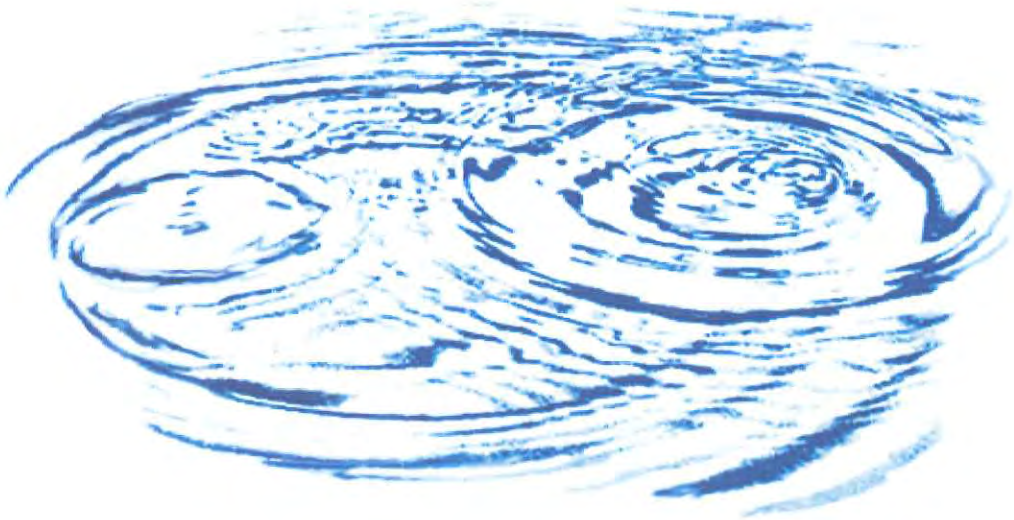
San Jacinto

City of San Jacinto
2005
Urban Water Management Plan



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Chapter 1 - Introduction

Section 10620.

(a) Every urban water supplier shall prepare and adopt an urban water management plan in the manner set forth in Article 3 (commencing with Section 10640).

(b) Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.

(c) An urban water supplier indirectly providing water shall not include planning elements in its water management plan as provided in Article 2 (commencing with Section 10630) that would be applicable to urban water suppliers or public agencies directly providing water, or to their customers, without the consent of those suppliers or public agencies.

(d) (1) An urban water supplier may satisfy the requirements of this part by participation in area wide, regional, watershed, or basin wide urban water management planning where those plans will reduce preparation costs and contribute to the achievement of conservation and efficient water use.

(2) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.

(e) The urban water supplier may prepare the plan with its own staff, by contract, or in cooperation with other governmental agencies.

(f) An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

1.1 Urban Water Management Plan

Section 10617.

"Urban Water Supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers.

This Urban Water Management Plan (Plan) was prepared in accordance with the California Urban Water Management Planning Act (Act),* which became effective on January 1, 1985 (see Appendix A). The Act requires every "urban water supplier" to prepare and adopt an Urban Water Management Plan, and to periodically review its Plan at least once every five years and make any amendments or changes which are

* Water Code Sections 10610 through 10656.

indicated by the review. The City of San Jacinto's (City) Plan is an update for the year 2005.

The City's Plan is intended to review the activities of the City as a retail water supplier in the San Jacinto Groundwater Basin (Basin) and to describe the operations of the Basin to achieve the maximum practicable conservation and efficient use of the water resources of the area, both local and imported.

1.2 Changes to the Plan

Section 10621.

(a) Each urban water supplier shall update its plan at least once every five years on or before December 31, in years ending in five and zero.

(b) Every urban water supplier required to prepare a plan pursuant to this part shall notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision.

(c) The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).

The following are new amendments to the Act and some reorganization of the water code sections:

1) Senate Bill 610, Land and Water Use Planning Bill
2) Assembly Bill 901, Water Quality Information
3) Senate Bill 672, Minimize Need to Import Water
4) Senate Bill1348, Consider DMM Implementation When Evaluating Eligibility
5) SB 1384, Wholesale Agency Water Supply Information
6) SB 1518, Recycled Water
7) Assembly Bill 105, Deposit Plans in State Library
8) Senate Bill 318, Desalination

The City has reviewed its Urban Water Management Plan and included appropriate amendments and changes.

1.3 Water Management Tools

This Plan describes the management tools and options used by the City to maximize resources and minimize the need to import water from other regions. The City will comply with the anticipated Groundwater Management Plan, which is discussed in Chapter 3; implements Demand Management Measures to reduce water demand whenever possible, as discussed in Chapter 5; and is involved with water supply projects to optimize the use of its groundwater supply, as discussed in Chapter 6.

1.4 Coordination

The City mainly produces groundwater from the Basin. The City is within the boundaries of Eastern Municipal Water District (EMWD) and has historically purchased minor amounts of treated imported water to supplement groundwater supplies. EMWD is a wholesale water agency that obtains imported water from the Metropolitan Water District Southern California (MWD). The City has reviewed the Urban Water Management Plans prepared by both EMWD and MWD. In addition, the City has provided EMWD with water use projections and existing/planned sources of water as required by Section 10631(k) of the California Water Code, as shown in Appendix B. The City does not provide water outside its City boundaries and therefore does not need to notify other cities.

1.5 Public Participation and Plan Adoption

The City made the Draft Plan available for public review and published a notice of the public review in the City Clerk's office, as shown in Appendix B. Public notification of the review is required pursuant to Section 10642 of the California Water Code. The City adopted the Draft Plan on February 2, 2006, as its Plan. A copy of the minutes showing the City adopted the Plan is shown in Appendix H. Within 30 days of adoption of the Plan by the City, a copy of the Plan will be filed with the State of California, Department of Water Resources (DWR) and the State of California Library. City staff reviewed this Plan and comments from the review were incorporated into the final Plan.

Chapter 2 – Description of Service Area

Section 10631.
A plan shall be adopted in accordance with this chapter and shall do the following:
(a) Describe the service area of the supplier; including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

2.1 Background [Section 10631 (a)]

The City owns and operates a water distribution system serving a portion of the City of San Jacinto. The remaining portion of the City is served by EMWD and Lake Hemet Municipal Water District (LHMWD). The City operates under the Public Water System (PWS) Identification Number CA3310032.

The City was incorporated on April 9, 1888. The City has about 3,700 service connections serving a population of approximately 13,200 people. Following is a breakdown of the District's service connections by customer type.

- Residential – 3,289 service connections
- Commercial – 386 service connections
- Industrial – 3 service connections
- Irrigation – 2 service connections

2.2 Description of Area [Section 10631 (a)]

The City is located in the southwesterly part of Riverside County at the base of the San Jacinto Mountains. It is generally bounded on the north by the City of Beaumont, the south by the City of Hemet and the west by the City of Moreno Valley. The area surrounding the City is predominantly rural and supports farming and agricultural activity.

The climate in the City of San Jacinto is moderate. Summers are warm and winters are mild. The average temperature ranges from 52.3 degrees Fahrenheit (°F) in January to 80.3 °F in August, as shown on Table 1. The average rainfall ranges from 2.8 inches in February to 0.1 inches in June and July, as shown on Table 1.

Rainfall data, shown in Figure 1, has been compiled from the National Climatic Center records for San Jacinto over the 50-year period from 1950 to 1999 and from Riverside County Flood Control District over a 5-year period from 2000 to 2005. The City's 55-year average annual rainfall is about 11.9 inches per year. Over the same period of time, the historical high precipitation was 25.61 inches in 1993 and the historical low was 3.7 inches in 2002.

The City relies almost exclusively on groundwater pumped by four wells, as shown on Plate 1. The wells produce groundwater from the Basin, which covers an area of about 60 square miles, as shown on Plate 2. The Basin is drained by the San Jacinto River and is recharged by surface runoff from adjacent mountains and hills, by rainfall directly on the valley floor and by return flow from water applied from overlying uses. The Basin serves as a natural storage reservoir and filtering system for wells constructed therein.

