually the moneys in the Infrastructure Fund for capital outlay purposes—50 percent for state-owned infrastructure and 50 percent for local government infrastructure. The measure requires the Legislature, in subsequent legislation, to set forth the approach and method to be used in the annual allocation of the Infrastructure Fund for local government infrastructure projects. The local funds could go for any capital outlay purpose except for K-12 school and community college projects, which presumably would continue to receive funding from state bond measures.

Revenue Triggers. Proposition 53 contains a variety of adjustments or "triggers" that would reduce or eliminate the transfer to the Infrastructure Fund when General Fund revenue performance is poor or less than estimated.

- ***Year-to-Year Changes.*** When revenues are estimated to decline from the prior year, there would be no General Fund transfer into the Infrastructure Fund. (In addition, the subsequent-year transfer would be reduced by half.)

- ***Revenue Declines Within the Year.*** When estimates of General Fund revenue for a given year decline significantly from earlier estimates, the scheduled annual transfer amount would be reduced (by either one-half or one-quarter, as specified)

Special Adjustments. The measure also contains the following special adjustments that could serve to limit the amount of an otherwise scheduled transfer to the Infrastructure Fund:

- ***Debt Service.*** This measure contains a special adjustment to cap the Infrastructure Fund transfer to the difference between 7.5 percent and the percentage of General Fund revenue devoted to prior-year debt payments on state bonds (known as the debt service ratio). For instance, if the state's debt service ratio were 6 percent, the Infrastructure Fund transfer would be capped at 1.5 percent (7.5 percent less 6 percent)—even if the transfer schedule called for a higher percentage.

- ***Proposition 98.*** The measure would reduce the transfer amount when the percentage growth in the K-14 public school funding guarantee (known as the Proposition 98 guarantee) exceeds the percentage growth in General Fund revenues. This adjustment would only occur when none of the other triggered reductions or adjustments are in effect that year. Proposition 53 would not directly affect the amount required to be spent under Proposition 98

Fiscal Effects

Proposition 53 would dedicate a specified amount of the state's General Fund to "pay-as-you-go" capital outlay projects. Since the measure does not change the overall level of General Fund revenues, the dedication of some resources for "pay-as-you-go" infrastructure would result in a commensurate reduction in resources for all other purposes.

The amounts of future transfers to the Infrastructure Fund are difficult to estimate, as they would depend on a variety of fiscal and economic variables. If, however, the scheduled transfers shown in Figure 3 occurred, they would start at roughly $850 million in 2006-07 and grow to several billions of dollars in future years. Given the various adjustments and triggers in the measure, it is likely that the actual transfer amounts would be considerably less than the scheduled transfers in many years.

In addition, there would be some years in which no transfer was made to the Infrastructure Fund and some years in which only a partial transfer was made. Still, it is believed that there would be transfers in most years. As mentioned before, half of the transfer amount would be dedicated for state infrastructure projects and the other half for local projects.

Organizations Endorsing Proposition 53

Advancing Infrastructure LLC

Association of California Water Agencies

California Business Properties Association

California Chamber of Commerce

California Independent Public Employees

California Park and Recreation Society

California Business Roundtable

California Rebuild America Coalition

California State Association of Counties

Calleguas Municipal Water District

Construction Materials Association of California

CH2M Hill

Howard Jarvis Taxpayers Association

League of California Cities

Los Angeles Area Chamber of Commerce

Valley Contractors Exchange

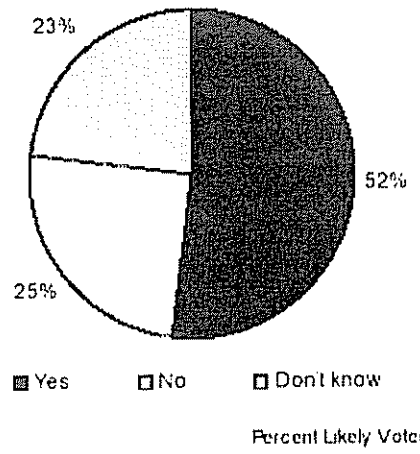
Recent Polling Data

A recent poll conducted by the Public Policy Institute found that Proposition 53 is supported by 52 percent of likely voters, while 25 percent oppose the initiative and 23 percent are undecided

Democratic (59%) and independent (51%) voters would vote yes on Prop 53, but fewer than half of Republicans (45%) support it

Despite the budget crisis, voters remain comfortable with setting aside portions of General Fund revenue for specific program areas: 58 percent say earmarking is generally a good idea. And they consider infrastructure investment a worthy cause: 43 percent say the current level of funding for infrastructure projects is inadequate. while only 9 percent think it is more than enough

Prop 53: Infrastructure Funds



Inland Empire
UTILITIES AGENCY

Date:	September 17, 2003
To:	Honorable Board of Directors
Through:	Public and Legislative Affairs Committee (*9/10/03*)
From:	Richard W. Atwater Chief Executive Officer/General Manager
Submitted by:	Martha Davis Executive Manager – Policy Development
Subject:	August Legislative Report from Geyer and Associates

RECOMMENDATION

This is an informational item regarding the August legislative report from Geyer and Associates.

BACKGROUND

Bill Geyer and Jennifer West provide a monthly report on their state activities on behalf of IEUA.

PRIOR BOARD ACTION

None.

IMPACT ON BUDGET

None.

RWA:MD:jbs
G:\board-rec\2003\03305 August Leg Report from Geyer

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MEMORANDUM

TO: Richard Atwater and Martha Davis

FROM: Jennifer West

DATE: August 28, 2003

RE: August State Legislative Report

Chaotic Last Weeks of Session
Session ends September 12. This is the time when it is not unusual for legislation to be introduced and passed within one or two days time, often with no review from policy committees. With recall politics in full swing, this usually chaotic time has become even less predictable. Governor Davis has told the press that he represents the "progressive" choice on the recall ballot. The prevailing wisdom is that the Governor will lean much farther to the left than in previous years when he signs bills, catering to his natural political base, the trial lawyers, unions and environmental interests. This has put incredible pressure on the "moderate" democratic caucus in the Assembly to respond to business interests trying to stop a flood of bills that change the status quo for California's employers and businesses.

