IMPLEMENTATION PLAN
OPTIMUM BASIN MANAGEMENT PROGRAM
FOR THE
CHINO BASIN

INTRODUCTION

This document describes the implementation plan for the Chino Basin Optimum Basin Management Program (OBMP). The goals and objectives for the OBMP are described in Section 3 of the Phase 1 OBMP report dated August 1999. Nine program elements were developed during the OBMP Phase 1 process to meet the goals of the OBMP. The program elements described herein include:

- Program Element 1 – Develop and Implement Comprehensive Monitoring Program
- Program Element 2 – Develop and Implement Comprehensive Recharge Program
- Program Element 3 – Develop and Implement Water Supply Plan for the Impaired Areas of the Basin
- Program Element 4 – Develop and Implement Comprehensive Groundwater Management Plan for Management Zone 1
- Program Element 5 – Develop and Implement Regional Supplemental Water Program
- 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
- Program Element 7 – Develop and Implement Salt Management Program
- Program Element 8 – Develop and Implement Groundwater Storage Management Program
- Program Element 9 – Develop and Implement Storage and Recovery Programs

The scope of the program elements was developed by the Chino Basin stakeholders. Each program element contains a series of comprehensive actions and plans to implement those actions. Some of the program elements have been combined because they overlap and have synergies between them.

The parties to the PEACE Agreement (Peace Agreement) dated June 29, 2000, support and consent to Watermaster proceeding with this Implementation Plan in a manner that is consistent with the Peace Agreement and the Judgment. It is the intention of the parties that this Implementation Plan be interpreted consistently with the Peace Agreement and that all terms in this Implementation Plan be interpreted consistently with like terms contained in the Peace Agreement. To the extent there is a conflict between the Peace Agreement and this Implementation plan, the Peace Agreement shall Control.

Program Element 1 – Develop and Implement Comprehensive Monitoring Program

A. Groundwater Level Monitoring Program

Description. Watermaster began a process to develop a comprehensive groundwater level monitoring program in the spring of 1998. The process consists of two parts – an initial survey followed by long-term monitoring at a set of key wells. The initial survey consists of collecting groundwater level data at all wells in the Basin from which groundwater level measurements can be obtained for fall 1999, spring 2000, fall 2000, spring 2001, and fall 2001. Watermaster staff expects that they will measure groundwater levels in the initial survey at about 400 wells in the overlying agricultural pool and about 100 other wells from the other pools and unassigned monitoring wells. The data from the initial survey will be mapped and reviewed.

Based on this review and Watermaster management needs, a long-term monitoring program will be developed after the fall of 2001 survey. The long-term monitoring program will use about half of the wells in the overlying agricultural pool used in the initial survey plus all wells in the other pools and unassigned wells monitored under the direction of the Regional Board and others. Key wells located in agricultural areas will be replaced as necessary if the original well is destroyed when the agricultural land surrounding the well is converted to other use.

Watermaster will develop a groundwater level measurement protocol for use by all cooperating entities. Groundwater levels will be obtained by the following entities:

- Overlying Agricultural Pool – Watermaster staff
- Overlying Non-agricultural Pool – pool member or Watermaster staff
- Appropriative Pool – pool member or Watermaster staff
- Other wells – Watermaster staff will obtain data from Regional Board or owners.

Implementation Status. Watermaster began implementation of a groundwater level monitoring program in Watermaster fiscal year 1999/00, the current fiscal year, with a budget commitment of approximately $61,000. Additionally, Watermaster began an intensive monitoring effort in the immediate area of the Chino I Desalters. Watermaster is monitoring this area to collect data to analyze the effects of the Desalters pumping. There will be a comparable or greater level of effort and budget commitment through 2001/02. After 2001/02, the budget commitment will be less when it reflects the implementation of a key-well monitoring program.

B. Groundwater Quality Monitoring Program

Description. Watermaster began the process to develop a comprehensive water quality monitoring program in July 1999. As with the groundwater level monitoring program, the water quality monitoring program will consist of an initial survey and a long-term monitoring effort. The initial survey will consist of:

- collection of all water quality data from appropriators' or non-agricultural pool members' wells that are tested by appropriators or non-agricultural pool members;

- collection of all water quality data from the Regional Board for water quality monitoring efforts that are conducted under their supervision; and

- collection and analysis of at least one water quality sample at all (or a representative set of) other production wells in the Basin. Assumed maxi-

mum number of wells to be sampled by Watermaster in the initial survey is 600.

Groundwater quality samples will be obtained by the following entities:

- Overlying Agricultural Pool – Watermaster staff
- Overlying Non-Agricultural Pool – pool member
- Appropriative Pool – pool member
- Other wells – Watermaster staff will obtain data from Regional Board or owners

Re-sampling and analysis will be done at wells sampled by Watermaster if volatile organic compounds (VOCs) are detected. These data will be mapped and reviewed. Based on this review and Watermaster management goals in the OBMP, a long-term monitoring program will be developed and implemented in the fall of 2002. The long-term monitoring program will contain a minimum set of key wells that can be periodically monitored to assess water quality conditions in the Basin over time.

Implementation Status. Watermaster began implementation of a groundwater quality monitoring program in fiscal year 1999/00 with a budget commitment of about $250,000 and will commit the same or greater level of effort through 2001/02. After 2001/02, the budget commitment will be less reflecting the implementation of a key well monitoring program.

C. Production Monitoring Program

Description. The wells that Produce more than 10 acre-ft/yr in the Agricultural Pool will have in-line totalizing flow meters or other metering devices from which Watermaster will be able to estimate groundwater production in the Basin as provided in Article V of the Peace Agreement. To accomplish this, agricultural wells will be equipped with in-line totalizing flow meters or other suitable metering devices in each case in which it is prudent and feasible to do so.. Production records from wells owned by appropriators and overlying non-agricultural pool members will be reported quarterly as has been done in the past. Watermaster staff will monitor the meters of wells owned by agricultural pool members at least once a year during the

period of mid-May through June, if necessary. Watermaster staff will digitize all production records in Watermaster's database and use this information in the administration of the Judgment.

In addition to the above, all Producers will provide Watermaster on an annual basis with a *water use and disposal survey* form that describes the sources of water used by each Producer and how that water is disposed of after use. The purpose of the form is to provide information to Watermaster that will enable accurate salt budget estimates as described in *Program Element 6 – Develop and Implement Cooperative Programs with the Regional Board and Other Agencies to Improve Basin Management*, and for other water resources management investigations that may be undertaken by Watermaster in the future as part of implementing the OBMP.

Groundwater production estimates and water use and disposal survey forms will be obtained by the following entities:

- Overlying Agricultural Pool – Watermaster meters. Pool members read meters and will prepare and submit water use and disposal survey forms

- Overlying Non-Agricultural Pool – pool members will read their meters and prepare and submit the water use and disposal survey forms

- Appropriative Pool – pool members will read their meters and prepare and submit the water use and disposal survey forms.

Implementation Status. Watermaster developed and began implementation of a more comprehensive production monitoring program for the overlying agricultural pool in fiscal year 1999/00. The meter installation program will take place over a three-year period starting in fiscal year 2000/01 with a budget commitment of $200,000 not including staff and contract meter installation. The water use and disposal forms are in development in the current fiscal year and will be used in subsequent years starting in 2000/01.

D. Surface Water Discharge and Quality Monitoring

Description. Currently, water quality is measured at all existing recharge and retention basins that contribute or have the potential to contribute significant recharge to the Basin. Water level sensors will be installed in those recharge and retention basins that contribute significant recharge to the Chino Basin. These facilities are listed in Table 4-3 of the OBMP Phase 1 Report. New water level sensors may be required at a cost of $200,000. Water level data acquisition and water quality sampling will be done by Watermaster staff. The annual cost of laboratory analysis and interpretation of water level/discharge and water quality data is estimated to be as high as $45,000.

Watermaster needs to assess the existing surface water discharge and associated water quality monitoring programs for the Santa Ana River and its Chino Basin tributaries to determine the adequacy of the existing monitoring programs for characterizing historical ambient conditions and their utility in detecting water quality impacts from future Chino Basin management activities. If possible, Watermaster will exercise best efforts to contract with the agencies conducting these programs to modify their programs to accommodate Watermaster.

Implementation Status. Watermaster will take the lead in completing the following activities:

- Watermaster will exercise best efforts to install water level sensors in those existing recharge and retention facilities that have conservation storage and potential for storm water recharge. This activity will begin in Watermaster fiscal year 2000/01.

- Watermaster staff will obtain grab samples approximately every two weeks for all basins during the rainy season and have these samples analyzed. This activity has been occurring since 1997/98, is budgeted in the current fiscal year, and will continue in the future at some level reflecting the water resources management goals of Watermaster. Current fiscal year budget is $38,250. In addition, Watermaster staff will supplement its storm water quality data by obtaining information from other agencies that are required to collect such data.

- In the current fiscal year, Watermaster will review the surface water discharge and associated water quality monitoring programs for the Santa Ana River and the lower Chino Basin tributaries, and compare what is available from these programs to what is needed for Watermaster investigations under the OBMP. A supplementary /cooperative monitoring program will be developed based on this review and will be implemented by Watermaster during fiscal year 2000/01. The cost of the initial assessment of surface water data for the Santa Ana River is estimated to be $15,000.

E. Ground Level Monitoring Program

Description. Watermaster is interested in determining if and how much subsidence has occurred in the Basin. Watermaster will conduct an analysis of historical ground level surveys and remote sensing data to make this determination. The analysis consists of the following tasks:

- Historical survey data collected and/or on file by federal, state, and local agencies will be compiled, mapped, and reviewed to estimate total subsidence for as long a period as possible.

- Synthetic aperture radar (SAR) imagery was obtained by the City of Chino as part of its own subsidence investigations and was provided to Watermaster for its review and use. Watermaster converted this to maps to estimate recent subsidence (1993 to 1999) in the Management Zone 1.

- Based on the above information, a network of ground elevation stations in subsidence-prone areas will be developed and periodic surveys of these stations will be done. The frequency of periodic surveys will be established for the Basin as a whole with more frequent surveys done for some areas of the Basin. The estimated cost of this effort is not certain.

- Watermaster will summarize and distribute the ground level monitoring data through the normal Watermaster process.

Implementation Status. Watermaster has budgeted about $36,000 for the above tasks in the fiscal year 2000/01. These tasks will be accomplished in the

current fiscal year. Watermaster will budget for additional ground level surveys in subsequent years based on the results of the current year efforts.

F. Well Construction, Abandonment and Destruction Monitoring

Description. Watermaster maintains a database on wells in the Basin and Watermaster staff makes periodic well inspections. Watermaster staff sometimes finds a new well during routine well inspections. The near-term frequency of inspection is expected to increase due to the groundwater level, quality and production monitoring programs. Watermaster needs to know when new wells are constructed as part of its administration of the Judgment. Valuable information for use in managing the Chino Basin is usually developed when wells are constructed including: well design, lithologic and geophysical logs, groundwater level and quality data, and aquifer stress test data. Producers generally notify Watermaster when they construct a new well but seldom, if ever, provide the information listed above. Watermaster has not generally asked for these data. Well owners must obtain permits from the appropriate county and state agencies to drill a well and to put the well in use. Watermaster is developing cooperative agreements with the counties of Los Angeles, Orange, Riverside, and San Bernardino, and the California Department of Health Services (DHS) to ensure that the appropriate entities know that a new well has been constructed. Watermaster staff will make best efforts to obtain well design, lithologic and geophysical logs, groundwater level and quality data, and aquifer stress test data.

The presence of abandoned wells is a threat to groundwater supply and a physical hazard. Watermaster staff will review its database, make appropriate inspections, consult with well owners, and compile a list of abandoned wells in the Chino Basin. The owners of the abandoned wells will be requested to properly destroy their wells following the ordinances developed by the county in which the abandoned well is located. Watermaster staff will update its list of abandoned wells annually and provide this list to the counties for follow-up and enforcement.

Implementation Status. In Watermaster fiscal year 1999/2000, Watermaster staff began the process of formulating agreements with county and state agencies to notify each other regarding construction of new wells and to obtain construction related information. In 2000/01, Watermaster will continue this process and finalize these agreements. That year and every year thereafter, Watermaster will also prepare

a list of abandoned wells and forward that list to the counties for their action. Watermaster will follow up with the counties to ensure that abandoned wells are destroyed.

Implementation Actions and Schedule.

First Three Years (2000/01 to 2003/03).

Watermaster shall exercise best efforts to undertake the following actions in the first three years, commencing fiscal year 2000/01:

- Complete initial survey for the groundwater level program and develop long-term program.
- Complete initial survey for groundwater quality program and develop long-term program.
- Complete initial meter installation program for overlying agricultural pool.
- Complete initial ground level survey.
- Complete installation of water level sensors in recharge and retention facilities.
- Complete Santa Ana River surface water monitoring adequacy analysis.
- Continue surface water discharge and quality monitoring at recharge and retention facilities.
- Develop agreements with county and state agencies regarding notification of new well drilling. Well construction and related information will be requested as new wells are identified.

- Annually prepare a list of abandoned wells and forward it to the counties for their action. Follow up with the counties to ensure that abandoned wells are destroyed.

Years Four to Ten (2003/04 to 2010/11).

Watermaster shall exercise best efforts to undertake the following actions in years four through ten, commencing fiscal year 2002/03:

- Start and continue long-term groundwater level monitoring program, cause key wells to be relocated and constructed as necessary.

- Start and continue long-term groundwater quality monitoring program, cause key wells to be relocated and constructed as necessary.

- Continue production monitoring.

- Conduct remote sensing analysis using synthetic aperture radar or other techniques at least every ten years (2010/11) or sooner, if necessary.

- Continue ground level survey.

- Continue surface water discharge and quality monitoring in the Santa Ana River.