2.3 Current and Projected Population [Section 10631 (a)]

The City of San Jacinto occupies an area of about 12.8 square miles and had a population estimated at 23,800 during calendar year 2000 by the Census. However, the City's water system provides water to only a portion of the total population, which is estimated to be about 13,200 people during calendar year 2005. The population within the City water service area is estimated to increase by about 80 percent between calendar years 2005 to 2025. The following tabulation presents a comparison of the estimated historic and projected population of the entire City of San Jacinto and the area included in the City service area from calendar year 1950 to 2025.

Bautista Creek. These sediments generally contain more fine material and have lower specific yield and transmissivity values than the younger alluvium.

Restrictive Structures. The San Jacinto fault zone cuts through the eastern part of the Basin and is composed of five northwest trending sediments: the San Jacinto, Claremont, Hot Springs, Park Hill, and Casa Loma faults. These active faults are barriers to groundwater movement.

Recharge Areas. Natural recharge to the Basin is primarily from percolation of flow in the San Jacinto River and its tributary stream and from infiltration of rainfall on the valley floor. The primary recharge area for the confined aquifers is found where the San Jacinto River and Bautista Creek enter the San Jacinto Valley. Percolation of water stored in Lake Perris has been an additional source of recharge since construction of the lake in the 1970s.

Groundwater Level Trends. Prior to the extraction of groundwater from the Basin, groundwater flow was generally along the course of the San Jacinto River and westward out of the Basin. High extraction rates had produced groundwater depressions and locally reversed the historical flow pattern. During the 1960s, groundwater levels in the western and central parts of the Basin declined; whereas, in the south-central part of the Basin, they were moderately stable. During the 1970s through the 1990s, groundwater levels declined about 20 to 40 feet in the northern and southwestern parts of the Basin and were relatively stable in the southern part of the Basin. During the 1970s through the 1980s, groundwater levels rose 80 to 200 feet in the western part of the Basin because of infiltration from Lake Perris. During 2001 and 2002, groundwater levels generally rose in the central part of the Basin and declined in the northeastern and southern parts of the Basin.

Groundwater Storage. The estimated groundwater storage capacity of the Basin is 3,070,000 acre feet. In 1975, the calculated amount of groundwater in storage was 2,700,000 acre feet.

Year	Population City of San Jacinto (Total)	Source	Population Served by San Jacinto Water District	Percent Increase
1950	1,778	Census	1,778 (Est.)	--
1960	2,553	Census	2,553 (Est.)	44
1970	4,385	Census	4,385 (Est.)	72
1980	7,098	Census	7,098 (Est.)	62
1990	16,210	Census	9,000 (Est.)	27
2000	23,800	Census	12,200 (Est.)	36
2005	34,105	Estimate	13,200 (Est.)	8
2010	46,957	Estimate	19,000 (Est.)	44
2015	53,494	Estimate	21,000 (Est.)	11
2020	60,528	Estimate	23,000 (Est.)	10
2025	63,550	Estimate	24,000 (Est.)	5

Chapter 3 – Sources of Supply

Section 10631.

(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a). If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:

1. A copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management.

2. A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court of the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as over drafted or has projected that the basin will become over drafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.

3. A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

4. A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(c) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:

1. An average water year.

2. A single dry water year.

3. Multiple dry water years.

(d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

3.1 Existing and Planned Sources of Water Supply [Section 10631 (b)]

The City has two sources of water supply: groundwater from the Basin and treated imported water from EMWD, as shown in Tables 2 and 3. Historically, 100 percent of the City's water supply is from groundwater. The City's potential sources of supply consist of four active wells, one irrigation well, two treatment facilities, and three service connections to EMWD, which are all described below.

The Grand Well is located in the westerly portion of the City's service area, as shown on Plate 1. The Grand Well is 650 feet deep, is perforated from 200 feet to 650 feet below ground surface (bgs) and has a capacity of about 1,350 gallons per minute (gpm).

The Bath Well is located in the easterly portion of the City's service area as shown on Plate 1. The Bath Well is 1,320 feet deep, is perforated from 340 feet to 1,300 feet bgs and has a capacity of 1,100 gpm.

The Artesia Well is located in the easterly portion of the City's service area as shown on Plate 1. The Artesia Well is 1,210 feet deep, is perforated from 390 feet to 1,000 feet bgs and has a capacity of 1,650 gpm.

The Lake Park Well is located east of the City's service area as shown on Plate 1. The Lake Park Well is 1,200 feet deep, is perforated from 625 feet to 1,180 feet bgs and has a capacity of 3,000 gpm.

In addition to the City's four potable groundwater wells, the City operates the Peacock Well to irrigate parks, greenbelts, and other non-potable uses.

The City currently owns and operates two Iron and Manganese treatment facilities which are located at the Grand and Bath Well sites. The Iron and Manganese concentrations in the Grand and Bath Wells exceed secondary maximum contaminant levels (MCLs) and are not be suitable for potable use, without treatment. The Iron and Manganese treatment facilities include three dual-media filtering vessels consisting of Anthracite and greensand. The treatment facility at the Grand Well site has a maximum capacity of about 1,600 gpm and the treatment facility at the Bath Well site has a maximum capacity of about 1,700 gpm.

The City has three service connections to EMWD, as shown on Plate 1. The connection at Hewitt and Evans has a capacity of about 1,000 gpm; the connection at Idyllwild and Tiger Lane has a capacity of about 600 gpm; and the connection at Santa Fe and Esplanade has a capacity of about 600 gpm. Historically, the City has relied on groundwater from the Basin, making up 100 percent of the City's total water supply. However, the City has purchased treated imported water from EMWD during calendar years 1995 through 1998 and 2002 through 2004 primarily during summer months to supplement peak demands, as shown on Table 2, due to mechanical failure at one of the City's wells. The City has constructed a new well, which will enable the City to rely on groundwater and provide operational flexibility.

3.2 Groundwater Management [Section 10631 (b)(1), (b)(2)]

3.2.1 Groundwater Management Plan

Local water purveyors in the Basin have developed a Groundwater Management Plan (GWMP) for the San Jacinto-Hemet Valley to effectively manage the groundwater basin, allocate and protect groundwater resources, and maintain local control over those resources, as shown in Appendix C. Under the proposed GWMP, the City will be allocated an annual quantity of water it may pump from the groundwater basin that is free of replacement water assessments. In the event the City exceeds its annual pumping allocation, the City will be required to purchase replacement water for the Basin.

3.3 Description of Groundwater Basin [Section 10631(b)(2), (b)(4)]

The City water system is primarily reliant on four wells which pump from the Basin. The City's 2005 Water Master Plan notes the general boundaries of the Basin are the Casa Loma Fault on the southwest, which separates it form the Hemet and Lakeview groundwater basins; the San Jacinto Fault on the northeast, along the base of the San Jacinto Mountains; Valle Vista in the southeast and Moreno in the northwest. The Basin is a structural trough located between two faults that have been filled with layered alluvial materials, including clay, silt, sand and gravel. The City's wells overlie a part of

the Basin called the "Pressure Area". The Basin in this region is generally divided into an upper, unconfined aquifer and lower confined aquifer. The groundwater in the deeper aquifer is typically under pressure due to the presence of a relatively impervious, confining layer which provides some separation between the upper and lower aquifers. The Grand Well has been constructed to a depth of 650 feet and pumps primarily from the upper aquifer. The Bath Well, Artesia Well and Lake Park Well have been constructed to a depth of approximately 1,300 feet, 1,210 feet, and 1,200 feet respectively, and the primary water source is the lower aquifer.

The Department of Water Resources Bulletin 118 does **not** identify the Basin as being in overdraft.

3.3.1 Hydrogeology

DWR describes the hydrogeology of Basin in its Bulletin 118. That report notes:

Water Bearing Formations. The San Jacinto Groundwater Basin contains sediments that have filled valleys and underlying canyons incised into crystalline basement rock. The valley fill deposits are generally divided into younger and older alluvium. Maximum depths of valley fill reach about 900 feet in the western and northern parts of the Basin, but may exceed 5,000 feet in the eastern part of the Basin between the Casa Loma and Claremont faults. Confined groundwater is found in the eastern part of the Basin between the Casa Loma and Claremont fault. Wells in this Basin produce 200 to 2,600 gpm.

The younger alluvium in the southeastern part of the Basin is generally coarse and permeable with specific yield estimated to range from about 12 to 15 percent. In other parts of the Basin, specific yield is estimated to be about 5 to 10 percent.