Quantification Settlement Agreement (QSA) and Possible Retaliatory Legislation
No deal has come together on the QSA despite months of intense negotiations in the Governor's office with all four parties. Given the pattern of threats against MWD, we are expecting last –minute retaliatory legislation against the agency that could include wheeling, governance and rate setting. There is also rumored legislation that could shift costs for the SDCWA/IID water transfer to ratepayers in Los Angeles, Orange, Ventura, San Bernardino and Riverside counties without any water supply benefits in return. Also, there have been discussions of denying Southern California projects funding from Proposition 50 that support water recycling, conservation and other local water infrastructure projects. This legislation may be generated out of the Assembly Water Parks and Wildlife Committee, which has a strong contingency of San Diego legislators and northern California legislators that support a QSA agreement, seemingly at any cost.

Special District Finances
A few days ago the Joint Legislative Audit Committee held a special informational hearing on special district finances, in which the chair, Assemblywoman Rebecca Cohn, raised a series of questions about district reserves and salaries. During the hearing, Assemblywoman Cohn announced that she has requested an audit of all independent special water districts. The audit will examine a number of water district financial

policies, including their procedures for accumulating and using cash reserves and for setting and developing rates I have included a copy of the audit for your review. The *Sacramento Bee* has been editorializing since January that special districts need to be more accountable to the general public and has requested that the Legislature play a more active role unraveling their finances.

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JOINT LEGISLATIVE AUDIT COMMITTEE
REBECCA COHN, CHAIR

August 13, 2003

The Honorable Richard Alarcon, Vice Chair
Joint Legislative Audit Committee
State Capitol, Room 4035
Sacramento, CA 95814

2003 – 137

Dear Senator Alarcon:

According to a May 2000 Report issued by the Little Hoover Commission (Commission) entitled "*Special Districts: Relics of the Past or Resource for the Future?*," independent special districts often lack the kind of oversight and citizen involvement necessary to promote their efficient operation and evolution. Further, the report noted that hundreds of these independent special districts have banked multi-million dollar reserves. Specifically, in 1996-97, which at that time was the most recent year for which data was available from the State Controller, independent special districts reported $19.4 billion in retained earnings and fund balances.

Clearly, these reserves raise policy questions worthy of further review. For instance, these reserves represent significant public resources, but their size and how they are invested are not often understood by their customers. Additionally, there appear to be no guidelines for accumulation or use of reserves.

Beyond the issue of reserves, other issues regarding independent special districts have arisen in recent weeks. For instance, it was recently reported in the *Los Angeles Times* that directors of the Central Basin Municipal Water District receive a base salary of $300 per month, a stipend of $200 per meeting (which are held as often as 10 times per month) and car allowances of $350 per month. Therefore, questions that need to be answered include the following: what are the benefits and compensation packages offered to locally elected directors of these districts, what are the ethics/conflict-of-interest policies that govern these districts, and what is the overall financial status of these districts?

Understanding that there are hundreds of independent special districts in California, it is unworkable to expect the state auditor to audit the entire universe. However, it is noted in the Commission's report that water districts are the most numerous of the independent special districts. Therefore, I propose this audit focus in on independent special water

districts. Further, while I request that the audit answer "big picture" questions such as how many of these water districts there are and what are their current reserves, I propose that this request be further narrowed to focus in on a representative sample of these districts to answer the following detail questions:

1. What is the financial status of these water districts? Do the district's budget and rate-setting policies meet the requirements of statute?
2. What policy, if any, do the districts utilize on the accumulation and use of reserves? Do the districts consider their estimated excess reserves in prior year fund balances when calculating the assessment rate charged to their customers? When planning its capital improvement program, are resources allocated reasonably in light of reserve fund balances?
3. What is the benefits and compensation package offered to elected directors? For instance, does this package include salary, per diem, meeting allowances, vehicle allowances, life or health benefits, and/or retirement benefits? Does any of this benefits and compensation package, with the exception of retirement benefits, apply to directors once they leave the district? What types of ethics/conflict-of-interest policies govern these districts?
4. How often do these districts' Boards of Directors meet on a monthly basis? If there is a subcommittee structure, how often do the subcommittees meet?

Thank you in advance for your attention to this request.

Sincerely,

Rebecca Cohn

REBECCA COHN, Chair
Joint Legislative Audit Committee

RC:kk

TOTAL P.03

CALIFORNIA STATE AUDITOR

ELAINE M. HOWLE
STATE AUDITOR

STEVEN M. HENDRICKSON
CHIEF DEPUTY STATE AUDITOR

ANALYSIS OF AUDIT REQUEST
2003-137
August 26, 2003

I. AUDIT REQUEST

Assemblymember Cohn has requested an audit on independent special water districts (water districts).

II. BACKGROUND

Special Districts provide essential services to California's citizens, including water, electricity, fire, and flood protection. Independent water districts—similar to other types of special districts—are governmental entities that operate under their own elected or appointed governing boards which gives them substantially the same general powers as other local governments, including autonomy and corporate powers. In addition, water districts acquire funds through bonds, taxes, or user charges and spend funds to provide specific services to a community.

In April 2003, the State Controller's Office reported in its annual report on special districts that as of June 30, 2000, the State has more than 4,700 special districts, which include hundreds of water districts, such as County Water Districts, Municipal Water Districts, Water Agencies, and County Waterworks to name a few. Furthermore, in May 2000, the Little Hoover Commission (commission) issued a report on special districts titled *Special Districts: Relics of the Past or Resources for the Future?* In this report, the commission stated that the financial autonomy of special districts, the lack of guidelines for the accumulation and use of reserves, and the existing reporting mechanisms present several problems for the public and policy-makers. The commission also reported that water districts reported $11.8 billion in retained earnings in 1996-97, representing 65 percent of the retained earnings of all enterprise districts, which are entities that report their retained earnings in fund equity (the difference between assets and liabilities).

Assemblymember Cohn is concerned that water districts operate without much public scrutiny and the oversight of their operations is limited. Further,

Assemblymember Cohn is concerned about the lack of guidelines relating to the use of districts' cash reserves.