- Continue surface water discharge and quality monitoring at recharge and retention facilities.

- Well construction and related information will be requested as new wells are identified.

- Annually prepare a list of abandoned wells and forward it to the counties for their action. Follow up with the counties to ensure that abandoned wells are destroyed.

Years Eleven to Fifty (2011/12 to 2049/50).

Watermaster shall exercise best efforts to undertake the following actions in years eleven to fifty, commencing fiscal year 2011/12:

- Continue long-term groundwater level monitoring program, cause key wells to be relocated as necessary.

- Continue long-term groundwater quality monitoring program, cause key wells to be relocated as necessary.

- Continue production monitoring.

- Conduct remote sensing analysis using synthetic aperture radar or other technique at least every ten years (2020/21, 2030/31, 2040/41, 2050/51) or sooner, if necessary.

- Continue ground level survey.

- Participate as necessary in the Santa Ana River surface water monitoring.

- Continue surface water discharge and quality monitoring at recharge and retention facilities.

- Well construction related information will be requested as new wells are identified.

- Annually prepare a list of abandoned wells and forward it to the counties for their action. Follow up with the counties to ensure that abandoned wells are destroyed.

Watermaster will share the results of all these activities with the parties and relevant governmental agencies.

PROGRAM ELEMENT 2 -- DEVELOP AND IMPLEMENT COMPREHENSIVE RECHARGE PROGRAM

Watermaster will facilitate the development of physical recharge capacity in the Chino Basin. Recharge facilities will be sized and located to balance long term production and recharge. Watermaster will seek to maximize recharge so that each Producer will be able to Produce both the quantity and quality of water to meet its water supply needs to the greatest extent possible from the water that underlies the Producer's area of benefit.

INTRODUCTION

The need for a comprehensive recharge program is described in the OBMP Phase 1 report dated August 1999.

OBMP Program Element 2 -- Develop and Implement Comprehensive Recharge Program contains action items listed in the OBMP goals matrix (Table 3-8, OBMP Phase 1 Report, August 1999).

Increasing the yield of the Chino Basin by increasing the capture and recharge of storm flow will improve ambient water quality and increase the assimilative capacity of the Chino Basin. Increasing the capture of storm flow will reduce the cost of mitigation requirements for recharge of recycled water. The RWQCB Basin Plan assumes that a certain average annual quantity of storm flow (2300 acre-feet) will be recharged each year. The volume of recycled water that can be used in the Basin, without total dissolved solids (TDS) mitigation, is numerically tied to the average annual quantity of storm flow that recharges the Basin. A decrease in the recharge of storm flow will result in a decrease in the volume of recycled water that will be permitted in the Basin without TDS mitigation. Likewise, an increase in the recharge of storm flow will result in an increase in the volume of recycled water that will be permitted in the Basin without TDS mitigation. Therefore, the volume of recharge from storm flow has a dramatic impact on the future and cost of recycled water recharge.

The annual replenishment obligation will grow from the current level of about 30,000 to about 75,000 acre-feet per year (acre-ft/yr) over the next 20 to 30 years

(ultimate conditions). For ultimate conditions, as much as 31,000 acre-ft/yr of the replenishment obligation could be satisfied by transfer of unProduced rights in the Appropriative pool consistent with the Peace Agreement leaving a net replenishment obligation of about 44,000 acre-ft/yr. Currently, Watermaster has access to spreading facilities with a current capacity of about 29,000 acre-ft/yr when imported water from Metropolitan is available. Assuming replenishment water is available seven out of ten years, the average annual recharge capacity of recharge facilities expected to be available to Watermaster is about 20,000 acre-ft year. The in-lieu recharge potential for the Chino Basin is about 57,000 acre-ft/yr and is expected to remain constant over the next 20 to 30 years based on the water supply plan included in this OBMP. Assuming in-lieu replenishment water is available seven out of ten years, the average annual in-lieu recharge capacity available to Watermaster is about 40,000 acre-ft/yr. The replenishment obligation, and available recharge capacity for current and year 2020 are listed below (acre-ft/yr):

	Year 2000	Year 2020
Replenishment Obligation	31,000	75,000
Replenishment Capacity		
Underproduction	20,000	31,000
Physical Recharge	20,000	20,000
In-lieu Recharge	40,000	40,000
Subtotal	80,000	91,000
Surplus Replenishment Capacity	49,000	16,000

The surplus recharge capacity could be used up quickly by future replenishment needs and implementation of storage and recovery programs. The availability of in-lieu recharge capacity for in-lieu replenishment listed above is not a certainty. In the present mode of basin management, in-lieu recharge capacity is available on an ad hoc basis and requires the cooperation of water supply agencies that have access to supplemental water. If a substantial storage and recovery program is implemented, a major component of it may be satisfaction of repelenishment obligations by in-lieu recharge.

In-lieu recharge can be counted on in the short term but cannot be assumed available for ultimate conditions. The safest and most conservative way to ensure that recharge capacity will be available is for Watermaster to develop physical recharge capacity that will meet ultimate replenishment obligations. The estimated annual replenishment obligation for the Chino Basin for ultimate conditions is about 75,000 acre-ft/yr. The physical recharge requirement is equal to the ultimate replenishment obligation (75,000 acre-ft/yr) minus the under production (31,000 acre-ft/yr) and is equal to 44,000 acre-ft/yr. Watermaster will need an annual physical recharge capacity of about 63,000 acre-ft/yr (63,000~44,000/0.7). The distribution of physical recharge capacity by management zone was determined during the development of the *Program Environmental Impact Report for the OBMP* (Tom Dodson and Associates, 2000). The physical recharge capacity by management zone for the year 2020 is estimated to be:

Management Zone 1	34,000 acre-ft/yr
Management Zone 2	0 acre-ft/yr
Management Zone 3	29,000 acre-ft/yr
Total	63,000 acre-ft/yr

The allocation of recharge capacity to management zones is based on balancing recharge and production in each management zone with the ultimate production pattern described in OBMP Program Elements 3 and 5.

The Etiwanda, Montclair and San Sevaine basins are currently used by Watermaster for replenishment. During the development of the OBMP, seventeen additional existing storm water retention basins and one former recycled water percolation facility were identified that could be used to meet future replenishment obligations. These facilities are listed in Table 1. Table 1 also lists the replenishment capacities and improvements required to use these facilities for recharge of supplemental water and storm water. The locations of these basins are shown in Figure 1. These basins are currently used for storm water management and provide some degree of incidental recharge of storm water. From a practical standpoint, these basins will remain in service indefinitely. Because the facilities listed in Table 1 will be available for Watermaster indefinitely, construction of improvements to enable physical recharge for replenishment can be scheduled to meet the actual need. In the

short term, in-lieu recharge may be used for replenishment to the extent that in-lieu recharge and transfers can be done consistent with the goals of the OBMP and the "Peace Agreement."

All the facilities listed in Table 1 for supplemental recharge in Management Zone 1 will need to be constructed to meet replenishment obligations and to balance recharge with production. No new supplemental water recharge facilities are needed in Management Zone 2. Approximately 29,000 acre-ft/yr of new physical recharge capacity will need to be constructed in Management Zone 3 to meet replenishment obligations and to balance long term recharge with production. There is some flexibility in the location of the facilities available in Management Zone 3 and therefore engineering and economic investigations need to be done to select the facilities that should be used for replenishment.

B. NEGOTIATION OF AGREEMENTS

The successful development and implementation of a comprehensive recharge program is not dependent upon Watermaster owning physical assets and real property. Watermaster shall not own recharge projects, including but not limited to spreading grounds, injection wells, or diversion works. It shall never own real property. Watermaster may own water rights in trust for the benefit of the parties to the judgment. However, Watermaster shall arrange, facilitate and provide for recharge by entering into contracts with appropriate persons which may provide facilities and operations for physical recharge of water as required by the Judgment and this Agreement, or pursuant to the OBMP. Any such contracts shall include appropriate terms and conditions, including terms for the location and payment of costs necessary for the operation and maintenance of facilities, if any and terms to ensure that material physical injury to any party to the Judgment or the Basin is mitigated.

Watermaster will pay the cost of preparing the Recharge Master Plan as the next step in the implementation of the OBMP Program Element 2. When the Plan is prepared, Watermaster shall exercise best efforts to negotiate binding agreements that are necessary and prudent under the circumstances with SBCFCD, CBWCD, IEUA or others to implement recharge projects. Watermaster will seek to reach agreements

that are consistent with the Judgment and the Peace Agreement. In negotiating any binding agreements, Watermaster will acknowledge, take into account and be directed by the following additional considerations:

1. The flood control functions of the various SBCFCD basins capable of artificial recharge in the Chino Basin will take priority over the artificial recharge function.

2. To the extent that artificial recharge can be incorporated into the operations of the SBCFCD basins without increasing the risk of flood damage and loss of life, artificial recharge will be maximized.

3. Multi-purpose projects will be given high priority and will be considered on a case by case basis.

4. Watermaster, in coordination and consultation with IEUA, CBWCD, SBCFCD or others, will prepare the storm water component of the Recharge Master Plan. Watermaster will coordinate with IEUA, CBWCD, and SBCFCD or others to prepare the supplemental water recharge component of the Recharge Master Plan. All costs for constructing the new supplemental water projects that are identified in Phase 1 and Phase 2 of the Recharge Master Plan shall be borne by Watermaster.

5. Watermaster will prepare Phase 2 of the Recharge Master Plan within three years.

6. Phase 2 of the Recharge Master Plan will Produce a list of recharge projects that will be described as either high priority or low priority projects. Watermaster will coordinate with SBCFCD and will exercise best efforts to implement high priority projects that involve the re-operation of existing facilities with small to no improvements at existing facilities within one year of completion of the Phase 2 Recharge Master Plan and no later than four years.

7. Watermaster will coordinate with SBCFCD and exercise best-efforts to implement high priority projects that involve significant improvement and re-operation of existing facilities within two years of completion of the Phase 2 of the Recharge Master Plan.

8. During the planning of new storm water management facilities, Watermaster will evaluate the value of artificial recharge in a new storm water management project and will include storm water artificial recharge in all new projects where Watermaster determines there is a value to the artificial recharge of storm water.

9. Watermaster will coordinate and facilitate the implementation of new supplemental water projects that are identified in Phase 2 of the Recharge Master Plan. The recharge projects that are envisioned as of the date of the adoption of this Implementation Plan are listed in Table 1. However, other projects will be identified in Phase 2 of the Recharge Master Plan investigations.

10. Watermaster will exercise best efforts to coordinate its activities and those of others to maintain or improve recharge performance at basins in a manner such that there is maximum recharge of storm water and supplemental water. Watermaster will consult and coordinate with SBCFCD, CBWCD and other interested persons in selecting an entity to perform maintenance.

11. SBCFCD requires sufficient advance notice to allow conserved water to be recharged. Watermaster will consult and coordinate with SBCFCD to develop a conservation plan for each of the SBCFCD basins, including a schedule of conservation pool elevations, criteria that define when water can be put into conservation and when water in conservation storage must be released to restore the full flood protection capabilities of the basin.

12. All projects will be the subject of appropriate environmental review and, as necessary, mitigation of impacts.

Watermaster shall take the following further actions consistent with the Peace Agreement to develop and implement its comprehensive recharge program:

1. All recharge of the Chino Basin with supplemental water shall be subject to Watermaster approval.

2. Watermaster will ensure that any person may make application to Watermaster to recharge the Chino Basin with supplemental water, including the exercise of the right to offer to sell in-lieu recharge water to Watermaster as provided in the Judgment and this Agreement in a manner that is consistent with the OBMP and the law. Watermaster shall not approve an application by any party to the Judgment if it is inconsistent with the terms of the Agreement, or will cause any material physical injury to any party to the Judgment or the Basin. Any potential or threatened material physical injury to any Party or the Basin caused by the recharge of supplemental water, shall be mitigated as a condition of approval. In the event the material physical injury cannot be mitigated, the request for recharge of supplemental water must be denied.

3. Watermaster shall administer, direct and conduct the recharge of all water in a manner that is consistent with this Agreement, the OBMP and causes no material physical injury to any party to the Judgment or the Chino Basin. Nothing herein shall be construed as committing a Party to provide supplemental water upon terms and conditions that are not deemed acceptable to that Party.

4. Watermaster shall undertake recharge using water of the lowest cost and the highest quality, giving preference as far as possible to the augmentation and the recharge of native storm water.

5. In furtherance of its obligations under this Section, for a period of five years, commencing with Fiscal Year 2000-2001, and within each such Fiscal Year Watermaster shall arrange for the physical recharge of supplemental water in the amount of an annual average of 6,500 acre

feet per year in one or more of the areas commonly known as the Montclair, Brooks and Upland spreading facilities.

(i) If for any reason at the end of the five year period, a cumulative total of 32,500 acre-feet of physical recharge has not been accomplished under this subdivision, then recharge shall continue at the above referenced locations at the average annual rate of 6,500 acre-feet until the full 32,500 acre feet of physical recharge has been accomplished;

(ii) The recharged supplemental water shall increase the operating safe yield under the Judgment. The cost and allocation of this supplemental water under this Section 5.1g shall be apportioned pro rata among the members of the Appropriative Pool under the Judgment according to the Producer's share of the initial safe yield;

(iii) The need to continue physical recharge under this paragraph 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;

6. Watermaster shall provide an annual accounting of the amount of replenishment and the location of the specific types of replenishment.

7. Increases in stormwater recharge will be computed when new or enhanced recharge facilities come on line and the parties to the Judgment concur that the new information confirms an increase in recharge at the existing sites without causing a reduction in recharge at

other recharge sites in the basin. Increases in artificial stormwater recharge will be expressed as long term average annual values.