The older alluvium may correlate to sediments of Pleistocene age that are exposed in the San Timoteo Badlands and underlies the San Jacinto River near the confluence of

Bautista Creek. These sediments generally contain more fine material and have lower specific yield and transmissivity values than the younger alluvium.

Restrictive Structures. The San Jacinto fault zone cuts through the eastern part of the Basin and is composed of five northwest trending sediments: the San Jacinto, Claremont, Hot Springs, Park Hill, and Casa Loma faults. These active faults are barriers to groundwater movement.

Recharge Areas. Natural recharge to the Basin is primarily from percolation of flow in the San Jacinto River and its tributary stream and from infiltration of rainfall on the valley floor. The primary recharge area for the confined aquifers is found where the San Jacinto River and Bautista Creek enter the San Jacinto Valley. Percolation of water stored in Lake Perris has been an additional source of recharge since construction of the lake in the 1970s.

Groundwater Level Trends. Prior to the extraction of groundwater from the Basin, groundwater flow was generally along the course of the San Jacinto River and westward out of the Basin. High extraction rates had produced groundwater depressions and locally reversed the historical flow pattern. During the 1960s, groundwater levels in the western and central parts of the Basin declined; whereas, in the south-central part of the Basin, they were moderately stable. During the 1970s through the 1990s, groundwater levels declined about 20 to 40 feet in the northern and southwestern parts of the Basin and were relatively stable in the southern part of the Basin. During the 1970s through the 1980s, groundwater levels rose 80 to 200 feet in the western part of the Basin because of infiltration from Lake Perris. During 2001 and 2002, groundwater levels generally rose in the central part of the Basin and declined in the northeastern and southern parts of the Basin.

Groundwater Storage. The estimated groundwater storage capacity of the Basin is 3,070,000 acre feet. In 1975, the calculated amount of groundwater in storage was 2,700,000 acre feet.

3.4 Past and Projected Location, Amount and Sufficiency Groundwater [Section 10631 (b)(3), (b)(4)]

The City along with EMWD, LHMWD, the City of Hemet and private producers rely on the Basin for groundwater supplies. The Basin historically had not been managed. However, local agencies are proposing a GWMP to maintain long-term reliability of groundwater supplies. A draft of a proposal GWMP is included in Appendix C. During the City's dry single year and multiple dry year sequence, the City was able to meet its demands. The City is expected to meet its demands within the next 20 years during a single dry year and multiple dry year sequence, as shown in Table 4.

3.5 Reliability of Water Supply to Climate [Section 10631 (c)]

The City water system is primarily dependent on groundwater supplies from the Basin to meet water demands although historic short-term mechanical failure at a City well resulted in the purchase of treated imported water. The City, along with other local water agencies, has developed a proposed GWMP. According to the rainfall data on Figure 1, the 55-year average rainfall within the City's service area is about 11.91 inches. Calendar year 2003 represents an average water year for the City in which the total amount of rainfall was about 13.6 inches. A single dry year for the City was experienced in 2004 in which the total amount of rainfall was about 7.6 inches. A multiple dry year sequence for the City is represented from 1999 to 2001. During those years, the total amount of rainfall was about 6.1, 8.4 and 9.4 inches respectively. Table 4 shows that during an average year, single dry year and multiple dry years, the City's supplies met its customer's demands.

3.6 Exchanges and Transfers [Section 10631 (d)]

3.6.1 Long-Term

The City does not have long-term exchanges or transfers of water.

3.6.2 Short-Term

The City may purchase water from EMWD through three interconnections. The three interconnections have a total capacity of approximately 2,200 gpm. Historically, the City has relied on EMWD for purchased treated imported water only for emergency supplies, as shown in Table 2.

Chapter 4 – Water Use

Section 10631.

(e) (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors including, but not necessarily limited to, all of the following uses:

(A) Single-family residential.
(B) Multifamily.
(C) Commercial.
(D) Industrial.
(E) Institutional and governmental.
(F) Landscape.
(G) Sales to other agencies.
(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.
(I) Agricultural

(2)The water use projections shall be in the same five-year increments described in subdivision (a).

4.1 Past and Current Water Use [Section 10631 (e)(1)]

The City maintains records of groundwater production and occasionally imported water purchased from EMWD. The City has a total of about 3,700 service connections. Water is sold to residential, commercial, industrial and irrigation customers. Segregation of water sales by customer group are not maintained by the City. Following is a breakdown of the City's service connections by customer type.

1. Residential – 3,289 service connections
2. Commercial – 386 service connections
3. Industrial – 3 service connections
4. Irrigation – 2 service connections

The City water system historically has served primarily single family residential customers and the City does not anticipate that trend will change over the next 20 years. Table 2 indicates the water use per customer has remained relatively constant over the past 20 years indicating no significant influx of large (commercial, industrial, agricultural) water users. Much of the agricultural water use is from privately owned

wells and not associated with the City. The growth over the next 20 years of the City's water system will likely consist of additional single family residences. The City will evaluate the viability of developing a customer-type coding system in the future. Current and historical water use is presented in Table 2.

4.2 Projected Water Use [Section 10631 (e)(2)]

Chapter 2 indicates the City water system's future population is estimated to increase from about 13,200 people in 2005 to about 24,000 people in 2025. Based on the City's 2005 Water Master Plan, the projected water demands for the City water system are listed below.

Year	Estimated Water Projected Population	Projected Water Demand (Acre-Feet)
2005	13,200	3,144
2010	19,700	4,210
2015	21,300	4,560
2020	22,900	4,910
2025	24,000	4,920

Projected water use is presented on Table 3. It is anticipated the City will continue to provide all future demands from its groundwater sources. The GWMP for the Basin will enhance the City's ability to rely solely on groundwater. In the event of mechanical failure to any of the City's wells, the City has connections with EMWD to provide sufficient imported water supply until the equipment is repaired or replaced. There are no additional current or projected water uses.

Chapter 5 – Current Conservation Measures

Section 10631.

(f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:

1. *A description of each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following:*
   - *(A) Water survey programs for single-family residential and multi-family residential customers.*
   - *(B) Residential plumbing retrofit.*
   - *(C) System water audits, leak detection, and repair.*
   - *(D) Metering with commodity rates for all new connections and retrofit of existing connections.*
   - *(E) Large landscape conservation programs and incentives.*
   - *(F) High-efficiency washing machine rebate programs.*
   - *(G) Public information programs.*
   - *(H) School education programs.*
   - *(I) Conservation programs for commercial, industrial and institutional accounts.*
   - *(J) Wholesale agency programs.*
   - *(K) Conservation pricing.*
   - *(L) Water conservation coordinator.*
   - *(M) Water waste prohibition.*
   - *(N) Residential ultra-low-flush toilet replacement programs.*
2. *A schedule of implementation for all water demand management measures proposed or described in the plan.*
3. *A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented or described under the plan.*
4. *An estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the supplier's ability to further reduce demand.*

(g) An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or a combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following:

1. *Take into account economic and non-economic factors, including environmental, social, health, customer impact, and technological factors.*
2. *Include a cost-benefit analysis, identifying total benefits and total costs.*
3. *Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost.*
4. *Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation.*

5.1 Demand Management Measures and Implementation [Section 10631 (f)]

The City is not a signatory to the Memorandum of Understanding regarding Urban Water Conservation in California and not a member of the California Urban Water Conservation Council (CUWCC). Each of the 14 water Demand Management Measures (DMM) [Section 10631 (f)] are addressed in the sections below. The City implements nine of the fourteen DMMs currently. The City plans to implement the remaining five DMMs within the next five years by coordinating with EMWD and MWD.

5.1.1 DMM 1 – Water Survey Programs for Single Family Residential and Multi-Family Residential Customers [Section 10631 (f)(1)(A)]

City staff regularly reviews overall water usage within the service area. If the City finds that a customer has a high water consumption use in their water bill, City staff will conduct field inspections and meter checking in an attempt to identify the cause of the discrepancy. In addition, the City will educate the customer on how to find leaks and read meters.

5.1.2 DMM 2 – Residential Plumbing Retrofit [Section 10631 (f)(1)(B)]

The City currently is not implementing this DMM. However, the City is interested in expanding its water conservation programs and plans to coordinate with EMWD and MWD to implement an agreement for participation in the distribution of low flow showerheads, toilet displacement devices, toilet flappers and faucet aerators to City customers. This conservation program will be designed to increase indoor water use efficiency and assist the City in conserving water. The City plans to implement this DMM within the next five years.