III. AUDIT SCOPE AND OBJECTIVES

The audit by the Bureau of State Audits will provide independently developed and verified information related to a sample of independent water districts and would include, but not be limited to, the following:

1. Review and evaluate the laws, rules, and regulations relevant to the issues.

2. Evaluate the financial status of the water districts. Specifically, the audit will:

   a. Review the water districts' policies and procedures for developing and setting rates and determine whether relevant statutory requirements are met.

   b. Review the water districts' policies and procedures for accumulating and using cash reserves.

   c. Evaluate the benefits and compensation packages water districts offer to their directors. This will include an identification of whether such packages include salary, per diem, meeting allowances, vehicle allowances, life or health benefits, and retirement benefits and whether these benefits continue once a director leaves the district.

3. Review and evaluate the water districts' policies and procedures relating to ethics and conflict of interest.

4. Determine how frequently water districts' Board of Directors or their subcommittees, if applicable, meet.

IV. OTHER WORK IN THE GENERAL AREA

99116 *Water Replenishment District of Southern California: Weak Policies and Poor Planning Have Led to Excessive Water Rates and Questionable Expenses*, December 1999

97114 *South Coast Air Quality Management District: The District Should Establish a More Equitable Emission Fee Structure and Process Permits More Promptly*, July 1998

V. RESOURCE REQUIREMENTS

We estimate that this audit would require approximately 3,250 hours of audit work at a cost of $243,750 plus travel expenses and the possible costs related to an outside consultant, if necessary. We will conduct this audit using our existing budget authority to the extent funding is available for audits approved by the Joint Legislative Audit Committee.

VI. REQUIRED DATE OF COMPLETION

Assemblymember Cohn did not specify a completion date for this audit.

Elaine M. Howle

ELAINE M. HOWLE
State Auditor

JLAC Hearing
August 26, 2003

Analysis Fact Sheet

Requester: Assemblymember Cohn

Subject: Independent Special Water Districts

Job No.: 2003-137

Request Date: August 13, 2003

Requested Completion Date: Not Specified

Total Budget: Unknown

Scope of Request: ☐ Local ☐ Regional ☒ Statewide

Other Work Within the General Area:

99116 *Water Replenishment District of Southern California: Weak Policies and Poor Planning Have Led to Excessive Water Rates and Questionable Expenses*, December 1999

97114 *South Coast Air Quality Management District: The District Should Establish a More Equitable Emission Fee Structure and Process Permits More Promptly*, July 1998

Estimated Cost: $243,750
Estimated Hours: 3,250

To: Jennifer W
Fr: Tanya
444 7484

Inland Empire Utilities Agency

WATCH

All two year bills have been removed.

("C" lowest level, "B" mid level, "A" high level watch)

August 28, 2003

Bill # / Title	Summary	Watch Level	Status
Propositions 50 and 40			
AB 866 (Pavley) Watershed/Prop.40 and 50	Adds water conservation, water use efficiency and water supply reliability to the list of elements that can be in the Integrated Watershed Management Program, which was created last year to allocate Prop. 40 funds. Also specifies that the Santa Monica Bay Restoration Commission shall appropriate the $20 million earmarked in Prop. 50 for the Santa Monica Bay. Requires the SWRCB to fund the development of one or more integrated coastal management plans.	B	Senate Appropriations Suspense
Drinking Water Contaminates			
AB 826 (Jackson) Perchlorate	Creates the Perchlorate Contamination Prevention Act. Requires DTSC by 2005 to develop regulations specifying BMPs for managing perchlorate materials and to perform other monitoring and enforcement activities. It also requires all groundwater monitoring wells in the state to be used as "early warning sentinels for drinking water contamination." Because of the costs associated with the bill, it may not pass out of the Senate Appropriations Committee this year.	A	Senate Appropriations Suspense
AB 1020 (Laird) Contaminates: Civil Action	Authorizes a public water system to bring civil action against any RP for the presence of any contaminate in surface or groundwater supplies. Recoverable costs include replacement water and attorney's fees.	A	Senate Floor

1/11

Water Supply/Future Bonds			
AB 314 (Kehoe) Desalination	States that the state should encourage the development of ocean and brackish desalination projects.	A	Chapter 206, 2003
Groundwater			
SB 543 (Machado) Groundwater	Sponsored by a southern California private water company, the bill alters the water rights for those entities that are under order to clean up contamination. IEUA and Watermaster helped secure amendments clarifying that the bill does not impact water rights in adjudicated basins. The City of San Bernardino recently removed its opposition. The bill will need a rule waiver to be heard in its policy committee(s). If this does not happen it will become a two year bill.	A	Assembly Enviro. Safety and Toxics
Water Quality/Water Quality Penalties and Fees			
AB 897 (Jackson) Water Quality Objectives	Makes it a $25,000 penalty for knowingly falsifying information contained in a waste discharge report. Recent amendments have removed all criminal penalties in the bill and references to TMDL program.	A	Senate Approps.
AB 1541 (Montanez) Waste Discharge Requirements	States that failure to file an NPDES monitoring report or technical report after 30 days is a "serious violation" of Porter-Cologne, which would mean these violations would be subject to a $3000 fine. MPC is opposed, as is CASA, the counties and cities. Sponsored by Environment California. While the authors office was willing to exempt dairies from the provisions of the bill, the Senate Environmental Quality Committee (Chaired by Senator Sher) told the author that they would pull the bill back into committee and kill it if dairies were exempted. MPC will likely request a veto from the Governor.	A	Senate Floor
SB 923 (Sher) Waste Discharge Fees	Changes a number of waste discharge requirements contained in SWRCB waivers.	B	Assembly Approps. Suspense
SB 1049 (Budget Committee)	Omnibus fee bill. While not yet in print, it is rumored that this bill will contain dam safety fees; water rights compliance fees; fish and game	A	Assembly Floor