8. Watermaster will determine the baseline stormwater recharge. The baseline estimate of stormwater recharge will be determined by September 30, 2000. In the interim, the baseline will be assumed to be 5600 AF. Watermaster will, at appropriate points in time, review the stormwater recharge performance and redetermine the average annual volume of stormwater recharge and new stormwater recharge above the baseline stormwater 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 the recharge water

   (v) any other relevant factors

10. Adopt implementing procedures for the matters set forth above, by December 31, 2000.

11. There are some future projects that are technically and institutionally difficult to implement at this time, e.g., recharge of reclaimed water and injection through wells. A plan to integrate these future projects with those identified in Table 1 will be prepared within two years of the

effective date of the Peace Agreement. The plan will include an implementation schedule consistent with the OBMP and a financing plan.

Watermaster shall exercise its best efforts to:

(a) protect and enhance the safe yield of the Chino Basin through replenishment and recharge;

b) ensure there is sufficient recharge capacity for recharge water to meet the goals of the OBMP and the future water supply needs within the Chino Basin;

c) 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 within all areas and sub-areas of the Chino Basin;

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;

g) 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 or the Basin;

h) maintain long-term hydrologic balance between total recharge and discharge within all areas and sub-areas;

i) Coordinate, facilitate and arrange for the construction of the works and facilities necessary to implement the quantities of recharge identified in the OBMP Implementation Plan.

Implementation Status

The parties to the Peace Agreement have approved Watermaster proceeding as provided above. Implementation measures that follow preparation of the Recharge Master Plan will be predicated on the implementation actions and schedules that are Produced in the Master Plan and the Peace Agreement. However, a strong financial motivation is created for the prompt funding of local recharge projects as soon as possible because the members of the Appropriative Pool under the Judgment will incur replenishment obligations if the safe yield of the Basin is not enhanced by a sufficient quantity to cover the Chino I expansion, and the Chino II Desalters as well as the individual over-production obligations.

Implementation Actions and Schedule

First Three Years (2000/01 to 2002/03).

The following actions will be completed in the first three years commencing fiscal year 2000/01:

- Watermaster advisory committee will form an *ad hoc* committee to coordinate with CBWCD and SBCFCD.
- Implement all high priority recharge projects that involve only re-operation of existing recharge/flood control facilities.
- Complete the Recharge Master Plan.
- Complete design and construction of early action recharge projects identified in the first year of the implementation of the OBMP (potential projects are listed in Table 1 with an A priority and will be proposed for Proposition 13 funding by January 1, 2001).

Years Four to Fifty (2003/04 to 2049/50).

The following actions will be completed in years four through ten, commencing fiscal year 2002/03:

- By year 5 implement all high priority projects that involve construction and re-operation at existing facilities.
- Implement all other recharge projects based on need and available resources.
- Update the comprehensive recharge program every five years.

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

As urbanization of the agricultural areas of San Bernardino and Riverside counties in the southern half of the Basin occurs, the agricultural water demands will decrease and urban water demands will increase significantly. Future development in these areas is expected to be a combination of urban uses (residential, commercial, and industrial). The cities of Chino, Chino Hills, and Ontario, and the Jurupa Community Services District (JCSD) are expected to experience significant new demand as these purveyors begin serving urban customers in the former agricultural area. Based on current estimates of overlying agricultural pool production, it is expected that at least 40,000 acre-ft/yr of groundwater will need to Produced in the southern part of the Basin to maintain the safe yield.

Based on the data presented in *Optimum Basin Management Program, Phase I Report* (August 1999), municipal and industrial demands are projected to increase 30 percent between 2000 and ultimate build out (assumed to be 2020 in the Phase I report). Several agencies will experience increases in demand exceeding 30 percent, including the cities of Chino, Chino Hills, Norco, Ontario, Cucamonga County Water District (CCWD), Fontana Water Company (FWC), JCSD, and the West San Bernardino County Water District (WSBCWD). Forecasts from municipal and industrial entities indicate that municipal water supply sources for the Chino Basin at build out will consist predominantly of Chino Basin wells through direct use or treatment and use, groundwater and treated surface water from other basins, and MWDSC supplies. There is approximately 48,000 acre-ft/yr of agricultural production in the southern part of the Chino Basin in the year 2000, and this production will reduce to about 10,000 acre-ft/yr in the year 2020 at build-out. This decline in agricultural

production must be matched by new production in the southern part of the Basin or the safe yield in the Basin will be reduced. The remaining 10,000 acre-ft/yr of production in the southern part of the Basin will be used by the State of California. Future supplemental water supplies will come from expansion of the CCWD Lloyd Michael water treatment plant (WTP) and the WFA/JPA Agua de Lejos WTP.

Considerable discussion of the alternative water supply plans occurred at the OBMP workshops. The discussions focused, in part, on the assumption and details of each alternative and cost. Based on technical, environmental, and cost considerations, the stakeholders selected the water supply plan described in Table 2. Groundwater production for municipal use will be increased in the southern part of the Basin to: meet the emerging demand for municipal supplies in the Chino Basin, maintain safe yield, and to protect water quality in the Santa Ana River. A preliminary facility plan (Revised Draft Water Supply Plan Phase I Desalting Project Facilities Report) was prepared in June, 2000, that describes the expansion of the Chino I Desalter and the construction of the Chino II Desalter to be built in the JCSD service area (Attachment I). New southern Basin production for municipal use will require desalting prior to use. The cities of Chino, Chino Hills, Ontario and Norco, and the JCSD will maximize their use of groundwater from the southern part of the Basin prior to using other supplies. Chino Desalter No. 1 (the SAWPA Desalters), which is about to start production will have to be expanded from 8 million gallons per day (mgd) to 10 or 12 mgd by 2003. The Chino Desalter No. II will start construction in early 2001 as the Desalters will need to be on-line by 2003 with a capacity of 10 mgd. Both these Desalters will be expanded in the future. The general location of these Desalters, their respective well fields, product water pipelines, and delivery points are shown in Figure 2. Table 3 shows the timetable for the new Desalters capacity along with the salt removal capacity of these Desalters. Watermaster and IEUA have completed a draft project report for the expansion of the No. I, and the construction of Desalter No. II. The facility plan calls for Desalter No. I to be expanded from its existing capacity of 8 mgd to 10 mgd and the construction Desalter No. II with a capacity of 10 mgd by 2003. This facility plan will be submitted as part of an application to SAWPA in July 2000 to obtain Proposition 13 funding for the construction of these Desalters. Construction will start in January 2001 and these facilities will be online in 2003. These two Desalters will remove about 36,000 tons of salt per year from the basin which is about 46 percent of total salt removal capacity of Desalters envisioned in the OBMP (77,000 tons/year).

Imported water use will increase to meet emerging demands for municipal and industrial supplies in the Chino Basin area, Watermaster replenishment, and storage and recovery programs or conjunctive use. Expanded use of imported water in the northern part of the Basin will have a lower priority than maintaining groundwater production in the southern part of the Basin.

Recycled water use (direct use and recharge) will increase to meet emerging demands for non-potable water and artificial recharge. Under the current Basin Plan, all new recycled water use will require mitigation for TDS and nitrogen impacts. Recycled water use will be expanded as soon as practical. The two new Desalters described above and the increase in storm water recharge will provide mitigation for the expanded use of recycled water.

Watermaster is preparing a facilities report to be submitted to SAWPA as part of IEUA's application for funding from Proposition 13.

Implementation Status

Watermaster, working with IEUA, WMWD, OCWD or the Project Committee 14, and Producers, is in the process of finalizing a facilities plan that will result in the expansion of the Chino I Desalter and the construction of the new Chino II Desalter. Construction of these facilities will begin in early 2001(Attachment I).

Implementation Actions and Schedule

First Three Years (2000/01 to 2003/04).

Watermaster shall exercise best efforts to undertake the following actions in the first three years, commencing fiscal year 2000/01:

- Complete the Water Facilities Plan Report for the Expansion of the Chino I Desalter and the construction of the Chino II Desalter. It should be noted that this action is entirely consistent with the OBMP, and is being taken prior to completion of the OBMP.
- Start expansion of the Chino I Desalter and the construction of the Chino II Desalter in early 2001.

Years Four to Fifty (2004/05 to 2049/50).

Watermaster shall exercise best efforts to undertake the following actions in years four to fifty, commencing fiscal year 2004/05:

- Complete construction and start up of the expanded Chino I and new Chino II Desalters.
- Watermaster, IEUA and WMWD will periodically review the Regional Water Supply Plan and the need for new Desalter capacity in the southern water-quality impaired part of the Basin, and initiate the construction of new Desalter capacity as determined by Watermaster. Expansion of the Desalter capacity will occur as agricultural production in the southern water-quality impaired part of the basin declines.
- IEUA will construct recycled water facilities to meet the demand for recycled water and for replenishment.

PROGRAM ELEMENT 4 – DEVELOP AND IMPLEMENT COMPREHENSIVE GROUNDWATER MANAGEMENT PLAN FOR MANAGEMENT ZONE 1 (MZ1)

The occurrence of subsidence and fissuring in Management Zone 1 is not acceptable and should be reduced to tolerable levels or abated. The OBMP calls for a management plan to reduce or abate the subsidence and fissuring problems to the extent that it may be caused by production in MZ1. There is some uncertainty as to the causes of subsidence and fissuring and more information is necessary to distinguish among potential causes. Therefore an interim management plan will be developed to minimize subsidence and fissuring while new information is collected to assess the causes and to develop an effective long-term management plan.

Description.

The interim management plan consists of the following activities:

- Voluntary modifications to groundwater production patterns in Management Zone 1. During fiscal year 1999/2000 the cities of Chino and Chino Hills as well as the State of California have voluntarily reduced their production in the vicinity of recent ground fissures.
- Monitor long term balance of recharge and production in Management Zone 1.
- Determine gaps in existing knowledge.
- Implement a process to fill the gaps in existing knowledge. This include(s) hydrogeologic, geophysical, and remote sensing

investigations of Management Zone 1, as well as certain monitoring programs, including piezometric, production, water quality, ground level, and subsidence monitoring.

- Formulate a long-term management plan. The long-term management plan will include goals, activities to achieve those goals, and a means to evaluate the success of the plan.

The long-term management plan will be formulated while the interim management plan is in-place based on investigations, monitoring programs and data assessment. It may include modifications to groundwater pumping rates and the locations of pumping, recharge, and monitoring. The long-term management plan will be adaptive in nature – meaning monitoring and periodic data assessment will be used to evaluate the success of the management plan and to modify the plan, if necessary.

Implementation Status.

Watermaster will develop the interim management plan during fiscal year 2000/01. Watermaster's budget estimate for this effort in fiscal 2000/01 is $100,000. Monitoring and construction of extensometers for this effort is included in Program Element 1.

Approval of The Peace Agreement will also provide the adoption of Basin-wide measures that will benefit conditions within MZ 1. These measures include the following a portion of which are referenced on pages 16-19 and are repeated below in the interest of completeness and clarity:

Recharge and Replenishment.

After the Effective Date and until the termination of this Agreement, the Parties expressly consent to Watermaster's performance of the following actions, programs or procedures regarding Recharge and Replenishment:

(a) All Recharge of the Chino Basin with Supplemental Water shall be subject to Watermaster approval.

(b) Watermaster will ensure that any person may make application to Watermaster to Recharge the Chino Basin with Supplemental Water, including the exercise of the right to offer to sell in-lieu Recharge water to Watermaster as provided in the Judgment and the Agreement in a manner that is consistent with the

OBMP and the law. Watermaster shall not approve an application by any party to the Judgment if it is inconsistent with the terms of the Agreement, or will cause any Material Physical Injury to any party to the Judgment or the Basin. Any potential or threatened Material Physical Injury to any Party or the Basin caused by the Recharge of Supplemental Water shall be fully and reasonably mitigated as a condition of approval. In the event the Material Physical Injury cannot be fully and reasonably mitigated, the request for Recharge of Supplemental Water must be denied.

(c) Watermaster shall administer, direct and conduct the Recharge of all water n a manner that is consistent with this Agreement, the OBMP and causes no Material Physical Injury to any party to the Judgment or the Chino Basin. Nothing herein shall be construed as committing a Party to provide Supplemental Water upon terms and conditions that are not deemed acceptable to that Party.

(d) Notwithstanding Section 5.1(c), CBWCD shall reserve its complete discretion to Recharge the Basin with water other than Supplemental Water as may be authorized by general law so long as the Recharge is in accordance with the limitations in the Judgment, if any and is in accordance with the provisions of Section 5.1(d)(i)-(v).

(i) Upon request by Watermaster CBWCD shall exercise Best Efforts to consult, coordinate and cooperate with Watermaster when recharging water into the Basin;

(ii) CBWCD shall provide Watermaster with reasonable notice in advance of any material change in its historic Recharge operations;

(iii) CBWCD shall not be required to provide funding for Recharge projects merely by virtue of its execution of this Agreement;

(iv) CBWCD shall Recharge the Basin in a manner that does not cause Material Physical Injury to any party to the Judgment or the Basin. Upon Watermaster's receipt of a written allegation that an existing or proposed CBWCD Recharge activity has or will cause Material Physical Injury to any party to the Judgment or the Basin, Watermaster shall hold a Public Hearing within a reasonable time. Watermaster shall provide

notice and opportunity to be heard to interested parties to the Judgment including CBWCD. After hearing, Watermaster may approve, deny or condition the CBWCD's Recharge. Watermaster's decision shall be based upon the record and it shall be subject to the court's review;

(v) CBWCD's Recharge of the Basin coupled with an intent to store and recover water shall require a storage and recovery agreement.