5.1.3 DMM 3 – System Water Audits, Leak Detection and Repair [Section 10631 (f)(1)(C)]

City staff regularly inspects the water system to identify leaks from underground water pipelines, wells, pumps and reservoirs. In addition, the City has a program to annually compare metered water production (at wells) to metered customer sales. A discrepancy of more than 10 percent will serve as an indication for City staff to conduct additional field inspections and meter checking in an attempt to identify the cause of the discrepancy.

5.1.4 DMM 4 – Metering with Commodity Rates for all New Connections and Retrofit of Existing Connections [Section 10631 (f)(1)(D)]

The City meters all water sales to its customers. The commodity rates are based on a tiered system that rewards conservation with lower rates. The City's commodity rates include a fixed "availability of service" charge, plus additional charges for water use, as shown in Appendix D. The fixed charge is used by the City to offset fixed operating costs, such as staffing, and reduces the possibility of revenue shortfalls should water sales decrease.

5.1.5 DMM 5 – Large Landscape Conservation Programs and Incentives [Section 10631 (f)(1)(E)]

The City has determined the Peacock Well is not suitable for potable use. However, the City uses its Peacock Well to irrigate parks and greenbelt in the Rancho San Jacinto area, that otherwise would need to be supplied by the City's potable water distribution system. In doing so, the City reduces its demand on its potable groundwater supplies and the potential need to purchase treated imported water from EMWD. The annual production from the Peacock Well is about 200 acre-feet.

5.1.6 DMM 6 – High-efficiency Washing Machine Rebate Programs [Section 10631 (f)(1)(F)]

The City currently is not implementing this DMM. However, the City is interested in expanding its water conservation programs and plans to coordinate with EMWD and MWD to implement an agreement for participation in MWD's high efficiency washing machine rebate program. According to EMWD's 2005 draft Plan, EMWD offers a rebate of $110 for machines with a water use factor of 6.0 or less. This rebate program will be design to aid homeowners in purchasing high-efficient washing machines and to assist the City in conserving water supplies. The City plans to implement this DMM within the next five years.

5.1.7 DMM 7 – Public Information Programs [Section 10631 (f)(1)(G)]

The City distributes an annual Consumer Confidence Report to all its customers. The Consumer Confidence Report identifies water quality of the City's distribution system, the impact to human health and actions taken to ensure a high quality of water served to customers. In addition, the City is interested in expanding its water conservation programs and plans to offer information on water conservation to its customers. The City plans to implement this DMM within the next five years.

5.1.8 DMM 8 – School Education Programs [Section 10631 (f)(1)(H)]

The City currently is not implementing this DMM. However, the City is interested in expanding its water conservation programs and plans to coordinate with EMWD to implement an agreement for participation in EMWD's school education programs. According to EMWD's 2005 draft Plan, EMWD offers water conservation programs to students in kindergarten through the twelfth grade. The City plans to implement this DMM within the next five years.

5.1.9 DMM 9 – Conservation Programs for Commercial, Industrial and Institutional Accounts [Section 10631 (f)(1)(I)]

There are very few commercial and industrial water users in the City of San Jacinto. The City reviews water use plans for proposed commercial developments and provides recommendations to minimize water demand on the City.

5.1.10 DMM 10 – Wholesale Agency Programs

The City is a retailer and not a wholesale agency. Although, this program does not apply, the City coordinates with its wholesalers (EMWD and MWD) regarding water conservation opportunities.

5.1.11 DMM 11 – Conservation Pricing [Section 10631 (f)(1)(K)]

As previously discussed, the City has a tiered rate structure. As shown in Appendix D, the City's tiered rate structure creates an incentive to reduce water use.

5.1.12 DMM 12 – Water Conservation Coordinator [Section 10631 (f)(1)(L)]

The City has designated its Public Works Director as the City's water conservation coordinator, which oversees conservation programs. In addition, the City will coordinate with EMWD and MWD on expanding it's conservation programs. The City began implementing this program in 2005.

5.1.13 DMM 13 – Water Waste Prohibition [Section 10631 (f)(1)(M)]

The City does not have any mandatory prohibitions against excessive water use at this time. However, the City has a tiered rate structure designed to conduct a monthly check of water production/sales records to determine any unusual water demand by its customers. The City is interested in expanding its water conservation programs and will look into the possibility of adopting a water waste prohibition within the next five years.

5.1.14 DMM 14 – Residential Ultra Low-Flush Toilet Replacement Program [Section 10631 (f)(1)(N)]

The City currently is not implementing this DMM. However, the City is interested in expanding its water conservation programs and plans to coordinate with EMWD and MWD to implement an agreement for participation in MWD's Residential Ultra Low-Flush Toilet Rebate Program. According to EMWD's 2005 draft Plan, EMWD offers a rebate with funding through MWD. This rebate program will be design to aid homeowners in replacing toilets manufactured before 1992 with new, water efficient toilets and to assist the City in conserving water supplies. The City plans to implement this DMM within the next five years.

Chapter 6 – Water Supply Opportunities

Section 10631.

(h) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water uses as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), that the urban water supplier may implement to increase the amount of water supply available to the urban water supplier in average, single dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

(i) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.

6.1 Future Water Supply Projects and Programs [Section 10631 (h)]

The City, along with EMWD, LHMWD, and the City of Hemet are developing a GWMP to ensure the Basin continues to provide a reliable source of supply and is discussed in Chapter 3. Recently, the City constructed its Lake Park Well. With the addition of the Lake Park Well and implementation of the GWMP, the City will have enough water supply to meet its demands in the future. As of December 2005, the City does not expect additional water supply projects or programs in the future.

6.2 Desalinated Water [Section 10631 (i)]

The City does not have opportunities to incorporate desalinated water into its supply. The City pumps groundwater from the Basin which is low in Total Dissolved Solids (TDS) and does not require desalination. According to "The City of San Jacinto's 2004 Annual Water Quality Report", which is provided in Appendix E, the average TDS value for the City's active wells is about 250 milligrams per liter (mg/l) and ranges from 220 mg/l to 270 mg/l.

Chapter 7 – Urban Water Shortage Contingency Analysis

Section 10632.
The Plan shall provide an urban water shortage contingency analysis that includes each of the following elements that are within the authority of the urban water supplier:

(a) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to 50 percent reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage.

(b) An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.

(c) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.

(d) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.

(e) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.

(f) Penalties or charges for excessive use, where applicable.

(g) An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.

(h) A draft water shortage contingency resolution or ordinance.

(i) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.

7.1 Management of Water Shortages [Section 10632 (e)]

The City water system typically relies exclusively on groundwater supplies from the Basin and has never experienced a groundwater supply shortage, regardless of the hydrologic conditions. In the event of mechanical failure of one of its wells, the City has interconnections with EMWD. However, as noted in Chapter 3 treated imported water from EMWD has infrequently been used.

7.2 Stages of Action [Section 10632 (a)]

The City has developed a 'four-stage' rationing plan including up to 50 percent reduction in water supply if the City experiences a water supply shortage. The City's

plan includes voluntary and mandatory stages. In the event of a prolonged and severe drought, the rationing programs could be implemented as shown in Table 5. Stages I and II are voluntary stages and the customer reduction goal is 10 percent and 20 percent, respectively. Stages III and IV are mandatory stages and the customer reduction goal is 30 percent and 50 percent or greater, respectively.

7.3 Three Year Minimum Water Supply [Section 10632 (b)]

The City's three-year drought sequence was 1999, 2000, and 2001. During those years, the City had adequate water supply to meet its demands, as shown on Table 2. It is anticipated the City will be able to provide adequate water to its customers in the next three-year period. The estimated minimum water supply available to the City is also a function of the capacity of its wells, which is 7,100 acre-feet per year. Therefore, based on the capacity of its wells, the City will have adequate supply in an average, single-dry and multiple dry year sequence.