Fee Bill	fees; seismic insurance; and mill tax. The bill does not contain Prop. 50 language at this time or waste discharge fees. ACWA is opposed.		
Quantification Settlement Agreement/Salton Sea			
SB 277 (Ducheny) Salton Sea	Spot bill on the Salton Sea and California's entitlement to the use of 4.4 million AF of Colorado River water.	B	Assembly Floor
SB 317 (Kuehl) Salton Sea/FPS	Authorized the take of fully protected species as part of the QSA. States legislative intent to allocate a minimum of $50 million from Prop. 50 for the QSA.	A	Assembly Approps. Suspense
SB 411 (Ducheny) Prop. 50: Salton Sea	Appropriates $50 million from Prop. 50's Colorado River section to the WCB for Salton Sea restoration.	B	Assembly Approps. Suspense
Watersheds			
AB 66 (Leslie) Adopt A Waterway	Authorizes Resource Agency to enter into agreements to accept funds, equipment or services from any person for maintenance or environmental enhancement of a state waterway.	C	Senate Appros.
AB 496 (Correa) Santa Ana Conservancy	Due to its state costs, Senator Alpert (Chairman of Senator Appropriations) says the bill stay on the Appropriations suspense file and become a two year bill. The measure creates a state run conservancy for the three-county Santa Ana River area. Orange County is opposed. IEUA has indicated to the author that it wants to be helpful in working out the bill's problems.	A	Senate Approps. Suspense
AB 1405 (Wolk) Watersheds	Requires that any guidelines adopted by state agencies for use by local watershed partnerships provide flexible mechanisms to achieve quantifiable watershed objectives.	B	Senate Approps. Suspense
MISC.			
AB 847 (Pavley) Coastal Conservancy	Specifies that the Coastal Conservancy's duties include protecting sensitive habitat areas and improving coastal water quality.	B	Senate Approps Suspense

AB 1532 (Nakano) SWP Security	If federal funding is secured, requires DWR and DHS to conduct a water security monitoring project that includes monitoring 25 sites statewide for possible contaminates injected into the drinking water supply by terrorists.	C	Senate Approps. Suspense
SB 196 (Kuehl) RWQCB Appointments	Specifies that the city council member and a county supervisor serve on the RWQCB rather than someone from city or county "government."	C	Enrolled to Governor

Inland Empire Utilities Agency

Positions/Position Recommendations

August 28, 2003

Bill # / Title	Summary	Position	Status
Propositions 50/Water Bonds			
SB 117 (Machado) QSA: Prop. 50 Allocations	Vehicle for QSA implementation. All references to Prop. 50 funds have been removed. It now states the legislature's intent to appropriate $200 million from an unspecified source to go into a Colorado River Subaccount.	Recommend Neutral	Assembly Held at Desk
SB 21 (Machado) Prop. 50 Implementation AB 1747 Budget Trailer Bill Language	Proposition 50 implementation measure. Most of the implementation language for the water funds in Prop. 50 were incorporated in AB 1747. Only one major earmarking of funds was included in AB 1747. In a last minute budget play, Republican Leadership earmarked $20 million ($10 million for Southern California) out of Chapter 8 funds for projects outside of MWD's service area for groundwater recharge. Overall, Prop. 50 funds will be awarded on a competitive basis.	Support	AB 1747 Chapter 240, 2003
SB 750 (Machado) 04'Water Bond	$5 billion water bond for the 04' ballot. Competitive grant program by region. Contains $1 billion for Salton Sea impacts, $200 million for contaminate removal and $375 for the Santa Ana Region based on a statewide population formula.	Support	Two Year Bill
AB 334 (Goldberg) Recycled Water	Implements one of the major public policy recommendations from the Water Recycling Task Force. Authorizes local agencies to adopt regulations governing water softeners or conditioning appliances that discharge to the community sewer system. IEUA helped pass the measure off the Assembly floor. The vote was 44-22, with many moderate democrats not voting. McLeod did vote for the bill.	Support	Chapter 172, 2003
Desalination			
SB 318 (Alpert) UWMP: Desal	Requires UWMP to describe the opportunities for development of desalinated water, including brackish water.	Support	Assembly Floor

Water Conservation/Water Supply Land Use			
AB 306 (Kehoe) Water Meters	Requires water purveyors by 2008 to install meters on all residential and agricultural service connections constructed prior to 1992. By 2009, requires water purveyor to charge customers for water based on actual volume of deliveries. The City of Sacramento is a long time opponent to water meters. Assemblyman Steinberg from Sacramento is Chairman of Appropriations and he managed to hold the bill in his committee. It is now a two-year bill.	Support	Two Year Bill
AB 1015 (Laird) Land Use Water Supply	Requires all general plans be amended by 2006 to identify existing and planned sources of water supply, including groundwater, that will serve existing and future development, and other types of land use, in normal and dry years. Requires that the city and county prepare the water supply information in consultation with the water supplier or regional water management group. State AG is the sponsor. ACWA is opposed and so is RLC. Though the measure is stalled on the Assembly Floor for lack of support, it may be taken up anytime before the end of January 2004. If so, its next step would be Senate Local Government where IEUA may be able to either stop the bill or seek amendments to fix it.	Recommend Oppose	Two Year bill (Assembly Floor)
SB 312 (Machado) Landscape Water Conservation	The bill creates a task force to review the model landscape ordinance and make recommendations for its improvement. Also requires separate outdoor water meters that will assist homeowners to monitor and adjust their outdoor water use appropriately. There was a move to stop all task forces this year for funding reasons.	Support	Two Year Bill
SB 906 (Escutia) Municipal Water District Act	Recent amendments have struck all references to the rate structure for the Central Basin Municipal Water District and the West Basin Municipal Water District. IEUA has opposed the measure because previous versions detailed what could be included in these districts' water rate structure.	Neutral (formally opposed)	Assembly Consent calendar
Water Quality/Water Quality Penalties and Fees			
AB 10X (Oropeza)	Removes cap on waste discharge fees for POTWs. Allows SWRCB to set an	SWRCB.	Signed