(e) Watermaster shall exercise its Best Efforts to:

(i) protect and enhance the Safe Yield of the Chino Basin through Replenishment and Recharge;

(ii) ensure there is sufficient Recharge capacity for Recharge Water to meet the goals of the OBMP and the future water supply needs within the Chino Basin;

(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 within all areas and sub-areas of the Chino Basin;

(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 accord-ance with the provisions of Section 5.3;

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

(vi) ensure a proper accounting of all sources of Recharge to the Chino Basin;

(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 or the Basin;

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

(ix) coordinate, facilitate and arrange for the construction of the works and facilities necessary to implement the quantities of Recharge identified in the OBMP Implementation Plan.

(f) Watermaster shall undertake Recharge, using water of the lowest cost and the highest quality, giving preference as far as possible to the augmentation and the Recharge of native storm water.

(g) In furtherance of its obligations under this Section, for a period of five years, commencing with Fiscal Year 2000-2001, and within each such Fiscal Year Watermaster shall arrange for the physical Recharge of Supplemental Water in the amount of an annual average of 6,500 acre-feet per year in one or more of the areas commonly known as the Montclair, Brooks and Upland spreading facilities.

(i) If for any reason at the end of the five year period, a cumulative total of 32,500 acre-feet of physical Recharge has not been accomplished under this subdivision, then Recharge shall continue at the above referenced locations at the average annual rate of 6,500 acre-feet until the full 32,500 acre-feet of physical Recharge has been accomplished;

(ii) The Recharged Supplemental Water shall increase the Operating Safe Yield under the Judgment. The cost and allocation of this Supplemental Water under this Section 5.1g shall be apportioned pro rata among the members of the Appropriative Pool under the Judgment according to the Producer's share of the initial Safe Yield;

(iii) The need to continue physical Recharge under this paragraph 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 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;

(h) Watermaster shall not own Recharge projects, including but not limited to spreading grounds, injection wells, or diversion works. It shall never own real property. However, Watermaster may own water rights in trust for the benefit of the parties to the Judgment. Moreover, Watermaster shall arrange, facilitate and provide for Recharge by entering into contracts with appropriate persons, which may provide facilities and operations for physical Recharge of water as required by the Judgment and this Agreement, or pursuant to the OBMP. Any such contracts shall include appropriate terms and conditions, including terms for the location and payment of costs necessary for the operation and maintenance of facilities, if any.

(i) CBWCD's rights and obligations to obtain Replenishment Water are unaffected by the execution of this Agreement. Its obligation, rights and duties regarding Recharge may be set by arms length negotiation through separate agreement or as they otherwise exist under general law and the Judgment.

(j) Watermaster shall provide an annual accounting of the amount of Recharge and the location of the specific types of Recharge.

Implementation Actions and Schedule

First Five Years (2000/01 to 2004/05).

The following actions will be completed in the first three years commencing fiscal year 2000/01:

For a period of five years, commencing with Fiscal Year 2000-2001, and within each such Fiscal Year, arrange for the physical recharge of Supplemental Water in the amount of an annual average of 6,500 acre feet per year in one or more of the areas commonly known as the Montclair, Brooks and Upland spreading facilities. The need to continue physical recharge at these locations shall be evaluated by Watermaster after the conclusion of Fiscal Year 2004-2005.

- 2000/01 – A Management Zone 1 committee will develop a recommended interim management plan consistent with the above description.
- 2001/02 to 2003/04 – Implement the approved interim management plan, including appropriate monitoring; and annual assessment of data from monitoring programs, and modification of monitoring programs if necessary.
- 2004/05 – Develop long-term management plan.
- Implement the long term management plan.

Years Six to Fifty (2005/06 to 2049/50).

The following actions will be completed in years six through fifty, commencing fiscal year 2002/03:

- 2007/08 and every three years thereafter – Assess data from monitoring programs every three years and modify of management plan if necessary.
- Implement the long term management plan.

PROGRAM ELEMENT 6 – DEVELOP AND IMPLEMENT COOPERATIVE PROGRAMS WITH THE REGIONAL BOARD AND OTHER AGENCIES TO IMPROVE BASIN MANAGEMENT, and PROGRAM ELEMENT 7 – SALT MANAGEMENT PROGRAM

These program elements are needed to address some of the water quality management problems that have occurred in the Basin. These water quality problems are described in Section 2 *Current Physical State of the Basin* and Table 3-8 in Section 3 *Goals of the OBMP* of the OBMP Phase 1 Report. The specific water quality issues addressed by these program elements are listed below:

- Watermaster needs to routinely demonstrate that implementation of the OBMP will lead to groundwater quality improvements. Watermaster will develop and use a method to determine water quality trends and to verify whether the OBMP is improving water quality.
- There is legacy contamination in the vadose zone from past agricultural activities (TDS and nitrogen) that will continue to degrade groundwater long into the future.

- Watermaster does not have sufficient information to determine whether point and non-point sources of groundwater contamination are being adequately addressed.
- There is ongoing salt and nitrogen loading from agriculture.

Demonstration of Water Quality Improvement

Description.

The Court has indicated that Watermaster needs to routinely demonstrate that implementation of the OBMP will lead to groundwater quality improvements. Groundwater quality monitoring will be done in Program Element 1 and can be used to assess the long-term water quality benefits of the OBMP. In the short term, groundwater quality monitoring will not be a true metric of the water quality benefits of the OBMP. Water quality changes will occur very slowly. Water quality may continue to degrade after implementation of the OBMP due to legacy contamination in the vadose zone. Watermaster committed to the development of a salt budget tool that enables Watermaster to evaluate the water quality benefits of OBMP. In fiscal year 1999/2000, Watermaster developed the preliminary version of the salt budget tool to evaluate the projected OBMP performance in the Program Draft Environmental Impact Report for the OBMP. The salt budget tool is a spreadsheet tool that estimates the flow-weighted concentration of TDS and nitrogen into the Chino Basin at the management zone and basin levels, and estimates the TDS and nitrogen impacts of the OBMP on the Santa Ana River. The preliminary version of the salt budget tool needs to be revised to more accurately account for storm water recharge and storm water quality. The cost to update the salt budget tool will range between $40,000 to $45,000. Subsequent uses, in either OBMP updates or *ad hoc* investigations, will involve using and analyzing new water quality input data based on new monitoring data and revised water and waste management scenarios and program refinements as more is learned.

Implementation Status. As part of the Phase 2 OBMP process, Watermaster conducted preliminary salt budget studies. The preliminary salt budget studies were completed in May of 2000. Watermaster will update and refine the salt budget tool during Watermaster fiscal year 2000/01.

Cooperative Efforts with the Regional Water Quality Control Board

Description.

Watermaster does not have sufficient information to determine whether point and non-point sources of groundwater contamination are being adequately addressed. Watermaster's past monitoring efforts have been largely confined to mineral constituents in the southern half of the Basin and to available monitoring data supplied by municipal and industrial Producers. The Regional Water Quality Control Board (Regional Board) has limited resources to detect, monitor and cause the clean up of point and non-point water quality problems in the Chino Basin. The Regional Board commits its resources to enforce remedial actions when it has identified a potential responsible party. Watermaster can improve water quality management in the Basin by committing resources to:

- identify water quality anomalies through monitoring;
- assist the Regional Board in determining sources of the water quality anomalies;
- establish priorities for clean-up jointly with RWQCB; and
- remove organic contaminants through regional groundwater treatment projects in the southern half of the Basin.

The last bulleted item requires some explanation. The well field for the Chino I Desalter will eventually intercept a solvent plume of unknown origin that is emanating from the Chino airport area. There is a second solvent plume northeast of the Chino airport area that could be intercepted by the current Desalter or another future Desalter. This will require additional treatment for the water Produced by the Desalter. The Desalter project can be used to clean up these plumes at some additional cost. The cost of cleaning up the solvent plumes at the Desalters will be less than the cost of a dedicated solvent removal system. The additional cost should be paid for by the entity responsible for the solvent discharge.

Implementation Status. Watermaster is in the process of identifying water quality anomalies through its groundwater monitoring programs in Program Element 1. A revised anomaly map similar to Figure 2-58 in the OBMP Phase 1 report will be prepared by Watermaster. These water quality anomaly maps will be revised at least annually by Watermaster. The maps and supporting data will be submitted to the RWQCB for their use.

Watermaster will form an ad hoc committee, hereafter *water quality committee*, to review water quality conditions in the Basin and to develop cooperative strategies and plans to improve water quality in the Basin. The committee will meet regularly with Regional Board staff to recommend cooperative efforts for monitoring groundwater quality and detecting water quality anomalies. The schedule and frequency of meetings will be developed with the Regional Board during fiscal 2000/01 of the OBMP implementation. Watermaster will budget sufficient funds for fiscal 2000/01 for the first year of ad hoc committee activities. Watermaster will refine its monitoring efforts to support the detection and quantification of water quality anomalies. This may require additional budgeting for analytical work and staff/support. If necessary, Watermaster will conduct investigations to assist the Regional Board in accomplishing mutually beneficial objectives. Watermaster will seek funding from outside sources to accelerate detection and clean up efforts.

TDS and Nitrogen (Salt) Management in the Chino Basin

Description. TDS and nitrogen management will require minimizing TDS and nitrogen additions by fertilizers and dairy wastes, desalting of groundwater in the southern part of the Basin, and maximizing the artificial recharge of storm water. The latter two management components are included in Program Elements 3 and 2, respectively

The agricultural area in the southern part of the Chino Basin will gradually convert to urban uses over the next 20 to 30 years and, thus, in the long term, the TDS and nitrogen challenges from irrigated agriculture and dairy waste management will go away. The Regional Board adopted new dairy waste discharge requirements in 1999. The requirements include the following:

- Each dairy will develop and implement an engineered waste management plan that will contain dairy process water and on-dairy precipitation runoff for up to a 25-year, 24-hour storm event
- Manure scraped from corrals must be exported from the dairy within 180 days
- All manure stockpiled in the Chino Basin as of December 1, 1999, will be exported from the Basin by December 1, 2001.
- No manure may be disposed of in the Chino Basin
- Some manure can be applied to land at agronomic rates if and only if in the opinion of the Executive Officer of the RWQCB there is

reasonable progress toward the construction of a new Desalter in the Chino Basin.

The urban land use that will replace agriculture will require low TDS municipal supplies that in turn will Produce lower TDS irrigation returns to groundwater than those generated by agriculture. The construction of Desalters in the southern part of the Basin (as described in Program Elements 3 and 5) will extract and export large quantities of salt from the Basin. If Desalters are installed or expanded as currently being evaluated, approximately 50% of the salt removal capacity contemplated by 2020 in the Phase I report will be occurring by 2005. By 2020, the salt removal capacity of the Desalters will reach over 77,000 tons per year. Watermaster expects a net reduction in salt loading of about 77,000 to 100,000 tons of salt per year in the next 20 to 30 years.

Implementation Status. Watermaster will continue to monitor the nitrogen and salt management activities within the basin and update its nitrogen and salt management strategy as necessary.

Implementation Actions and Schedule

First Three Years (2000/01 to 2002/03). The following actions will be completed in the first three years commencing fiscal year 2000/01:

- Watermaster will form an ad hoc committee, hereafter *water quality committee.* The schedule and frequency of meetings will be developed with the Regional Board during the first year of the OBMP implementation.
- Watermaster will refine its monitoring efforts to support the detection and quantification of water quality anomalies. This may require additional budgeting for analytical work and staff/support.
- If necessary, Watermaster will conduct investigations to assist the Regional Board in accomplishing mutually beneficial objectives.
- Watermaster will seek funding from outside sources to accelerate detection and clean up efforts.
- Develop salt budget goals, develop the salt budget tool described above and review all the OBMP actions.
- Watermaster will continue to monitor the nitrogen and salt management activities within the basin.

At the conclusion of the third year, the *water quality committee* will have met several times, developed and implemented a cooperative monitoring plan with the Regional Board, and developed a priority list and proposed schedule for cleaning up all known water quality anomalies.

Years Four through Fifty (2003/04 to 2049/50).

The following actions will be completed in years four through fifty, commencing fiscal year 2003/04:

- Continue monitoring and coordination efforts with the Regional Board.
- Annually update priority list and schedule for cleaning up all known water quality anomalies.
- Continue to seek funding from outside sources to accelerate clean up efforts.
- Implement projects of mutual interest.
- As part of periodic updates of the OBMP, re-compute the salt budget using the salt budget tool. The salt budget tool will be used to reassess future OBMP actions to ensure that salt management goals are attained.
- Watermaster will continue to monitor the nitrogen and salt management activities within the basin.

PROGRAM ELEMENT 8 – DEVELOP AND IMPLEMENT GROUNDWATER STORAGE MANAGEMENT PROGRAM, PROGRAM ELEMENT 9 – DEVELOP AND IMPLEMENT STORAGE AND RECOVERY PROGRAMS

Watermaster seeks to develop a storage and recovery program that will benefit all the parties in the Basin and ensure that Basin water and storage capacity are put to maximum beneficial use while causing no material physical injury to any Producer or the Basin.

The following definitions were developed by Watermaster:

Operational Storage Requirement - The operational storage requirement is the storage or volume in the Chino Basin that is necessary to maintain safe yield. In the context of this storage and recovery program, the operational storage is estimated to be about 5,300,000 acre feet. An engineering analysis will be

done to assess the operational storage requirement of the Basin as part of the implementation of this program.

Safe Storage – Safe storage is an estimate of the maximum storage in the Basin that will not cause significant water quality and high groundwater related problems. In the context of this storage management program, the safe storage is estimated to be about 5,800,000 acre-ft. An engineering analysis will be done to assess the safe storage requirement of the Basin as part of the implementation this plan.

Safe Storage Capacity – The safe storage capacity is the difference between safe storage and operational storage requirement and is the storage that can be safely used by Producers and Watermaster for storage programs. Based on the above, the safe storage capacity is about 500,000 acre-ft including water in the existing storage accounts. The allocation and use of storage in excess of safe storage will preemptively require mitigation, that is, mitigation must be defined and resources committed to mitigation prior to allocation and use.