7.4 Preparation for Catastrophic Water Supply [Section 10632 (c)]

In 1996, the City has prepared a Multi-Hazard Functional Plan, as shown in Appendix F. The Multi-Hazard Functional Plan describes the actions the City will take during a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster. In the event of a system failure, the City has three emergency water interconnections with EMWD. These interconnections are manually activated and can supply water in the event the City may need additional water due to a power failure or disaster.

7.5 Prohibitions and Penalties [Section 10632 (d), (f)]

The City does not have any mandatory prohibitions or penalties against excessive water use at this time. However, the City is interested in expanding its water conservation programs and will look into the possibility of adopting a water waste prohibition and penalties within the next five years.

7.6 Revenue and Expenditure Impacts [Section 10632 (g)]

The City has developed a tiered rate structure that 1) establishes a minimum monthly fixed charge for water service and 2) rewards water conservation with lower water rates. The City is cognizant of seasonal variation of water supply and, in turn, water sales. As a result, the City has developed a rate structure that conservatively and consistently will generate sufficient fixed income, based on water connections, to fund fixed costs. As an example, the water rates during calendar year 2004, which is provided in Appendix D, would conservatively generate about $560,000 using the water service rate of $12.64 per customer per month and assuming all 3,700 customers were small residential users. Over the same period fixed costs for staffing, insurance and rent were adequately funded. Variable costs such as repairs, cost of energy, and supplies are tied to the level of water service actually provided and will be funded by water sales. This cursory review of the City's fixed revenue and expenses along with the adopted rate structure indicates a reduction in sales should not result in a funding deficit.

7.7 Water Shortage Contingency Ordinance/Resolution [Section 10632 (h)]

The City has drafted a water shortage contingency ordinance as shown in Appendix G.

7.8 Reduction Measuring Mechanism [Section 10632 (i)]

Section 10632 (i) requires a mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis. The City has a program to monitor water use within its boundaries. The City tabulates groundwater and imported water use. Such tabulations are then used to determine seasonal and annual fluctuations in water use. The City can compare total water use from one year to the next to determine actual reductions in water use.

Chapter 8 – Recycled Water

Section 10633.
The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area, and shall include all of the following:

(a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.

(b) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.

(c) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.

(d) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15 and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.

(e) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.

(f) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

8.1 Existing Water Reclamation Facilities [Section 10633 (a),(b)]

The City does not own or operate any wastewater treatment facilities. All sewage generated within the City water system is provided to the Hemet/San Jacinto Regional Water Reclamation Facility (RWRF), which is operated by EMWD. A more thorough discussion of the RWRF is included in EMWD's 2005 Plan and is incorporated by reference. According to EMWD's 2005 Plan all treated wastewater is discharged into EMWD's regional recycled water distribution system. EMWD has developed over 135 miles of regional transmission pipelines which connect all five of EMWD's RWRFs, providing a flexible recycled water delivery system. In conjunction with over 6,000 acre-feet of surface storage reservoirs, these pipelines allow EMWD to sell over 90 percent

to 100 percent of the treated wastewater produced in its service area. The balance of the treated recycled water is lost to incidental percolation during winter storage when demands for recycled water are minimal.

8.2 Potential Uses of Recycled Water [Section 10633 (c)]

As noted above, EMWD owns, operates and controls all recycled water use in the City's service area. The recycled water production is sold for agricultural use, landscape, wildlife habitat, wetlands/lake, and industrial use.

Prior to constructing a recycled water distribution system, the potential uses for recycled water must be identified. Potential uses of recycled water include:

1. Landscape irrigation, including those demands currently being fulfilled by the Peacock Well;
2. Irrigation of community parks and schoolyards;
3. Industrial process (i.e. heating and cooling and contingent on suitable recycled water quality;
4. Car washes;
5. Residential landscaping and toilet flushing in new developments, incorporating dual piping systems for recycled and potable water.

8.3 Projected Use of Recycled Water [Section 10633(d-f)]

As previously mentioned, there is no recycled water available to the City for a reuse program at this time. However, the City has a well that is not suitable for domestic use but is used for irrigation purposes. The City will look at the possibility of using recycled water in the future when supplies may be available.

Chapter 9 – Water Quality

Section 10634.
The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.

9.1 San Jacinto Groundwater Basin

The City supplies water to its customers from four active wells, as described in Chapter 3. The City tests water from each of its wells and files water quality reports with the California Department of Health Services (CDHS), as required. A copy of the City's 2004 Annual Water Quality Report is presented in Appendix E, which shows high levels of Manganese and Iron in the raw water (untreated) at the City's Grand and Bath Wells. The City operates two groundwater treatment plants for removal of Manganese and Iron located at the City's Grand and Bath wellsites. After treatment, all water delivered to the City's customers meets CDHS guidelines and is not expected to change over the next 20 years. Therefore, the water available to the City over the next 20 years will not be affected by the water quality.

Chapter 10 – Water Supply Reliability

Section 10635.

(a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry year water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

10.1 Assessment of the Reliability of Water Supply

The City has historically relied on the Basin as its source to meet all demands. The City has satisfactory met all water demands, even during the prolonged statewide drought in the late 1980's. The City does not anticipate any water supply problems over the next 20 years. Demands based on projected population increased are estimated to increase from about 3,144 acre-feet during calendar year 2005 to about 4,912 acre-feet in calendar year 2025, increase of 1,768 acre-feet. In addition, the City has treated imported water connections with EMWD in the event of a mechanical failure at one of its wells as backup water supply. A water supply and demand assessment comparing the reliability of its water during a normal year, a dry year and multiple dry years are shown in Table 4.

The City primarily relies on groundwater from the Basin. The City, along with other local water agencies are developing a GWMP, cooperatively manage water supplies and continue to pursue water management options. Consequently, the City believes its water supplies will reliably meet demand, even under multiple dry years.

Table 1
Climate

	January	February	March	April	May	June	July	August	September	October	November	December	Annual
Average Rainfall (in.)	2.7	2.8	2.3	0.6	0.4	0.1	0.1	0.3	0.4	0.5	0.9	1.4	12.5
Average Temperature (°F)	52.3	54.4	56.2	61.4	67	73.9	79.8	80.3	75.5	67.2	57.6	52.5	64.8

Source: Data from www.city-data.com under City of San Jacinto

Table 2
City of San Jacinto
Historical Annual Production
(acre-feet)

Calendar Year	Water Supply (AF)								Customers (meters)	Water Use per Customer (AF/meter)
	Local Groundwater Wells						Purchased Water from EMWD	Total		
	Grand	Old Bath	New Bath	Mistletoe	Artesia	Subtotal				
1982	1/	1/	--	1/	--	1,908	0	1,908	2,519	0.76
1983	1/	1/	--	1/	--	1,991	0	1,991	2,561	0.78
1984	1/	1/	--	1/	--	2,345	0	2,345	2,602	0.90
1985	1/	1/	--	1/	--	2,442	0	2,442	2,633	0.93
1986	1/	1/	--	1/	--	2,572	0	2,572	2,687	0.96
1987	1/	1/	--	1/	--	2,573	0	2,573	2,715	0.95
1988	1/	1/	--	1/	--	2,394	0	2,394	2,802	0.85
1989	1/	2/	1/	1/	--	2,497	0	2,497	2,917	0.86
1990	1/	--	1/	1/	--	2,430	0	2,430	3,165	0.77
1991	1/	--	1/	1/	--	1,953	0	1,953	3,325	0.59
1992	1/	--	1/	1/	--	NA	0	NA	3,406	NA
1993	1,274	--	1,460	20	--	2,753	0	2,753	3,418 3/	0.81 3/
1994	1,018	--	1,600	216	--	2,834	0	2,834	3,430 3/	0.83 3/
1995	1,357	--	1,221	12	--	2,590	54	2,644	3,441 3/	0.77 3/
1996	1,163	--	1,774	46	--	2,982	47	3,029	3,453 3/	0.88 3/
1997	987	--	1,282	2/	--	2,269	600	2,869	3,465 3/	0.83 3/
1998	1,080	--	1,734	--	--	2,814	120	2,934	3,477 3/	0.84 3/
1999	550	--	1,357	--	819	2,725	0	2,725	3,488 3/	0.78 3/
2000	465	--	934	--	1,381	2,780	0	2,780	3,500 3/	0.79 3/
2001	495	--	941	--	1,306	2,742	0	2,742	3,510 3/	0.78 3/
2002	866	--	996	--	1,369	3,231	34	3,265	3,520 3/	0.93 3/
2003	895	--	963	--	1,296	3,154	2	3,157	3,529	0.89
2004	510	--	712	--	1,572	2,794	175	2,968	3,539 3/	0.84 3/
									Average	0.83