Waste Discharge Fees	annual fee for POTWs and dairies holding NPDES permits. Contains open-ended recoverable costs, including groundwater monitoring and surface water monitoring. The SWRCB has begun setting a rate structure for POTWs and dairies. An omnibus budget trailer bill is expected that will further increase the amount POTWs must pay in annual waste discharge fees. It is likely that POTWs statewide will need to cover between $6 to $8 million in additional fees.		
SB 204 (Perata) Diaper Recycling	Requires the Waste Board to provide grants to local agencies for funding programs for the recycling and diversion from landfill disposal of diapers. These grants would be paid for by a fee imposed on the purchase of diapers ($.0025 per diaper). IEUA supports the bill for water quality purposes.	Support	Two Year Bill
Drinking Water Contaminates			
SB 922 (Soto) Perchlorates	Allows any drinking water cleanup order issued by the SWRCB or a regional board to include replacement water for an impacted community. The law is currently unclear in this area. In the last 20 SWRCB cleanup orders, no replacement water was required. The bill is currently waiting for a rule waiver to be heard in Water Parks and Wildlife. The rule waiver will likely not be granted until some form of industry amendments are taken. IEUA has been meeting with the environmental sponsor and the opponents to work out a compromise that will allow the bill to move forward, without jeopardizing the purpose of the bill. IEUA has also opposed proposed amendments by MWD that would broadly exempt MWD and other water agencies from liability for any historic perchlorate contamination for ground water recharge activities. ACWA is recommending that the measure become a two year bill until the issue of liability protection for groundwater contamination can be worked out.	Support	Assembly Water Parks and Wildlife (Awaiting rule waiver)
SB 1004 (Soto) Perchlorates	Requires that the SWRCB be notified when perchlorate is discharged into waters of the state, or when it is likely to be discharged into waters of the state, unless the discharge is in compliance with a waste discharge requirement. Failure to notify is punishable by fines of up to $5,000 per day. Also requires perchlorate manufacturers to provide water suppliers with the total number of pounds of perchlorate discharged into state waters by their facility.	Support	Assembly Floor

Air Quality			
SB 981 (Soto) Children Health Initiative	Requires every operator of a refinery to pay 30 cents per barrel of crude into a "Children's Health and Petroleum Pollution Remediation Trust Fund" created by this bill. Money would be distributed to each air quality district on the basis of a district's share of a statewide emissions inventory. Each air quality district would expend the funds on petroleum pollution source reduction programs and public health programs. There must be a clear nexus regarding the relative harm caused by diesel and gasoline fuel and the revenues received from the fee.	Support	Two Year Bill
ERAF			
SB 407 (Torlakson) Local district financing	Shifts property tax revenue from approximately 35 water districts to the ERAF account. These districts, including a number in the SAWPA region, have not paid into ERAF in the past, according to the author. There are rumors that this could become a vehicle for a larger ERAF shift affecting more districts, such as multi-county special districts. IEUA opposed the bill in Assembly Local Government and has asked local Senators to pull the bill back into Senate Local Government if it makes it off the Assembly Floor.	Oppose	Assembly Approps. Suspense File
Budget Items			
Williamson Act Subvention Fund Support	The Governor's January 03/ 04 budget recommended the elimination of $39 million in Williamson Act Subvention funds. These funds protection 19 million acres of farmland, wildlife habitat and open space. The Subvention Funds remained intact for 03/ 04 budget.	Support Protection of Funds	Funds Secured
Prop. 50, Support Recycled Water	IEUA supported WaterReuse's successful effort to accelerate approximately $18 million in water recycling funding from Prop. 50. The funding will come from Cal-Fed section of Prop. 50.	Support Accelerated Water Recycling Funding	Funds Accelerated

Water recycling projects backed

reier bill would help
ınd treatment costs

JOE FLORKOWSKI
FF WRITER

ep. David Dreier, R-Glendora, has introduced a
that would help fund Inland Valley water districts'
ity to improve local water supply and reliability.
hrough Dreier's bill, HR 2991, the Inland Em-
Utilities Agency and Cucamonga County Water
trict would receive $20 million and $10 million,
ıectively, for planned water recycling projects.
iven all the controversy surrounding water from
Colorado River and other imported water sources,
introduction of Dreier's bill is "great news," said
hard Atwater, IEUA general manager.
sir[illegible]ecycled water will allow local agencies to
p[illegible]ewater in the area, rather than letting it
r in[illegible]the Santa Ana River, said Robert Neufeld,
sident of the CCWD board of directors.
Why not keep it here instead of giving it to some-
else?" Neufeld said. "Recycled water will be key
.eeping up with growth in this area."
twater, Neufeld and CCWD General Manager
ert DeLoach will testify before a House sub-
mmittee reviewing the bill today in Washington.
he Inland Valley officials will seek federal supp-
t for their programs that are expected to provide
ut 75,000 acre-feet of recycled water. Currently,
y about 6,000 acre-feet of recycled water is used,
inly for irrigation and landscaping.
n acre-foot is about 325,000 gallons of water or
ugh water to supply two households a year.
approved, Dreier's bill would provide 25 percent
ach of the water district's planned projects.
he IEUA is planning a series of pipelines that
ıld deliver recycled water from its wastewater
ıtment plants to most of the western San
nardino County cities the agency serves. Cur-
tly, most of the IEUA's recycled water is used in
no and Chino Hills.
ucamonga County Water District is planning a
es of small plants throughout its service area that
ıld take wastewater, treat it and use it to irri-
e parks and landscaping.
oth projects intend to use recycled water for ir-
ıtion purposes or to replenish the groundwater
in located below much of southwestern San
nardino County.
he use of recycled water, which is sewage water,
ıted to remove potentially harmful chemicals and
hogens, can come with public perception problems.
espite public perceptions, Neufeld said, in real-
we all drink and use recycled water.
The reality is that every drop of water has been
rcled hundreds and thousands of times," he said
ı a statement released by Dreier's office Tuesday.
c[illegible]ssman said maintaining a large water
pl[illegible]nallenging.
We have to look at new and different ways to
p us meet that challenge," Dreier said. "Projects
this will help us do that today and in the future."

*oe Florkowski can be reached by e-mail at florkowski@dailybulletin.com or by phone at (909)
-6389.*

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CHINO BASIN WATERMASTER

September 25, 2003

10:00 a.m. – Advisory Committee Meeting
1:00 p.m. – Watermaster Board Meeting

III. REPORTS/UPDATES

C. ASSOCIATION OF GROUND WATER AGENCIES

ASSOCIATION OF GROUND WATER AGENCIES

Monday, September 15, 2003 – 9:00 a.m.