Key Elements of the Storage and Recovery Program will include Watermaster taking the following actions:

Storage and Recovery.
After the Peace Agreement is effective Watermaster shall act in accordance with the following actions regarding the storage and recovery of water:

(a) In General.

(i) All storage capacity shall be subject to regulation and control by Watermaster;

(ii) No person shall store water in and recover water from the Chino Basin without an agreement with Watermaster;

(iii) Watermaster will ensure that any person, including but not limited to the State of California and the Department of Water Resources may make application to Watermaster to store and recover water from the Chino Basin as provided herein in a manner that is consistent with the OBMP and the law. Watermaster shall not approve an application to store and

recover water if it is inconsistent with the terms of this Agreement or will cause any Material Physical Injury to any party to the Judgment or the Basin. Any potential or threatened Material Physical Injury to any Party or the Basin caused by the storage and recovery of water shall be reasonably and fully mitigated as a condition of approval. In the event the Material Physical Injury cannot be mitigated, the request for storage and recovery must be denied.

(iv) This Agreement shall not be construed to limit the State or its department or agencies from using available storage capacity in the Basin in accordance with the provisions of this Section under a storage and recovery agreement with Watermaster.

(b) Local Storage.

(i) For a period of five years from the Effective Date, Watermaster shall ensure that: (a) the quantity of water actually held in Local Storage under a storage agreement with Watermaster is confirmed and protected and (b) each party to the Judgment shall have the right to store its un-Produced carry-over water. Thereafter, a party to the Judgment may continue to Produce the actual quantity of carry-over water and Supplemental Water held in its storage account, subject only to the loss provisions set forth in this Section 5.2. This means a party to the Judgment may increase the total volume of carry-over water it holds in Local Storage up to five years after the Effective Date and as Watermaster may approve pursuant to a Local Storage agreement for Supplemental Water.

(ii) For a period of five years from the Effective Date, any party to the Judgment may make application to Watermaster for a Local Storage agreement, whereby it may store Supplemental Water in the Chino Basin.

(iii) Watermaster shall provide reasonable advance written notice to all interested parties of the proposed Local Storage agreement, prior to approving the agreement. The notice shall include the persons engaged in the Local Storage, the location of the Recharge and Production facilities and the potential for any Material Physical Injury, if any.

(iv) Watermaster shall approve the Local Storage agreement so long as: (1) the total quantity of Supplemental Water authorized to be held in Local Storage under all then existing Local Storage agreements for all parties to the Judgment does not exceed the cumulative total of 50,000 acre-feet; (2) the party to the Judgment making the request provides their own Recharge facilities for the purpose of placing the Supplemental Water into Local Storage; (3) the agreement will not result in any Material Physical Injury to any party to the Judgment or the Basin. Watermaster may approve a proposed agreement with conditions that mitigate any threatened or potential Material Physical Injury.

(v) There shall be a rebuttable presumption that the Local Storage agreement for Supplemental Water does not result in Material Physical Injury to a party to the Judgment or the Basin.

(vi) In the event any party to the Judgment, or Watermaster, objects to a proposed Local Storage agreement for Supplemental Water and submits evidence that there may be a Material Physical Injury to any party to the Judgment or the Basin, Watermaster shall hold a Public Hearing and allow the objecting party to the Judgment a reasonable opportunity to be heard.

(vii) In the event more than one party to the Judgment submits a request for an agreement to store Supplemental Water pursuant to a Local Storage agreement, Watermaster shall give priority to the first party to file a bona fide written request which shall include the name of the party to the Judgment, the source, quantity and quality of the Supplemental Water, an identification of the party to the Judgment's access to or ownership of the Recharge facilities, the duration of the Local Storage and any other information Watermaster shall reasonably request. Watermaster shall not grant any person the right to store more than the then existing amount of available Local Storage. The amount of Local Storage available for the storage of Supplemental Water shall be determined by subtracting the previously approved and allocated quantity of storage capacity for Supplemental Water from the cumulative maximum of 50,000 acre-feet.

(viii) Watermaster shall base any decision to approve or disapprove any

proposed agreement upon the record.

(ix) Any party to the Judgment may seek judicial review of Watermaster's decision.

(x) Five years after the Effective Date, Watermaster shall have discretion to place reasonable limits on the further accrual of carry-over and Supplemental Water in Local Storage. However, Watermaster shall not limit the accrual of carry-over Local Storage for Fontana Union Mutual Water Company and Cucamonga County Water District when accruing carry-over storage pursuant to *Lease of Corporate Shares Coupled with Irrevocable Proxy, dated July 1, 1993 between Cucamonga County Water District and Fontana Water Resources Inc. and the Settlement Agreement Among Fontana Union Water Company, Kaiser Steel Reserves Inc., San Gabriel Valley Water Company and Cucamonga County Water Districts dated February 7, 1992*, to a quantity less than 25,000 acre-feet for the term of this Agreement.

(xi) Watermaster shall evaluate the need for limits on water held in Local Storage to determine whether the accrual of additional Local Storage by the parties to the Judgment should be conditioned, curtailed or prohibited if it is necessary to provide priority for the use of storage capacity for those Storage and Recovery Programs that provide broad mutual benefits to the parties to the Judgment as provided in this paragraph and Section 5.2(c) below;

(xii) Watermaster shall set the annual rate of loss from Local Storage for parties to the Judgment at zero until 2005. Thereafter the rate of loss from Local Storage for parties to the Judgment will be 2% until recalculated based upon the best available scientific information. Losses shall be deducted annually from each party to the Judgment's storage account;

(xiii) Watermaster shall allow water held in storage to be transferred pursuant to the provisions of Section 5.3 below. Storage capacity is not transferable by any party to the Judgment or any Party hereto.

(c) Storage and Recovery Program.

(i) Watermaster will ensure that no person shall store water in and recover water from the Basin, other than pursuant to a Local Storage agreement, without a storage and recovery agreement with Watermaster;

(ii) Watermaster shall prepare a list of basic information that a proposed applicant for a Storage and Recovery Program must submit to Watermaster prior to the execution of a storage and recovery agreement;

(iii) As a precondition of any project, program or contract regarding the use of Basin storage capacity pursuant to a Storage and Recovery Program, Watermaster shall first request proposals from qualified persons.

(iv) Watermaster shall be guided by the following criteria in evaluating any request to store and recover water from the Basin by a party to the Judgment or any person under a Storage and Recovery Program.

(a) The initial target for the cumulative quantity of water held in storage is 500,000 acre-feet in addition to the existing storage accounts;

(b) Watermaster shall prioritize its efforts to regulate and condition the storage and recovery of water developed in a Storage and Recovery Program for the mutual benefit of the parties to the Judgment and give first priority to Storage and Recovery Programs that provide broad mutual benefits;

(v) For the term of this Agreement, members of the Appropriative Pool and the Non-Agricultural Pool shall be exclusively entitled to the compensation paid for a Storage and Recovery Program irrespective of whether it be in the form of money, revenues, credits, proceeds, programs, facilities, or other contributions (collectively "compensation") as directed by the Non-Agricultural and the Appropriative Pools;

(vi) The compensation received from the use of available storage capacity under a Storage and Recovery Program, may be used to off-set the

Watermaster's cost of operation, to reduce assessments on the parties to the Judgment within the Appropriative and Non-Agricultural Pools, and to defray the costs of capital projects as may be requested by the members of the Non-Agricultural Pools and the Appropriative Pool;

(vii) Any potential or threatened Material Physical Injury to any party to the Judgment or the Basin caused by storage and recovery of water, whether Local Storage and recovery or pursuant to a Storage and Recovery Program, shall be reasonably and fully mitigated as a condition of approval;

(viii) Watermaster reserves discretion to negotiate appropriate terms and conditions or to refuse to enter into a Storage and Recovery or to deny any request. However, with respect to persons not parties to the Judgment, Watermaster reserves complete discretion. Watermaster shall base any decision to approve or disapprove any proposed Storage and Recovery Program upon the record. However, it may not approve a proposed Storage and Recovery Program unless it has first imposed conditions to reasonably and fully mitigate any threatened or potential Material Physical Injury;

(ix) Any party to the Judgment may seek review of the Watermaster's decision regarding a Storage and Recovery Program.

(d) The specific terms and conditions for the use of the facilities of CBWCD in connection with Local Storage or Storage and Recovery Programs shall be covered under separate agreements reached by arms length bargaining between Watermaster and CBWCD. Watermaster and any other Party shall not be entitled to the income received by CBWCD for use of its facilities in connection with Local Storage or Storage and Recovery Programs without the consent of CBWCD. Nothing in this Agreement shall be construed as preventing CBWCD from entering into an agreement with others for use of its facilities in a manner consistent with Section 5.1(d) i-v of this Agreement.

(e) Nothing herein shall be construed as prohibiting the export of Supplemental Water stored under a Storage and Recovery Program and pursuant to a storage and recovery agreement.

(f) Watermaster shall exercise Best Efforts to undertake the following measures:

(i) Complete the Short-Term conjunctive use project, authorized by Watermaster and conducted by IEUA, TVMWD and MWD;

(ii) Evaluate and develop a seasonal peaking program for in-Basin use and dry year yield to reduce the Basin's demand on the Metropolitan Water District for imported water;

(iii) Evaluate and develop a dry year export program;

(iv) Evaluate and develop a seasonal peaking export program;

Re-determination of Safe Yield and Storage Loss Rates

Safe Yield is currently 140,000 acre-feet per year. The safe yield and storage loss rate will be assessed every ten years starting in the year 2010/14. The ten-year period of 2000/01 to 2009/10 will be used to compute the safe yield and to estimate the storage loss rate.

Safe yield and storage loss rate determinations require accurate groundwater level and production data. Watermaster does not have accurate production data from agricultural Producers. Program Element 1 of the OBMP includes a program to install meters and obtain more accurate production measurements from wells in the Basin. It will take three years to implement the initial part of this program.

The safe yield in the Judgment was developed over the period 1965 to 1974 using the procedure described in Section 2 of the OBMP Phase I Report. The safe yield will be re-determined in year 2010/11 using the ten-year period 2000/01 to 2009/10 because it will contain accurate production data and groundwater level data. A ten-year period is proposed to be consistent with the method used in the engineering work for the Judgment and is the minimum necessary to estimate a safe yield.

Re-determination of the storage loss rate will require the use of a numerical model. The model will be used as follows:

- Calibrate the numerical model for the safe yield period. In the calibration process, the hydrology for the period 2000/01 to 2009/10 will be developed including deep percolation of applied water and precipitation, unmeasured storm water recharge, subsurface inflow

from adjacent basins, and uncontrolled discharges from the Basin (rising water).

- Once calibrated, the water supply plans of the Producers and other storage entities will be modified to assume that no water would be put into storage accounts. The model will be rerun with this assumption and the results will be compared to the calibration run to determine losses from storage and the storage loss rate.
- The storage loss rate will be set based on the relationship of water in storage and associated losses.

Watermaster's new groundwater level and production monitoring are crucial to this effort.

Implementation Actions and Schedule

First Three Years (2000/01 to 2002/03).

The following actions will be completed in the first three years commencing fiscal year 2000/01:

- Evaluate need to modify Watermaster UGRR regarding storage management plans and procedures.
- Determine the operational storage requirement and safe storage.

Years Four through Fifty (2003/04 to 2049/50).

The following actions will be completed in years four through fifty, commencing fiscal year 2003/04:

- In year 2010/11 and every ten years thereafter, compute safe yield and storage loss rate for prior ten-year period, and reset safe yield and storage loss rates for the next the next ten-year period. Reassess storage management plan and modify Watermaster UGRR, if needed.
- Start assessing losses at 2% per year in year 2005. This amount will be subject to modification in future years.

SALT CREDITS DEVELOPED IN THE OBMP

Salt Credits from Desalters

The Regional Board has determined that there is no assimilative capacity for TDS in most of the basin with current TDS objectives and subbasin boundaries. The Regional Board will probably adopt new TDS objectives using the boundaries of Management Zones 1 through 5 by the end of 2000. When the new boundaries and objectives are adopted the Regional Board will also determine that there is no assimilative capacity for TDS. This has the effect of requiring TDS reductions in either recycled water prior to recharge (through desalting) or the removal of an equivalent mass of salt from groundwater in the same management zone that the recycled water recharge is occurring. Desalination of wastewater prior to recharge is generally more expensive than desalting groundwater. Desalination of groundwater must occur in the southern end of Management Zones 1 through 3 and in Management Zones 4 and 5 to put groundwater in these areas to beneficial use and to maintain the safe yield of the basin. The amount of salt that would need to be removed from the basin for a 20,000 to 30,000 acre-ft/yr recycled water recharge program would be about 6,800 to 10,000 tons per year, respectively. If equal parts of recycled, state project and storm water are recharged then the offset drops to about 1,000 to 1,400 tons per year, respectively

Table 3 shows that the amount of salt being removed from the basin by the Desalters described in the OBMP in year 2003 to be about 36,000 tons per year and will reach about 77,000 tons per year in about 20 or more years. In addition to the Desalter the new dairy waste management requirements promulgated by the Regional Water Control Board will reduce the salt added by the dairies from over 30,000 tons per year to about 12,000 tons per year (dairy liquid waste only) in the current year. The residual 12,000 tons per year will reduce gradually over the next 20 to 30 years to negligible levels. By the end of 2003 the combined salt extraction by Desalters and reduction of dairy waste discharged to the basin will be about 54,000 tons per year – in the next 20 to 30 years this total will reach over 100,000 tons per year. This salt reduction rate will eventually improve the quality of groundwater in the Chino Basin.