1/ Not quantified seperately
2/ Ceased Operation
3/ Estimated
NA Information Not Available

Table 3
City of San Jacinto
Projected Water Supply and Demand
(acre-feet)

	Demand [1/]			Supply		
Year	Ag	Domestic	Total	Ground Water [2/]	EMWD	Total
2005	0	3,144	3,144	4,654	0	4,654
2010	0	4,212	4,212	3,871	341	4,212
2015	0	4,562	4,562	4,562	0	4,562
2020	0	4,912	4,912	4,912	0	4,912
2025	0	4,912	4,912	4,912	0	4,912

1/ Includes information from 2005 Water Master Plan

2/ Includes Soboba Settlement and information from 2005 Water Master Plan

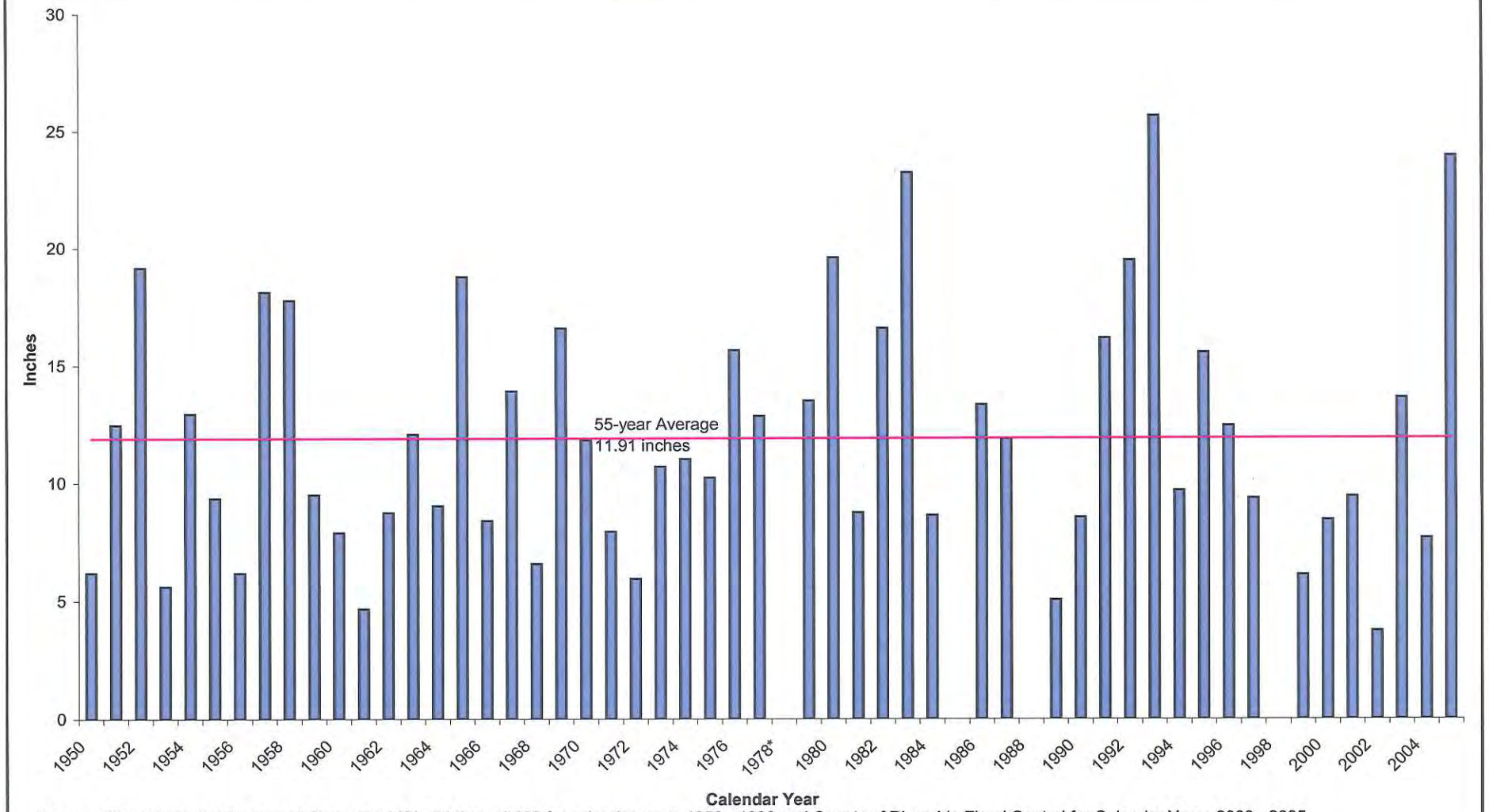
Table 4
City of San Jacinto
Reliability of Supply
(acre-feet)

	Average Year	Single Dry Year	Multiple Dry Water Years		
Year	**2003**	**2004**	**1999**	**2000**	**2001**
Total Demand	**3156**	**2968**	**2725**	**2780**	**2742**
San Jacinto Basin	3154	2794	2725	2780	2742
EMWD	2	175	0	0	0
Total Supply	**3156**	**2969**	**2725**	**2780**	**2742**
Total Well Capacity	7100	7100	7100	7100	7100
Year	**2010**	**2010**	**2010**	**2010**	**2010**
Total Demand	**4212**	**3961**	**3637**	**3710**	**3659**
San Jacinto Basin	4212	3961	3637	3710	3659
EMWD	0	0	0	0	0
Total Supply	**4212**	**3961**	**3637**	**3710**	**3659**
Total Well Capacity	7100	7100	7100	7100	7100
Year	**2015**	**2015**	**2015**	**2015**	**2015**
Total Demand	**4562**	**4290**	**3939**	**4018**	**3964**
San Jacinto Basin	4562	4290	3939	4018	3964
EMWD	0	0	0	0	0
Total Supply	**4562**	**4290**	**3939**	**4018**	**3964**
Total Well Capacity	7100	7100	7100	7100	7100
Year	**2020**	**2020**	**2020**	**2020**	**2020**
Total Demand	**4912**	**4619**	**4241**	**4327**	**4268**
San Jacinto Basin	4912	4619	4241	4327	4268
EMWD	0	0	0	0	0
Total Supply	**4912**	4619	**4241**	**4327**	**4268**
Total Well Capacity	7100	7100	7100	7100	7100
Year	**2025**	**2025**	**2025**	**2025**	**2025**
Total Demand	**4912**	**4619**	**4241**	4327	**4268**
San Jacinto Basin	4912	4619	4241	4327	4268
EMWD	0	0	0	0	0
Total Supply	**4912**	**4619**	**4241**	**4327**	**4268**
Total Well Capacity	7100	7100	7100	7100	7100

Table 5

Water Rationing Stages and Reduction Goals

Shortage Condition	Stage	Customer Reduction Goal	Type of Rationing Program
Up to 15%	I	10%	Voluntary
15 - 25%	II	20%	Voluntary
25 - 35%	III	30%	Mandatory
35 - 50%	IV	50% or greater	Mandatory



Source: Climatological Data Annual Summary, VOL. 54 through103 for calendar years 1950 - 1999 and County of Riverside Flood Control for Calendar Years 2000 - 2005

*Station moved from San Jacinto to San Jacinto Ranger Station beginning in 1978

STETSON ENGINEERS INC.