Main San Gabriel Basin Watermaster
City of Azusa Light and Water Administration Facility
725 North Azusa Avenue
Azusa, CA
(626) 815-1300

1. Determination of Quorum/Introductions

2. Approve minutes from August 18, 2003 meeting
   Receive and file Financial Statements for August 2003

3. Presentation:
   Perchlorate in Colorado River Water – Brad Coffey, MWD Water Purification Unit Mgr.

4. Discussion and Actions
   a. Discussion of AGWA Strategic Planning Session
   b. PowerPoint Presentation – ACWA Groundwater / Communications Subcommittee
   c. Update of MWD Policy re: Replenishment Water and Conjunctive Use Programs

5. Committee Reports
   a. MWD Liaison Committee (T. Zampiello)
   b. General Communications/Public Information Committee (C. Williams)
   c. Program Committee (M. Blevins)
   d. Legislative Committee (B. Mowry)

6. Other

7. Future Agenda Items

8. Next Meeting: Monday, October 20, 2003, 9:00 a.m. – Chino Basin Watermaster

9. Adjourn

Chairman Bruce Mowry Presiding

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MINUTES OF THE
ASSOCIATION OF GROUND WATER AGENCIES (AGWA)
BOARD OF DIRECTORS MEETING
HELD MONDAY, AUGUST 18, 2003 - 9:00 A.M.
AT MAIN SAN GABRIEL BASIN WATERMASTER

Bruce Mowry, Chairman, called the meeting to order.

Directors/Alternates present:

Bruce Mowry, Chairman	Water Replenishment District of Southern California
John Rossi, Vice Chairman	Chino Basin Watermaster
Steve Sabbe	Calleguas Municipal Water District
Ken Breitag	Main San Gabriel Basin Watermaster
Greg Woodside	Orange County Water District
Ron Palmer	Raymond Basin Management Board
Tom Ries	Six Basins Watermaster
Janet Divan	Six Basins Watermaster
John Otto	Tehachapi-Cummings County Water District

Affiliates present:

Amy Rego	Metropolitan Water District of Southern California

Others present:

Josephine Johnson	Chino Basin Watermaster
Bill Golightly	Hargis & Associates
Fred Fudacz	Nossaman, Guthner, Knox and Elliott, LLP

MINUTES/FINANCIAL STATEMENTS

The Chairman noted that the quorum required for conducting Board business was not present. The Chairman also stated that the Financial Statements for June and July 2003 were available for review, and then he ordered the Financial Statements to be received and filed.

DISCUSSION AND ACTIONS

Review / Adoption of FY 2003-04 Budget and Dues – Director Breitag stated that copies of a draft budget for fiscal year 2003-04 had been sent to AGWA Directors and Alternates ahead of the meeting. The proposed budget contains little different from the previous budget, and he noted that over $44,000 is expected to be rolled forward from fiscal year 2002-03, providing AGWA with good financial resources. He noted that the primary issues would seem to be whether AGWA members wish to continue membership dues at their current levels and on which new projects or activities AGWA would like to spend its funds.

Director Rossi stated that he believes dues should be kept at their present levels, so that when AGWA projects emerge sufficient resources exist to develop them.

Director Breitag noted that, in the event a quorum was not present today to pass the budget, Director Williams had suggested a motion could be put forward and that members could be polled via email in order to get the budget approved. Director Palmer stated that he thought

this was a good suggestion, and he would agree to make such a motion. The motion was seconded by Director Woodside.

Discussion of AGWA Quorum Issues – The Chairman stated that this is a very appropriate topic for today's meeting and asked members if they had any suggestions. Director Rossi stated that there are AGWA members who have attended few meetings recently, and he suggested that they be contacted about their interest in AGWA. He also stated that AGWA might want to reconsider what constitutes a quorum in order to conduct the various aspects of its business.

Director Palmer stated that it might be a good topic of a special planning session to discuss both organizational and budget issues as they relate to future AGWA direction and activities. Mr. Fudacz noted that it might be a good idea to have such a session facilitated, and he noted that the Main San Gabriel Basin Watermaster conducts a strategic planning workshop each year which is facilitated by Bob Rauch.

Presentation by Hargis & Associates and Consideration of AGWA Affiliate Membership – The Chairman stated that Hargis & Associates has requested affiliate membership in AGWA, and had given a presentation at the previous AGWA meeting. He noted that action could not be taken at that meeting, nor could it be taken today, because of the lack of a quorum. Director Palmer stated that, perhaps, the motion to adopt a new budget, for which polling would be conducted via email, could be expanded to include approval of Hargis & Associates as a new AGWA Affiliate Member. He further noted that, in order to clean up AGWA business, approval of the last two sets of AGWA minutes could also be added to this motion. The Chairman agreed that this seemed a good idea, and Director Palmer stated that he would revise his previous motion. Director Palmer also stated that it would seem important to note in the email motion that adoption of the draft FY 2003-04 Budget, approval of Hargis & Associates as an Affiliate member, and approval of the minutes for May and June 2003 was supported by all members present, and the members gave their unanimous approval.

PowerPoint Presentation – ACWA Groundwater / Communications Subcommittee – Director Rossi stated that, because of summer conflicts, little had happened with the PowerPoint Presentation recently; however, he hoped that a committee meeting might be held following the September AGWA meeting, and a finished product could be ready in the next few months. He also stated that AGWA might want to consider paying for a small amount of work to polish the presentation after work by the committee is complete.

Update of MWD Policy re: Replenishment Water and Conjunctive Use Programs – Ms. Amy Rego of MWD stated that a letter had been sent the previous week to AGWA's Secretary/CFO, Carol Williams, as a follow-up on discussion at the June AGWA meeting. The letter, signed by General Manager Ron Gastelum, documents the MWD policy previously conveyed to AGWA that MWD deliveries of replenishment water will be considered over deliveries of water for conjunctive use programs, subject to MWD system constraints. Director Palmer asked if this letter could be circulated to all members, and Director Breitag replied that he would make sure this was done.