The salt reduction described above is intended to be used as an offset or credit to mitigate the increased salt loading from the recharge of recycled water. The appropriators that own recycled water and IEUA and WMWD agreed to own and operate the Desalters through SAWPA PC#14, the OBMP Desalters and have been

allocated the salt credits that could be used to offset the TDS impacts of recycled water recharge.

Salt Credits from Recharge of New Storm Water

Urban storm water is generally of low TDS and is almost always less than the TDS objectives. Surface water quality sampling by Watermaster in the Montclair and Brooks basins routinely demonstrate that urban storm water has a TDS concentration less than 100 mg/L – about 150 mg/l less than the TDS objectives in management Zones 1 through 3. New storm water recharge occurs when urban storm water is diverted into recharge facilities instead of allowing the runoff to flow to the Santa Ana River. As per the Judgment, yield augmentation from new storm water recharge is allocated to members of the appropriative pool regardless of who causes new storm water recharge to occur. New urban storm water recharge can be blended with recycled water to dilute the TDS concentration of the recycled water and reduce or eliminate the need for TDS mitigation. From a TDS perspective, the effect of recharging urban storm water that has a TDS concentration less than the TDS objective is similar to salt removal from a Desalter, and the OBMP Peace Agreement allocates salt removal credits to the appropriators.

Table 1 -- Recharge Projects to Increase Storm Water Recharge and Recharge Capacity of Supplemental Water

Basin	MZ	Current Owner	Native Water Conservation		Estimated Supplemental Recharge Capacity[1]		Supplemental Water Sources	Improvements/Activities Description	Overall Priority (A-highest C-lowest)	De (1) Late.
			Current Estimate (acre-ft/yr)	Goal (acre-ft/yr)	Current Estimate (acre-ft/yr)	Maximum Potential (acre-ft/yr)				
Management Zone 1 Goals										
Native Water				*3,960*						
Supplemental Water				*30,100*						
Upland Basin										
	1	City of Upland	890	1,100	0	5,000	Imported Water	Acquire property	C	0
							Recycled Water	Facility Improvements		
								Expand MWDSC turnout OC 59	C	0
								New inlet from San Antonio Creek	A	1
								Emergency outlet to San Antonio Creek	A	1
								Removal of inert fill	A	1
								Recycled water pipeline and inlet	C	0
								Optimize the basin bottom geometry	A	1
College Heights Basins										
	1	CBWCD	0	500	0	11,000	Imported Water	Facility Improvements		
							Recycled Water	Expand MWDSC turnout OC 59	C	0
								New inlet from San Antonio Creek	A	1
								Emergency outlet to San Antonio Creek	A	1
								Removal of inert fill	A	1
								Recycled water pipeline and inlet	C	0
Montclair Basins										
	1	CBWCD	1,960	3,400	13,300	13,300	Imported Water	Facility Improvements		
							Recycled Water	Optimize the basin bottom geometry	A	1
								Recycled water pipeline and inlet	C	0
Brooks Street Basin										
	1	CBWCD	810	1,200	0	4,000	Imported Water	Facility Improvements		
							Recycled Water	Expand MWDSC turnout OC 59	C	0
								New inlet from San Antonio Creek	A	1
								Emergency outlet to San Antonio Creek	A	1
								Recycled water pipeline and inlet	C	0
								Optimize the basin bottom geometry	A	1
Grove Basin										
	1	SBCFCD	300	300	0	0		Facility Improvements		
								Optimize the basin bottom geometry	A	1
Seventh and Eighth Street Basins										
	1	SBCFCD	0	600	0	2,500	Imported Water	Facility Improvements		
							Recycled Water	New MWDSC turnout	B	0
								Pipeline from new MWDSC turnout to west Cuc. Ch	B	0
								Recycled water pipeline and inlet	C	0
								Deepen basin	A	1
								Optimize the basin bottom geometry	A	1
								Modify outlet works to allow conservation storage	A	1
Subtotals			3,960	7,100	13,300	35,800				

Table 1 – Recharge Projects to Increase Storm Water Recharge and Recharge Capacity of Supplemental Water

Basin	MZ	Current Owner	Native Water Conservation		Estimated Supplemental Recharge Capacity[1]		Supplemental Water Sources	Improvements/Activities Description	Overall Priority (A-highest C-lowest)	Do Now (1) or Later (0)
			Current Estimate (acre-ft/yr)	Goal (acre-ft/yr)	Current Estimate (acre-ft/yr)	Maximum Potential (acre-ft/yr)				
Management Zone 2 and 3 Goals										
Native Water				*23,300*						
Supplemental Water						*26,700*				
Turner Basin No. 1										
	2	SBCFCD	0	500	0	1,500	Imported Water	Facility Improvements		
							Recycled Water	New MWDSC turnout on Cucamonga Creek	B	0
								New inlet from Cucamonga Creek	A	1
								Misc. site improvements (grading, internal hydraulics, etc.)	A	1
								Recycled water pipeline and inlet	C	0
								Deepen basin to create conservation pool	A	1
								Optimize the basin bottom geometry	A	1
Turner Basin No. 2										
	2	SBCFCD	0	500	0	1,500	Imported Water	Facility Improvements		
							Recycled Water	New MWDSC turnout on Deer Creek	B	0
								New inlet from Deer Creek	A	1
								Misc. site improvements (grading, internal hydraulics, etc.)	A	1
								Recycled water pipeline and inlet	C	0
								Deepen basin to create conservation pool	A	1
								Optimize the basin bottom geometry	A	1
Ely Basins										
	2	SBCFCD 1&2 CBWCD 3	2,750	2,800	500	4,000	Imported Water	Facility Improvements		
							Recycled Water	New MWDSC turnout	B	0
								New pipeline from new MWDSC turnout to west Cuc. Ch	B	0
								Recycled water pipeline and inlet	A	1
								Optimize the basin bottom geometry	A	1
								Modify outlet works to allow conservation storage	A	1
Expansion of Lower Day Basin										
	2	SBCFCD	0	500	0	8,000	Imported Water	Facility Improvements		
							Recycled Water	Expand MWDSC turnout CB 15T	B	0
								New inlet pipeline to connect to MWDSC turnout	B	0
								Deepening basin	C	0
								Recycled water pipeline and inlet	C	0
								Optimize the basin bottom geometry	A	1
								Modify outlet works to allow conservation storage	A	1
Wineville Basin										
	3	SBCFCD	1,780	2,600	0	9,300	Imported Water	Facility Improvements		
							Recycled Water	Expand MWDSC turnout CB 15T	A	1
								New inlet pipeline to connect turnout to Day Creek	A	1
								Recycled water pipeline and inlet	A	1
								Optimize the basin bottom geometry	A	1
								Modify outlet works to allow conservation storage	A	1
Riverside Basin										
	3	SBCFCD	1,400	2,600	0	7,700	Imported Water	Facility Improvements		
							Recycled Water	Expand MWDSC turnout CB 15T	A	1
								New inlet pipeline to connect turnout to Day Creek	A	1
								Recycled water pipeline and inlet	A	1
								Optimize the basin bottom geometry	A	1
								Modify outlet works to allow conservation storage	A	1

Table 1 – Recharge Projects to Increase Storm Water Recharge and Recharge Capacity of Supplemental Water

Basin	MZ	Current Owner	Native Water Conservation		Estimated Supplemental Recharge Capacity[1]		Supplemental Water Sources	Improvements/Activities Description	Overall Priority (A-highest C-lowest)	Do Now (1) or Later (0)
			Current Estimate (acre-ft/yr)	Goal (acre-ft/yr)	Current Estimate (acre-ft/yr)	Maximum Potential (acre-ft/yr)				
Expansion of Etiwanda Conservation Area (joint use of Etiwanda Debris Basin)										
	2	SBCFCD Private Parties	1,050	3,300	6,300	22,000	Imported Water Recycled Water	Acquire Markot property Facility Improvements		
								Expand MWDSC turnout CB 14T	B	0
								Deepening and expansion of SBCFCD debris basin	A	1
								Recycled water pipeline and inlet	C	0
								Optimize the basin bottom geometry	A	1
								Modify outlet works to allow conservation storage	A	1
Improvements to Victoria Basin										
	2	SBCFCD	0	500	0	4,000	Imported Water Recycled Water	Facility Improvements Expand MWDSC turnout CB 14T	B	0
								Recycled water pipeline and inlet	C	0
								New inlet from Etiwanda Creek	A	1
								Optimize the basin bottom geometry	A	1
								Modify outlet works to allow conservation storage	A	1
Improvements to San Sevaine No.'s 1 through 3										
	2	SBCFCD	2,790	4,500	9,200	10,600	Imported Water Recycled Water	Facility Improvements Recycled water pipeline and inlet	C	0
								Optimize the basin bottom geometry	B	0
Improvements to San Sevaine No.'s 4 and 5										
	2	SBCFCD	80	500	0	19,400	Imported Water Recycled Water	Potential improvements Expand MWDSC turnout CB 13T	B	0
								New inlet pipeline to connect to MWDSC turnout	B	0
								Recycled water pipeline and inlet	C	0
								Deepen basin to create conservation pool	B	0
								Optimize the basin bottom geometry	B	0
Banana Basin										
	3	SBCFCD	0	400	0	500	Imported Water Recycled Water	Potential improvements Expand MWDSC turnout CB 13T	A	0
								Construct inlet in San Sevaine Creek and pipeline to convey MWDSC water to Banana Basin	A	0
								Recycled water pipeline and inlet	C	
								Deepen basin to create conservation pool	A	1
								Optimize the basin bottom geometry	A	1
								Modify outlet works to allow conservation storage	A	1
Hickory Basin										
	2	SBCFCD	0	500	0	1,500	Imported Water Recycled Water	Facility Improvements Expand MWDSC turnout CB 13T	B	0
								Construct inlet in San Sevaine Creek and pipeline to convey MWDSC water to Hickory Basin	B	0
								Recycled water pipeline and inlet	B	
								Deepen basin to create conservation pool	A	1
								Optimize the basin bottom geometry	A	1
								Modify outlet works to allow conservation storage	A	1

Table 1 – Recharge Projects to Increase Storm Water Recharge and Recharge Capacity of Supplemental Water

Basin MZ	Current Owner	Native Water Conservation		Estimated Supplemental Recharge Capacity[1]		Supplemental Water Sources	Improvements/Activities Description	Overall Priority (A-highest C-lowest)	Do Now (1) or Later (0)
		Current Estimate (acre-ft/yr)	Goal (acre-ft/yr)	Current Estimate (acre-ft/yr)	Maximum Potential (acre-ft/yr)				
Improvements to the Etiwanda Percolation Ponds									
3	SBCFCD	0	500	0	4,000	Imported Water	Facility Improvements		
						Recycled Water	Construct new MWDSC turnout and pipeline to Etiwanda percolation basins.	A	1
							Pipeline to rout MWDSC water around site	A	1
							New outlet to Old Etiwanda Creek (to Wineville Basin)	A	1
							Misc. site improvements (grading, internal hydraulics, etc.)	A	1
							Recycled water pipeline and inlet	A	1
							Optimize the basin bottom geometry	A	1
Jurupa Basin									
3	SBCFCD	0	3,000	0	4,000	Imported Water	Facility Improvements		
						Recycled Water	Expand MWDSC turnout CB 13T and/or CB 14T	A	1
							Optimize the basin bottom geometry	A	1
IEUA RP3 Ponds									
3	IEUA	0	0	0	4,000	Imported Water	Facility Improvements		
							Expand MWDSC turnout CB 13T and/or CB 14T	A	0
							Construct inlet in San Sevaine Creek and pipeline to convey MWDSC water to RP3	A	0
							Optimize the basin bottom geometry	A	0
Declez Basin									
3	SBCFCD	0	600	0	1,000	Imported Water	Expand MWDSC turnout CB 13T and/or CB 14T	A	0
							Construct inlet in San Sevaine Creek and pipeline to convey MWDSC water to Declez Basin	B	0
							Modify outlet works to allow conservation storage	A	1
							Deepen basin to create conservation pool	A	1
							Optimize the basin bottom geometry	A	1
Total All Management Zones			30,400	29,300	138,800				
Subtotal MZ 2 and MZ3			23,300	16,000	103,000				
Projects completed with Prop 13 money will accomplish the following:									
Management Zone 1									
Goals			7,100		33,000				
Current			3,960		13,300				
After Improvement			7,100		29,300				
Management Zone 2									
Goals			13,100		4,000				
Current			6,670		16,000				
After Improvement			13,100		16,000				
Management Zone 3									
Goals			9,700		29,000				
Current			3,180		0				
After Improvement			9,200		21,000				
Total Increse in Recharge			15,590		37,000				

Note 1 – annual average recharge capacity assumes recharge water available for the months of October through April. Basic data for estimates is from Table 4-5 of the P1 RMP (Wildermuth, 1998), some with modification.