Covina San Rafael Mesa, Arizona

WATER RESOURCE ENGINEERS

CITY OF SAN JACINTO

ANNUAL RAINFALL

Figure 1

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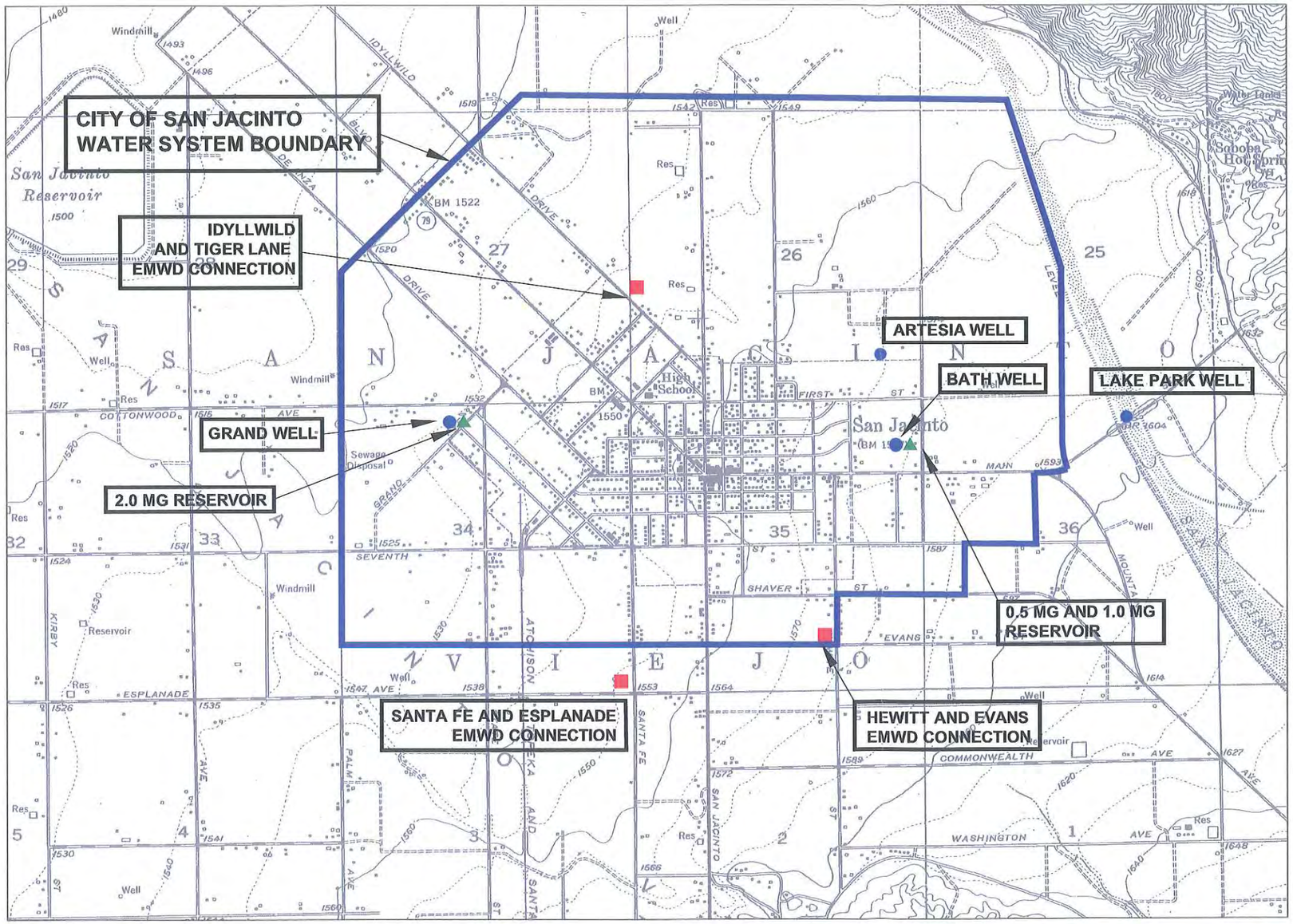

LEGEND

- WELL
- RESERVOIR
- EMWD CONNECTION

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Mesa Arizona 85202

1,000' 1,000'

CITY OF SAN JACINTO

WATER SERVICE AREA WELLS AND EMWD CONNECTIONS

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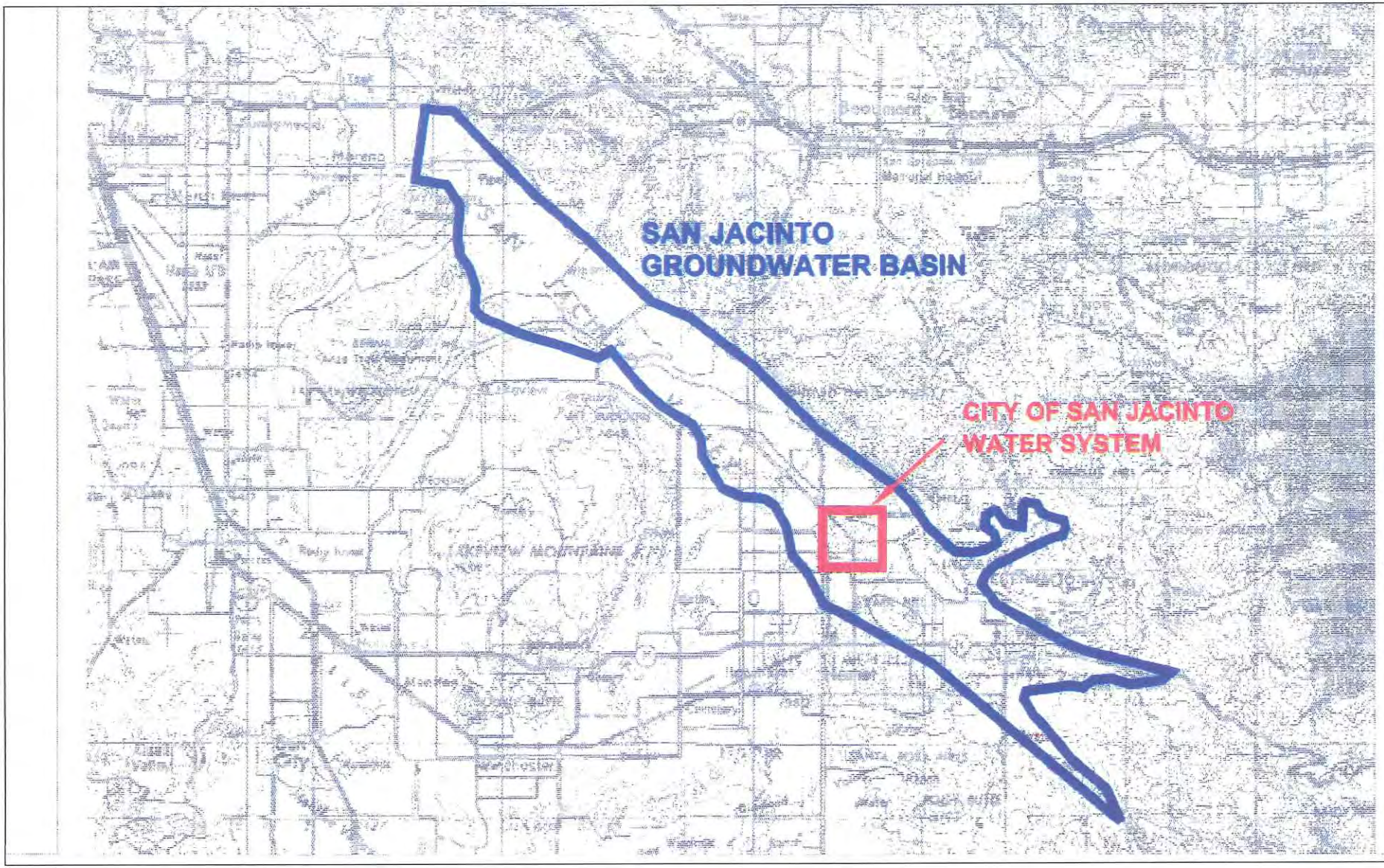

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N

10,000' 10,000'

CITY OF SAN JACINTO

VICINITY MAP
SAN JACINTO GROUNDWATER BASIN

PLATE 2

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APPENDIX A

California Urban Water Management Planning Act

Established: AB 797, Klehs, 1983
Amended: AB 2661, Klehs, 1990
AB 11X, Filante, 1991
AB 1869, Speier, 1991
AB 892, Frazee, 1993
SB 1017, McCorquodale, 1994
AB 2853, Cortese, 1994
AB 1845, Cortese, 1995
SB 1011, Polanco, 1995
AB 2552, Bates, 2000
SB 553, Kelley, 2000
SB 610, Costa, 2001
AB 901, Daucher, 2001
SB 672, Machado, 2001
SB 1348, Brulte, 2002
SB 1384, Costa, 2002
SB 1518, Torlakson, 2002
AB 105, Wiggins, 2004
SB 318, Alpert, 2004

CALIFORNIA WATER CODE DIVISION 6
PART 2.6. URBAN WATER MANAGEMENT PLANNING

CHAPTER 1. GENERAL DECLARATION AND POLICY

10610. This part shall be known and may be cited as the "Urban Water Management Planning Act."

10610.2. (a) The Legislature finds and declares all of the following:

(1) The waters of the state are a limited and renewable resource subject to ever-increasing demands.