The Chairman thanked Ms. Rego for her assistance, and stated that since its last meeting AGWA had sent a letter to Mr. Gastelum requesting a role in participation of further MWD policy discussions relative to replenishment water. He asked Ms. Rego if she had received

any feedback about this letter. Ms. Rego stated that she had not received any word with regard to the letter, but she will follow up.

Consideration of Sponsorship of 2003 AWRA Conference – Director Rossi asked if AGWA had received a written request for sponsorship of the 2003 AWRA Conference or whether a specific amount had been put forth. Director Breitag replied that no written request had been received, and he had no clear information pertaining to amounts.

Director Palmer stated that AGWA should be careful about such contributions, since doing so could encourage other water industry groups to solicit AGWA for contributions. Director Rossi noted that one way to avoid setting a precedent would be to support only conferences where groundwater is a focus, and he added that, perhaps, AGWA should direct its resources to supporting its own annual conference. The Chairman further noted that AGWA should avoid such sponsorships to prevent upsetting other groups with which AGWA members work closely.

STANDING COMMITTEE REPORTS

Metropolitan Water District of Southern California Liaison Committee – Director Palmer reported that negotiation of a Quantification Settlement Agreement relative to Colorado River water continues to be the major topic of interest with MWD. He also noted that apparently demands for imported water from MWD have been very high this summer, a fact which is complicated by implementation of MWD's new rate structure.

General Communications/Public Information Committee – Director Breitag reported that AGWA's summer newsletter is now available on the AGWA website, and he noted that the deadline for submitting items for the fall newsletter would be Friday, September 19.

Program Committee – Director Rossi stated that it would seem if AGWA is considering holding another conference in April it should start planning soon.

Legislative Committee – Director Breitag reported that little legislative activity has occurred since the last AGWA meeting because of the Legislature's summer recess; however, both the Assembly and Senate are scheduled to reconvene today. SB 922 (Soto) seems to be the one bill discussed by AGWA at its last meeting with which notable activity had occurred. This bill has been amended four times over the last couple of months and is now worded such that it would appear to be of benefit to public water suppliers or private well owners affected by groundwater contamination. Director Breitag noted that the San Gabriel Valley Water Association has sent letters of support for the bill.

Director Rossi noted that SB 543 (Machado), a bill drafted on behalf of Southern California Water Company, is similar to SB 922. SB 543 would prevent the operator of a groundwater cleanup facility from transferring water from the facility unless it provides replacement water to the affected public water systems. Director Rossi noted that initially some expressed concern the bill might discourage responsible parties from negotiating settlements, but that concern seems to have been put to rest, and SB 543 appears to be moving through the Assembly.

The Chairman reported that under the state budget bill, AB 1765, there is a line which has raised concern relative to groundwater. This line, which would allow the Department of Water Resources to make up for $4.4 million in funding cuts through the assessment of water

rights fees, initially appeared to only apply to surface water rights; however, some believe that it may also apply to groundwater rights. The Chairman noted that a future trailer bill to AB 1765 is expected to help clarify the issue.

The Chairman also noted that Rep. George Miller's CalFed bill, HR 2641, has raised concerns because it would require as a condition of California receiving federal funds the Legislature create a groundwater management plan for areas affected by CalFed. Director Rossi stated that it might be a good idea for AGWA to set up a presentation by a representative of CalFed to discuss how its programs might affect local groundwater.

Additionally, Director Rossi noted that there now seems to be movement by the Defense Department toward taking a positive role in the cleanup of perchlorate contamination related to past Defense activities, and Mr. Fudacz stated that it might be good topic for an AGWA presentation to hear how MWD is handling perchlorate contamination in imported water.

Finally, Director Woodside noted that the Orange County Water District has now hired a staff person devoted fulltime to following legislative issues, and this person may be able to help AGWA track legislation.

FUTURE AGENDA ITEMS

Ms. Rego stated that, if members wished, she would arrange a presentation by MWD staff relative to perchlorate for the September AGWA meeting, and the members agreed that this would be welcome.

Director Rossi noted that the September AGWA meeting is currently scheduled at the Chino Basin Watermaster, but they will be moving offices that week. He asked if the meeting might again be held in Azusa, and Director Breitag stated that he was confident that this would be possible.

NEXT MEETING

The Chairman stated that the next meeting would be held on Monday, September 15, 2003, at 9:00 a.m. at the offices of Main San Gabriel Basin Watermaster located in Azusa, CA.

_____

Carol Williams, Secretary/CFO

ATTEST:

_____

Bruce Mowry, Chairman

CHINO BASIN WATERMASTER

September 25, 2003

10:00 a.m. – Advisory Committee Meeting
1:00 p.m. – Watermaster Board Meeting

III. REPORTS/UPDATES

D. INFORMATION

TUESDAY, OCTOBER 28

Joint Session:

8:15 Welcome and Opening Remarks
Henry J. Vaux, Jr., Associate Vice President, Agriculture and Natural Resources, University of California

8:30 Groundwater and Surface Water: A Single Resource
Chip Groat, Director, U.S. Geological Survey

9:00 Water Follies: The Impact of Groundwater Pumping on the Environment
Robert Glennon, Morris K. Udall Professor of Law, University of Arizona, Author, Water Follies: Groundwater Pumping and the Fate of America's Fresh Waters

9:30 Worldwide Groundwater Banking
Anthony Saracino, Principal, Saracino-Kirby-Snow

10:00 Groundwater in California: Bulletin 118
Jonas Minton, Deputy Director, California Department of Water Resources

10:30 Break

TRACK 1

Session: Regulatory and Legislative Actions that Affect Groundwater

Moderator: Leah Walker, Senior Sanitary Engineer, Drinking Water Technical Programs, California Department of Health Services

11:00 How Do SB 1938 Requirements Interact with Groundwater Management?
Steven Bachman, Groundwater Resources Manager, United Water Conservation District

11:30 California's Groundwater Ordinance Movement: Causes, Effects and Alternatives
Ellen Hanak, Research Fellow, Public Policy Institute of California

TRACK 2

Session: Emerging Contaminants

Moderator: Eric Reichard, Supervisory Research Hydrologist, San Diego Field Office, U.S. Geological Survey

11:00 Framework for a Comprehensive Groundwater Quality Monitoring and Assessment Program for California
Kenneth Belitz, Program Chair, NAWQA and Statewide Monitoring, California District, U.S. Geological Survey

11:30 California's Constituents of Concern: What Should We Worry About?
Heather L. Collins, District Engineer, Drinking Water Program, California Department of Health Services

12:00 Lunch – **Joint Session: Protecting Groundwater**
Art Baggett, Chair, State Water Resources Control Board

Session: What's in a Good Groundwater Management Plan?