Table 2
Regional Water Supply Plan for the OBMP[1]
(acre-ft/yr)

Purveyor / Source	Year 2000	2005	2010	2015	2020
City of Chino					
Chino Basin Wells	10,000	10,000	10,000	10,000	10,000
Nitrate Removal Plant (Chino Groundwater)	0	0	0	0	0
OBMP Desalter No. I	1,680	3,360	4,420	5,490	6,550
WFA Treatment Plant	4,020	2,640	2,830	3,010	3,200
Reclaimed Water	100	1,050	1,050	1,050	1,050
Total Supply	15,800	17,050	18,300	19,550	20,800
Total Demand	15,800	17,050	18,300	19,550	20,800
City of Chino Hills					
Chino Basin Wells	3,610	3,610	3,610	3,610	3,610
OBMP Desalter No. I	1,120	7,540	7,540	7,540	7,540
Reclaimed Water	400	1,020	1,020	1,815	2,610
WFA Treatment Plant	0	0	0	0	0
MVWD Supply Chino GW	12,510	6,930	8,500	9,385	9,480
Total Supply	17,640	19,100	20,670	22,350	23,240
Total Demand	17,640	19,100	20,670	22,350	23,240
City of Norco					
Chino Basin Wells	0	0	0	0	0
City of Corona	220	0	0	0	0
Temescal Basin Groundwater	5,880	5,870	5,560	5,070	4,650
Supply from JCSD	900	0	0	0	0
OBMP Desalter No. II	0	1,530	2,140	3,330	4,350
Total Supply	7,000	7,400	7,700	8,400	9,000
Total Demand	7,000	7,400	7,700	8,400	9,000
City of Ontario					
Chino Basin Wells	34,720	32,950	32,950	32,950	32,950
WFA Treatment Plant	6,590	7,660	10,020	17,950	20,630
Reclaimed Water	840	840	1,680	2,520	3,360
Supply from SAWC (Chino GW)	850	850	850	850	850
OBMP Desalter No. II	0	5,000	5,000	8,530	12,710
Total Supply	43,000	47,300	50,500	62,800	70,500
Total Demand	41,530	45,830	49,030	61,330	69,030
Supply to Sunkist (Chino GW)	1,470	1,470	1,470	1,470	1,470

Table 2
Regional Water Supply Plan for the OBMP[1]
(acre-ft/yr)

Purveyor / Source	Year 2000	2005	2010	2015	2020
City of Pomona					
Chino Basin Wells	5,220	5,220	5,220	5,220	5,220
Pomona Nitrate Treatment Plant (Chino GW)	13,880	13,880	13,880	13,880	13,880
Other Groundwater Basins	5,160	5,160	5,160	5,160	5,160
Reclaimed Water	7,000	7,000	7,000	7,000	7,000
Pedley Treatment Plant	3,800	3,800	3,800	3,800	3,800
TVMWD Weymouth Treatment Plant	2,140	3,380	4,520	5,840	7,044
Total Supply	37,200	38,440	39,580	40,900	42,104
Total Demand	37,200	38,440	39,580	40,900	42,104
City of Upland					
Chino Basin Wells	2,429	2,430	3,410	3,070	3,050
Supply from SAWC (non-Chino GW)	4,920	4,520	4,520	4,520	4,520
Supply from SAWC (San Antonio Canyon TP)	2,411	2,390	2,390	2,690	2,690
Supply from WECWC (Chino GW)	0	1,420	1,440	1,480	1,500
Supply from WECWC (other GW basins)	4,650	4,650	4,650	4,650	4,650
WFA Treatment Plant	7,590	7,590	7,590	7,590	7,590
Total Supply	22,000	23,000	24,000	24,000	24,000
Total Demand	22,000	23,000	24,000	24,000	24,000
Cucamonga County Water District					
Chino Basin Wells	8,000	10,160	10,160	10,160	10,160
Other Groundwater Basins	12,650	11,180	12,390	12,390	12,390
Reclaimed Water	0	0	0	2,402	4,804
CCWD Bridge Water Treatment Plant	1,000	1,000	1,000	1,000	1,000
CCWD Lloyd Michael Treatment Plant	21,710	25,550	28,860	30,978	33,096
CCWD Royer-Nesbit Treatment Plant	6,000	6,000	6,000	6,000	6,000
Deer Creek	550	550	550	550	550
Total Supply	49,910	54,440	58,960	63,480	68,000
Total Demand	49,910	54,440	58,960	63,480	68,000
Fontana Water Company					
Chino Basin Wells	16,700	22,825	16,050	20,375	24,800
Other Groundwater Basins	12,700	12,700	12,700	12,700	12,700
Reclaimed Water	0	0	0	1,685	3,370
Fontana Water Treatment Plant	0	0	18,600	16,915	15,230
Sandhill Treatment Plant	7,400	7,400	0	0	0
Total Supply	36,800	42,925	47,350	51,675	56,100
Total Demand	35,100	41,200	45,600	49,900	54,300
Supply to California Steel	1,700	1,725	1,750	1,775	1,800

Table 2
Regional Water Supply Plan for the OBMP[1]*
(acre-ft/yr)

Purveyor / Source	Year 2000	2005	2010	2015	2020
Jurupa Community Services District[2]					
Chino Basin Wells (Potable)	14,425	11,275	12,885	13,265	13,625
Chino Basin Wells (Non-potable)	50	250	450	650	850
Other Groundwater Basins	500	500	500	500	500
OBMP Desalter No. I	1,800	0	0	0	0
OBMP Desalter No. II	0	5,000	5,790	7,810	9,850
Total Supply	16,775	17,025	19,625	22,225	24,825
Total Demand	14,200	17,000	19,600	22,200	24,800
Supply to Mira Loma SC	25	25	25	25	25
Supply to Norco	900	0	0	0	0
Supply to Swan Lake	350	0	0	0	0
Supply to SARWC	1,300	0	0	0	0
Subtotal	2,575	25	25	25	25
Mira Loma SC					
Chino Basin Wells	0	0	0	0	0
Supply from JCSD	25	25	25	25	25
Total Supply	25	25	25	25	25
Total Demand	25	25	25	25	25
Santa Ana River Water Company[2]					
Chino Basin Wells	0	0	0	0	0
Almost Chino Basin Wells (along SAR outside legal bndy)	700	790	660	490	320
Supply from JCSD	1,300	0	0	0	0
OBMP Desalter No. II (see note below)	0	1,300	1,460	1,650	1,850
Total Supply	2,000	2,090	2,120	2,140	2,170
Total Demand	2,000	2,090	2,120	2,140	2,170
Swan Lake					
Chino Basin Wells	0	0	0	0	0
Supply from JCSD	350	0	0	0	0
OBMP Desalter No. II	0	350	350	350	350
Total Supply	350	350	350	350	350
Total Demand	350	350	350	350	350
Marygold Mutual Water Company					
Baseline Feeder	1,450	1,580	1,620	1,660	1,700
Total Supply	1,450	1,580	1,620	1,660	1,700
Total Demand	1,450	1,580	1,620	1,660	1,700

Note -- The Santa Ana Water Company may receive Desalter II water through either a direct connection paid for by the Company or through an interconnection with Jurupa Community Services District.

Table 2
Regional Water Supply Plan for the OBMP[1]
(acre-ft/yr)

Purveyor / Source	Year 2000	2005	2010	2015	2020
Monte Vista Water District					
Chino Basin Wells	26,670	21,090	22,660	23,545	23,640
WFA Treatment Plant	0	0	0	0	0
Total Supply	26,670	21,090	22,660	23,545	23,640
Total Demand	14,160	14,160	14,160	14,160	14,160
Supply to Chino Hills (Chino GW)	12,510	6,930	8,500	9,385	9,480
San Antonio Water Company – Domestic					
Chino Basin Wells	70	1,050	1,070	1,090	1,110
Other Groundwater Basins	400	400	400	400	400
San Antonio Canyon	0	0	0	0	0
San Antonio Tunnel	1,020	1,020	1,020	1,020	1,020
Total Supply	1,490	2,470	2,490	2,510	2,530
Total Demand	640	1,620	1,640	1,660	1,680
Supply to Ontario (Chino GW)	850	850	850	850	850
Southern California Water Company					
Chino Basin Wells	2,160	2,160	2,160	2,160	2,160
Other Groundwater Basins	4,950	4,490	4,850	4,850	4,850
TVMWD – Miramar Water Treatment Plant	7,090	8,300	8,670	8,670	8,670
Total Supply	14,200	14,950	15,680	15,680	15,680
Total Demand	14,200	14,950	15,680	15,680	15,680
West End Consolidated Water Company					
Chino Basin Wells	0	1,420	1,440	1,480	1,500
Other Groundwater Basins	4,650	4,650	4,650	4,650	4,650
Total Supply	4,650	6,070	6,090	6,130	6,150
Total Demand	0	0	0	0	0
Supply to Upland	4,650	6,070	6,090	6,130	6,150
West San Bernardino County Water District					
Other Groundwater Basins	5,330	6,835	9,520	9,510	9,510
SBVMWD Baseline Feeder	800	1,000	1,380	1,390	1,390
Total Supply	6,130	7,835	10,900	10,900	10,900
Total Demand	6,130	7,835	10,900	10,900	10,900

Table 2
Regional Water Supply Plan for the OBMP[1]
(acre-ft/yr)

Purveyor / Source	Year 2000	2005	2010	2015	2020
Ameron					
Chino Basin Wells	9	9	9	9	9
Total Supply	9	9	9	9	9
Total Demand	9	9	9	9	9
San Bernardino County Division of Airports					
Chino Basin Wells (Potable (Domestic))	300	300	300	300	300
Total Supply	300	300	300	300	300
Total Demand	300	300	300	300	300
Reliant Energy					
Chino Basin Wells	800	0	0	0	0
Reclaimed Water	0	3,300	3,300	3,300	3,300
IEUA – MWD Water from CRA	2,500	0	0	0	0
Total Supply	3,300	3,300	3,300	3,300	3,300
Total Demand	3,300	3,300	3,300	3,300	3,300
Sunkist					
Chino Basin Wells	0	0	0	0	0
Supply from Ontario (Chino GW)	1,470	1,470	1,470	1,470	1,470
Total Supply	1,470	1,470	1,470	1,470	1,470
Total Demand	1,470	1,470	1,470	1,470	1,470
Kaiser Ventures					
Chino Basin Wells	670	670	670	670	670
Total Supply	670	670	670	670	670
Total Demand	670	670	670	670	670
San Bernardino County Parks Department					
Chino Basin Wells	75	75	75	75	75
Total Supply	75	75	75	75	75
Total Demand	75	75	75	75	75
Monte Vista Irrigation Company					
Chino Basin Wells	0	0	0	0	0
Total Supply	0	0	0	0	0
Total Demand	0	0	0	0	0
California Steel					
Chino Basin Wells	0	0	0	0	0
Fontana Water Company	1,700	1,725	1,750	1,775	1,800
Total Supply	1,700	1,725	1,750	1,775	1,800
Total Demand	1,700	1,725	1,750	1,775	1,800

Table 2
Regional Water Supply Plan for the OBMP[1]
(acre-ft/yr)

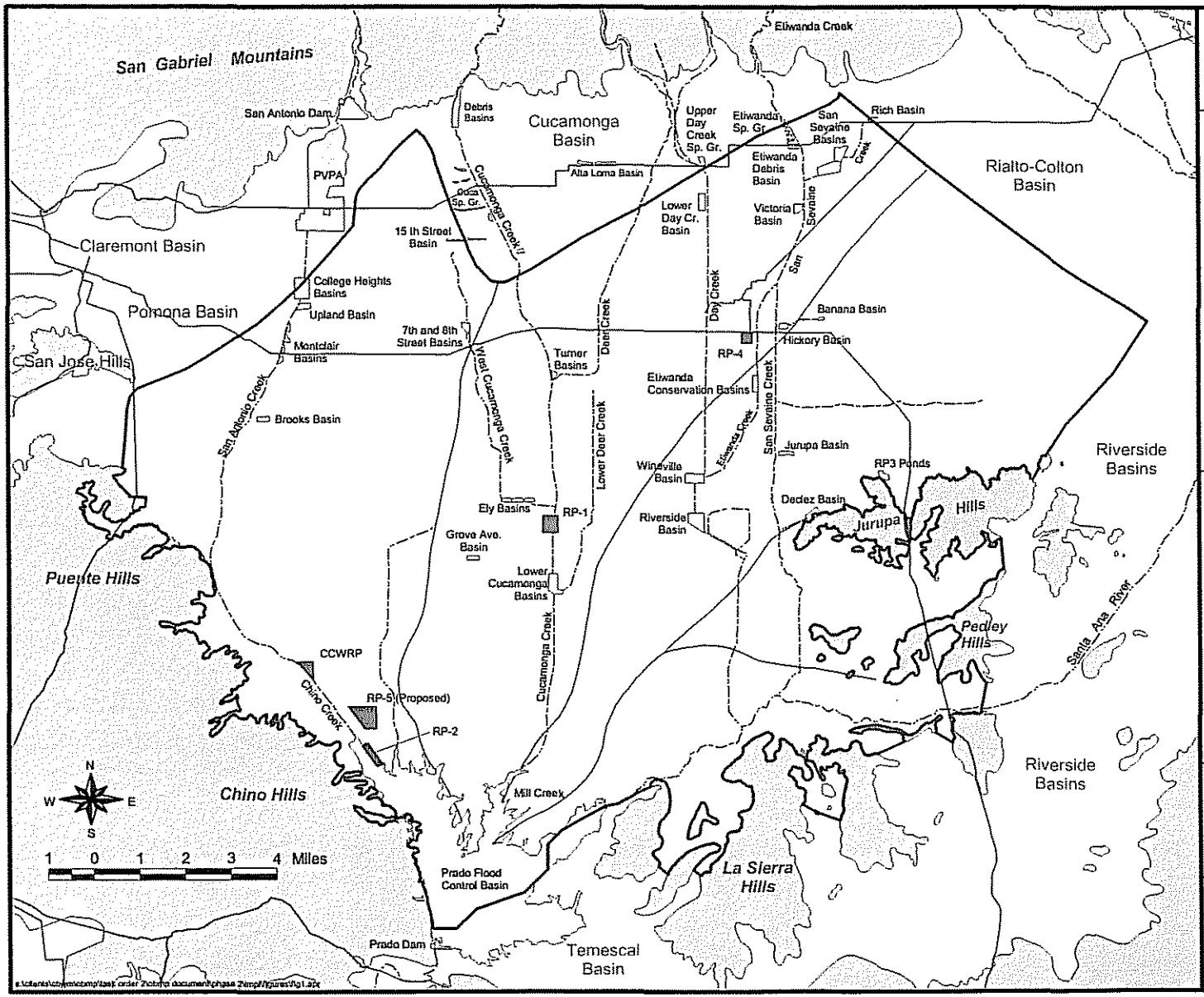
Purveyor / Source	Year 2000	2005	2010	2015	2020
Totals By Source Type and Pool					
Pool 1 Overlying Agricultural Pool (groundwater)	49,100	39,975	30,850	21,725	10,000
Pool 2 Overlying Non-Agricultural Pool					
Chino Basin Groundwater	3,624	2,474	2,474	2,474	2,474
OBMP Desalter No. II	0	350	350	350	350
Other Local Supplies	0	0	0	0	0
Imported Water	2,500	0	0	0	0
Recycled Water	0	3,300	3,300	3,300	3,300
Total Pool 2	6,124	6,124	6,124	6,124	6,124
Pool 3 Appropriative Pool					
Chino Basin Groundwater	137,634	138,370	135,995	141,505	146,605
OBMP Desalter No. II	0	12,830	14,390	21,320	28,760
OBMP Desalter No. I	4,600	10,900	11,960	13,030	14,090
Other Local Supplies	84,141	83,485	80,320	80,000	79,450
Imported Water					
WFA Treatment Plant	18,200	17,890	20,440	28,550	31,420
CCWD Lloyd Michael TP	21,710	25,550	28,860	30,978	33,096
CCWD Royer Nesbit	3,000	3,000	3,000	3,000	3,000
Other	11,730	11,680	31,790	31,425	30,944
Subtotal	49,940	56,120	82,470	92,343	96,850
Recycled Water	8,340	9,910	10,750	16,472	22,194
Total Pool 3	284,655	311,615	335,885	364,670	387,949
Total All Pools	339,879	357,714	372,859	392,519	404,073
Total Water Produced By Desalter Projects					
OBMP Projects					
OBMP Desalter No. II	0	13,180	14,740	21,670	29,110
OBMP Desalter No. II Raw Water Supply	0	15,506	17,341	25,494	34,247
OBMP Desalter No. I	4,600	10,900	11,960	13,030	14,090
OBMP Desalter No. I Raw Water Supply	5,292	12,540	13,759	14,990	16,210
Pomona Ion Exchange					
Production	13,880	13,880	13,880	13,880	13,880
Raw Water Supply	14,309	14,309	14,309	14,309	14,309
Total Chino Basin Groundwater Production Summary					
Pool 1	49,100	39,975	30,850	21,725	10,000
Pool 2	3,624	2,824	2,824	2,824	2,824
Pool 3	143,355	166,495	167,175	182,069	197,141
Total	196,079	209,294	200,849	206,618	209,965

Note 1 – Some of the water supply plans for agencies taking OBMP desalter water are different than the plans shown in the "Revised Draft Water Supply Plan, Phase 1 Desalting Project Facilities Report, June 2000. These difference are minor and will be reconciled in July 2000.

Note 2 – "Jurupa Community Services District" means Jurupa Community Services District and the Santa Ana River Water Company individually. Subject to provisions of the Peace Agreement, the design and delivery obligations for the Chino II Desalter set forth in Section 7.3 regarding Jurupa Community Services District include both Jurupa Community Services District and the Santa Ana River Water Company.

Table 3
Production and Salt Removal Capacity of Chino Basin Desalters

Year	Product Water Capacity (mgd) OBMP Desalters No I	No II	Total	Desalter roundwater Production (acre-ft/yr)	Salt Removal Capacity (tons) OBMP Desalters No I	No II	Total	Fraction of Ultimat Capacity
2000	4.7	0.0	4.7	5,292	5,436	0	5,436	7%
2001	8.0	0.0	8.0	8,960	9,205	0	9,205	12%
2002	8.0	0.0	8.0	8,960	9,205	0	9,205	12%
2003	10.0	10.0	20.0	25,372	12,881	22,697	35,578	46%
2004	10.0	12.0	22.0	27,905	12,881	27,176	40,057	52%
2005	10.0	12.0	22.0	27,905	12,881	27,176	40,057	52%
2006	12.0	12.0	24.0	29,124	14,134	27,176	41,309	53%
2007	12.0	12.0	24.0	29,124	14,134	27,176	41,309	53%
2008	12.0	14.0	26.0	31,100	14,134	30,755	44,889	58%
2009	12.0	14.0	26.0	31,100	14,134	30,755	44,889	58%
2010	12.0	14.0	26.0	31,100	14,134	30,755	44,889	58%
2011	12.0	14.0	26.0	31,100	14,134	30,755	44,889	58%
2012	12.0	14.0	26.0	31,100	14,134	30,755	44,889	58%
2013	12.0	20.0	32.0	40,484	14,134	45,215	59,348	77%
2014	12.0	20.0	32.0	40,484	14,134	45,215	59,348	77%
2015	12.0	20.0	32.0	40,484	14,134	45,215	59,348	77%
2016	14.0	20.0	34.0	41,704	16,651	45,215	61,865	80%
2017	14.0	26.0	40.0	50,457	16,651	60,573	77,224	100%
2018	14.0	26.0	40.0	50,457	16,651	60,573	77,224	100%
2019	14.0	26.0	40.0	50,457	16,651	60,573	77,224	100%
2020	14.0	26.0	40.0	50,457	16,651	60,573	77,224	100%
21-Year Totals								
ater Production (acre-ft/yr)				683,128				
Salt Removal (tons)					287,080	708,326	995,406	



Optimum Basin Management Program

Chino Basin Watermaster

Legend

- Flood Control / Conservation Basins
- IEUA POTW's
- Prado Flood Control Basin
- Hydrologic Chino Basin
- Bedrock
- MWD Pipeline
- Stream System
- Management Boundaries
- Fault
  - Dashed Where Approximate
  - Dotted Where Concealed
  - Queried Where Uncertain
  - Large Dots Where Groundwater Barrier (Suspected Fault)

Management Zone Index Map

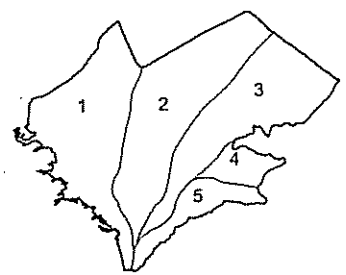


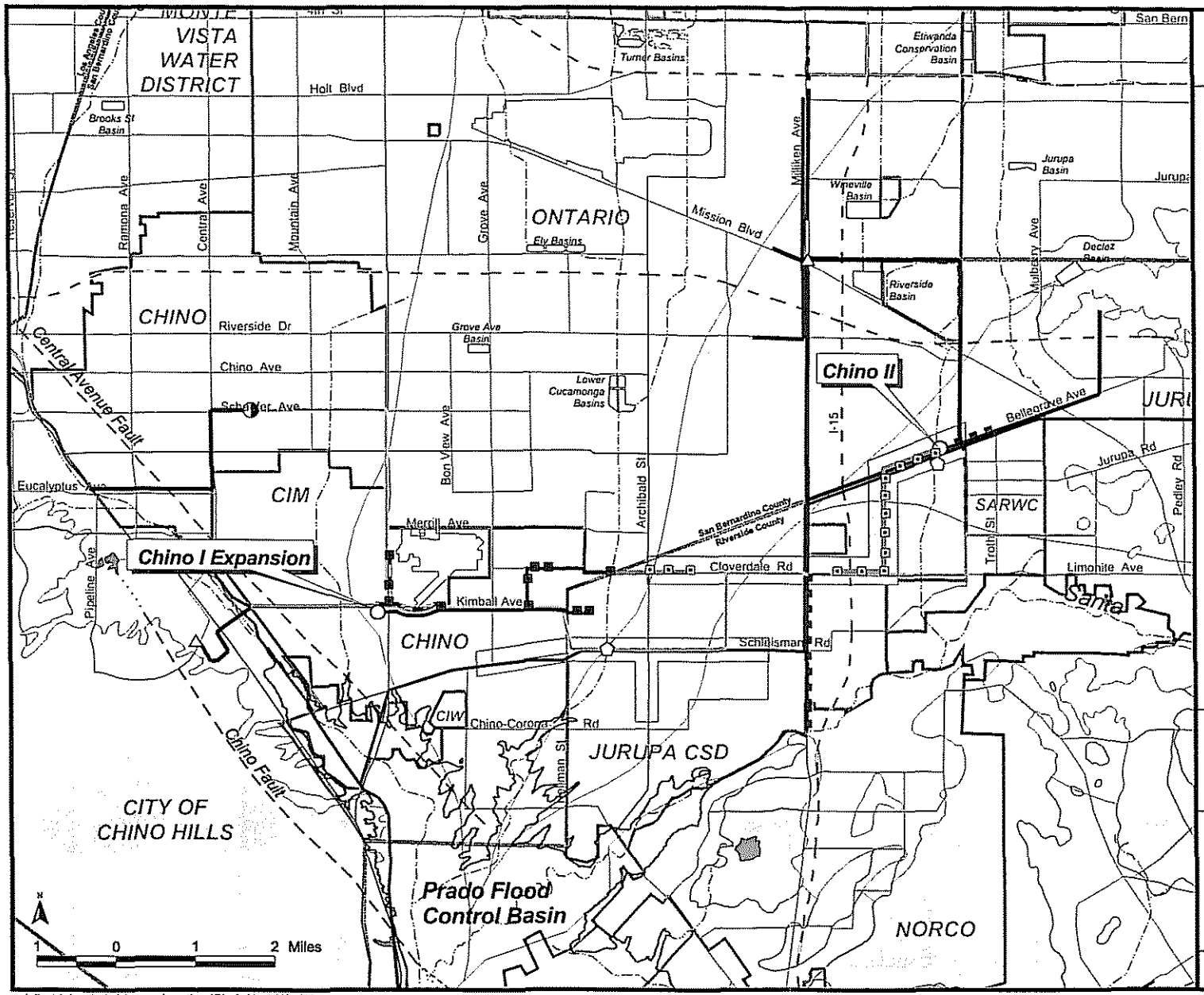
Figure 1

Location of Existing and Potential Recharge Facilities

Chino Basin

WE WILDERMUTH ENVIRONMENTAL, INC.

Date: June, 2000



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Optimum Basin Management Program

Chino Basin Watermaster

Legend

Potable Water Transmission Pipelines
- Existing Chino I Delivery
- Proposed OBMP Ontario Interconnector
- Existing WSA Potable Delivery Pipeline
- Future WSA Potable Delivery Pipeline

Groundwater Conveyance Pipelines
- Chino-1 Main Groundwater Conveyance
- Chino-1 Bypass Groundwater Conveyance
- Proposed OBMP Groundwater Conveyance

- Proposed OBMP Groundwater Treatment Facility
- Proposed OBMP Phase 1 Extraction Well
- Existing Chino I Extraction Well
- OBMP Discharge Point to OCWD
- Chino/Chino Hills Intertie
- Proposed OBMP Booster Pump Station
- SARI Pipeline
- Proposed Ultimate OBMP Extraction Well Field
- Water Service Area Boundaries
- Management Zone Boundaries
- Streams, Lakes, & Spreading Grounds
- Prado Flood Control Basin
- Unconsolidated Sediments
- Consolidated Bedrock
- Faults (solid line where known, dashed where approximate, dotted where concealed, queried where uncertain)
- Groundwater Barrier (suspected fault)
- Groundwater Divide

Figure 2
OBMP Phase 1 Facilities Locations
South Chino Basin

WE WILDERMUTH ENVIRONMENTAL, INC.

BLACK & VEATCH Corporation

Prepared by: Wildermuth Environmental, Inc. | *Date:* June, 2000

EXHIBIT C

MEMORANDUM OF AGREEMENT FOR RECHARGE IN THE CHINO BASIN

THIS AGREEMENT ("Agreement") is made and entered into this _____ day of June, 2000, between _____ and Watermaster ("the Parties") regarding recharge of water into the Chino Groundwater Basin.

RECITALS

WHEREAS, a Judgment was entered in San Bernardino County Superior Court Case No. RCV 51050 that adjudicated all rights to groundwater and storage capacity within the Chino Basin and established a physical solution; and

WHEREAS, Watermaster has the express powers and duties as provided in the Judgment or "hereafter ordered or authorized by the Court in the exercise of the Court's continuing jurisdiction" including the power to ensure that recharge of Supplemental Water does not result in Material Physical Injury to any Producer or the Basin; and

WHEREAS, Paragraph 41 of the Judgment provides that "Watermaster, with the advice of the Advisory and Pool Committees" has "discretionary powers in order to develop an optimum basin management program (OBMP) for the Chino Basin"; and

WHEREAS, Watermaster desires to facilitate and arrange for Recharge of water into the Chino Basin where and when it is prudent to do so under fair and reasonable terms and conditions; and

WHEREAS, _____ desires to Recharge water into the Chino Basin; and

NOW, THEREFORE, in consideration of the mutual promises specified herein , and for other good and valuable consideration, the Parties agree as follows:

1. No Ownership of Property. Watermaster shall not own real property but may contract for the operation of recharge projects, including but not limited to spreading grounds, injection wells, diversion works on real property.

2. No Material Physical Injury. _____ shall Recharge water in a manner so as to not cause Material Physical Injury to any party to the Judgment or the Basin.

3. Location. Any Recharge conducted by _____ shall occur at the locations identified in the Site Plan contained in Exhibit "A" attached hereto.

4. Timing. Watermaster shall direct Recharge by _____ , and _____ shall arrange for recharge in accordance with the schedule attached hereto as Exhibit ___.

5. Compensation. In exchange for _____ Recharging water at the locations and times requested by Watermaster, _____ shall receive ____ per annum [per acre foot].

6. Annual Accounting. Watermaster shall provide an annual accounting of the amount of Recharge conducted pursuant to this Agreement.

7. Term. The term of this Agreement shall be __ years.