Moderator: Carl Hauge, Chief Hydrogeologist, California Department of Water Resources

1:30 Groundwater Management in the San Joaquin Valley
David Orth, General Manager, Kings River Conservation District

2:00 Findings from the California Drinking Water Source Assessments
Leah Walker, Senior Sanitary Engineer, Drinking Water Technical Programs, California Department of Health Services

2:30 Chino Groundwater Basin – A Plan in Action
John V. Rossi, Chief Executive Officer, Chino Basin Watermaster

3:00 Break

Session: Integrated Water Management

Moderator: Tim Parker, Senior Hydrogeologist, California Department of Water Resources

3:30 Integration of Statewide Groundwater Programs
John K. Woodling, Principal Geologist, California Department of Water Resources

4:00 Information Needs for Integrated Water Management
Bill Alley, Chief, Office of Groundwater, U.S. Geological Survey

4:30 Water Transfers
Jerry Johns, Chief, Water Transfers Office, California Department of Water Resources

Session: Desalination

Moderator: James Giannopoulos, Chief, Clean Water Program, State Water Resources Control Board

1:30 Update on Activities of the Water Desalination Task Force
Charles Keene, Executive Officer, California Desalination Task Force, California Department of Water Resources

2:00 Orange County Water District Desalination, Public Perception and Recharge
Virginia Grebbien, General Manager, Orange County Water District

2:30 Performance of Desalination Membranes
Eric M.V. Hoek, Assistant Professor, Department of Chemical/Environmental Engineering, University of California, Riverside

3:00 BREAK

Session: Management of Wastewater

Moderator: Sue McClurg, Program Director, Water Education Foundation

3:30 Regulatory Update – Groundwater Recharge Using Recycled Water
Jeff Stone, Staff Environmental Scientist, Recycled Water Unit, California Department of Health Services

4:00 The Evolution of a Chloride TMDL for the Upper Santa Clara River
Vicki Conway, Section Head, Sanitation Districts of Los Angeles County

4:30 Groundwater Recharge Using Reclaimed Wastewater: Microbiological Considerations
Marylynn V. Yates, Professor of Environmental Microbiology, University of California, Riverside

5:00 **Reception – Poster Session and Exhibits**

TRACK 1

Session: Tools to Help Quantify

Moderator: Vicki Kretsinger, Principal Hydrologist, Luhdorff and Scalmanini Consulting Engineers

8:30 Groundwater Management and Game Theory
Hugo Loáiciga, Professor, Department of Geography, University of California, Santa Barbara

9:00 The Groundwater Model – Past, Present and Future
Ward Sanford, Hydrologist, U S. Geological Survey

9:30 Groundwater's Potential and Limits for California Water Management
Jay R. Lund, Professor of Civil and Environmental Engineering, University of California, Davis

10:00 Break

Session: Working with the Public

Moderator: Rita Schmidt Sudman, Executive Director, Water Education Foundation

10:30 Panel Discussion: Facilitating Public Input
John Rossi, Chief Executive Officer, Chino Basin Watermaster
Virginia Grebbien, General Manager, Orange County Water District
Lucy Eidam, President, Lucy & Company
Jennifer Bowles, Reporter, The Press Enterprise (invited)
Jeff Loux, Director, Land Use and Natural Resources Program, University of California, Davis, Extension

TRACK 2

Session: Transport and Fate of Contaminants

Moderator: Sarah Raker, Engineering Geologist, San Francisco Regional Water Quality Control Board

8:30 Transport in Heterogeneous Systems and Insights into Natural Attenuation
Eric LaBolle, Research Scientist, University of California, Davis

9:00 How Serious a Problem is Perchlorate?
David Bacharowski, Assistant Executive Officer, Groundwater Remediation Programs, Los Angeles Regional Water Quality Control Board

9:30 Forensic Evaluation of Contaminant Sources and Migration in a Regional Superfund Site
Tom Johnson, Senior Vice President, LFR Levine Fricke

10:00 Break

Session: Calculating a Groundwater Budget

Moderator: Peter Martin, Hydrologist, U S. Geological Survey

10:30 Groundwater Terms: Use and Misuse
Joseph Scalmanini, Principal Engineer, Luhdorff and Scalmanini Consulting Engineers

11:00 Kern County Water Agency Water Budget
Lloyd Fryer, Senior Water Resources Planner, Kern County Water Agency

11:30 Techniques for Estimating Groundwater Recharge
Bridget R. Scanlon, Senior Research Scientist, University of Texas, Austin

12:00 Lunch – **Joint Session: The Search for Water and Life on Mars**
NASA scientist invited

1:00 Groundwater Resources Association of California Meeting and Awards

Joint Session:
Transboundary Issues

Moderator: Andrew Chang, Associate Director, UC Center for Water Resources

1:30 Global Climate Change and Transboundary Water Problems
Rick Lawford, Program Manager, Global Program, National Oceanic and Atmospheric Administration

2:00 Water Management Along the U.S.-Mexico Border
Linda Fernandez, Assistant Professor, Department of Environment Sciences, University of California, Riverside

2:30 Water Resources of the El Paso/Juarez Bi-National Metroplex
Barry Hibbs, Associate Professor of Hydrogeology , California State University, Los Angeles

3:00 Transboundary Aquifer Management Issues on the U.S.-Mexico Border
Jim Stefanov, Chief, Technical Planning Branch, International Boundary and Water Commission

3:30 Wrap-up and Adjourn