(2) The conservation and efficient use of urban water supplies are of statewide concern; however, the planning for that use and the implementation of those plans can best be accomplished at the local level.

(3) A long-term, reliable supply of water is essential to protect the productivity of California's businesses and economic climate.

(4) As part of its long-range planning activities, every urban water supplier should make every effort to ensure the appropriate level of reliability in

its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry water years.

(5) Public health issues have been raised over a number of contaminants that have been identified in certain local and imported water supplies.

(6) Implementing effective water management strategies, including groundwater storage projects and recycled water projects, may require specific water quality and salinity targets for meeting groundwater basins water quality objectives and promoting beneficial use of recycled water.

(7) Water quality regulations are becoming an increasingly important factor in water agencies' selection of raw water sources, treatment alternatives, and modifications to existing treatment facilities.

(8) Changes in drinking water quality standards may also impact the usefulness of water supplies and may ultimately impact supply reliability.

(9) The quality of source supplies can have a significant impact on water management strategies and supply reliability.

(b) This part is intended to provide assistance to water agencies in carrying out their long-term resource planning responsibilities to ensure adequate water supplies to meet existing and future demands for water.

10610.4. The Legislature finds and declares that it is the policy of the state as follows:

(a) The management of urban water demands and efficient use of water shall be actively pursued to protect both the people of the state and their water resources.

(b) The management of urban water demands and efficient use of urban water supplies shall be a guiding criterion in public decisions.

(c) Urban water suppliers shall be required to develop water management plans to actively pursue the efficient use of available supplies.

CHAPTER 2. DEFINITIONS

10611. Unless the context otherwise requires, the definitions of this chapter govern the construction of this part.

10611.5. "Demand management" means those water conservation measures, programs, and incentives that prevent the waste of water and promote the reasonable and efficient use and reuse of available supplies.

10612. "Customer" means a purchaser of water from a water supplier who uses the water for municipal purposes, including residential, commercial, governmental, and industrial uses.

10613. "Efficient use" means those management measures that result in the most effective use of water so as to prevent its waste or unreasonable use or unreasonable method of use.

10614. "Person" means any individual, firm, association, organization, partnership, business, trust, corporation, company, public agency, or any agency of such an entity.

10615. "Plan" means an urban water management plan prepared pursuant to this part. A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities. The components of the plan may vary according to an individual community or area's characteristics and its capabilities to efficiently use and conserve water. The plan shall address measures for residential, commercial, governmental, and industrial water demand management as set forth in Article 2 (commencing with Section 10630) of Chapter 3. In addition, a strategy and time schedule for implementation shall be included in the plan.

10616. "Public agency" means any board, commission, county, city and county, city, regional agency, district, or other public entity.

10616.5. "Recycled water" means the reclamation and reuse of wastewater for beneficial use.

10617. "Urban water supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers. This part applies only to water supplied from public water systems subject to Chapter 4 (commencing with Section 116275) of Part 12 of Division 104 of the Health and Safety Code.

CHAPTER 3. URBAN WATER MANAGEMENT PLANS
Article 1. General Provisions

10620.

(a) Every urban water supplier shall prepare and adopt an urban water management plan in the manner set forth in Article 3 (commencing with Section 10640).

(b) Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.

(c) An urban water supplier indirectly providing water shall not include planning elements in its water management plan as provided in Article 2 (commencing with Section 10630) that would be applicable to urban water suppliers or public agencies directly providing water, or to their customers, without the consent of those suppliers or public agencies.

(d)

(1) An urban water supplier may satisfy the requirements of this part by participation in areawide, regional, watershed, or basinwide urban water management planning where those plans will reduce preparation costs and contribute to the achievement of conservation and efficient water use.

(2) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.

(e) The urban water supplier may prepare the plan with its own staff, by contract, or in cooperation with other governmental agencies.

(f) An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

10621.

(a) Each urban water supplier shall update its plan at least once every five years on or before December 31, in years ending in five and zero.

(b) Every urban water supplier required to prepare a plan pursuant to this part shall notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision.

(c) The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).

Article 2. Contents of Plans

10630. It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied.

10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:

(a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a). If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:

(1) A copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management.

(2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree.

For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(c) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:

(1) An average water year.
(2) A single dry water year.
(3) Multiple dry water years.

For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.

(d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

(e)

(1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors including, but not necessarily limited to, all of the following uses:

(A) Single-family residential.
(B) Multifamily.
(C) Commercial.
(D) Industrial.
(E) Institutional and governmental.
(F) Landscape.
(G) Sales to other agencies.
(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.
(I) Agricultural.

(2) The water use projections shall be in the same five-year increments described in subdivision (a).

(f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:

(1) A description of each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following:

(A) Water survey programs for single-family residential and multifamily residential customers.

(B) Residential plumbing retrofit.

(C) System water audits, leak detection, and repair.

(D) Metering with commodity rates for all new connections and retrofit of existing connections.

(E) Large landscape conservation programs and incentives.

(F) High-efficiency washing machine rebate programs.

(G) Public information programs.

(H) School education programs.

(I) Conservation programs for commercial, industrial, and institutional accounts.

(J) Wholesale agency programs.

(K) Conservation pricing.

(L) Water conservation coordinator.

(M) Water waste prohibition.

(N) Residential ultra-low-flush toilet replacement programs.

(2) A schedule of implementation for all water demand management measures proposed or described in the plan.

(3) A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented or described under the plan.

(4) An estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the supplier's ability to further reduce demand.

(g) An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following:

(1) Take into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors.

(2) Include a cost-benefit analysis, identifying total benefits and total costs.

(3) Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost.

(4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation.

(h) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

(i) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.

(j) Urban water suppliers that are members of the California Urban Water Conservation Council and submit annual reports to that council

in accordance with the "Memorandum of Understanding Regarding Urban Water Conservation in California," dated September 1991, may submit the annual reports identifying water demand management measures currently being implemented, or scheduled for implementation, to satisfy the requirements of subdivisions (f) and (g).

(k) Urban water suppliers that rely upon a wholesale agency for a source of water, shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (c). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (c), including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.

10631.5. The department shall take into consideration whether the urban water supplier is implementing or scheduled for implementation, the water demand management activities that the urban water supplier identified in its urban water management plan, pursuant to Section 10631, in evaluating applications for grants and loans made available pursuant to Section 79163. The urban water supplier may submit to the department copies of its annual reports and other relevant documents to assist the department in determining whether the urban water supplier is implementing or scheduling the implementation of water demand management activities.

10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:

(a) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage.

(b) An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.

(c) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including,

but not limited to, a regional power outage, an earthquake, or other disaster.

(d) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.

(e) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.

(f) Penalties or charges for excessive use, where applicable.

(g) An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.

(h) A draft water shortage contingency resolution or ordinance.

(i) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.

10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area, and shall include all of the following:

(a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.

(b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.

(c) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.

(d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.

(e) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.

(f) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.

(g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

10634. The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.

Article 2.5 Water Service Reliability

10635.

(a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

(b) The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.

(c) Nothing in this article is intended to create a right or entitlement to water service or any specific level of water service.

(d) Nothing in this article is intended to change existing law concerning an urban water supplier's obligation to provide water service to its existing customers or to any potential future customers.

Articl 3. Adoption and Implementation of Plans

10640. Every urban water supplier required to prepare a plan pursuant to this part shall prepare its plan pursuant to Article 2 (commencing with Section 10630).

The supplier shall likewise periodically review the plan as required by Section 10621, and any amendments or changes required as a result of that review shall be adopted pursuant to this article.

10641. An urban water supplier required to prepare a plan may consult with, and obtain comments from, any public agency or state agency or any person who has special expertise with respect to water demand management methods and techniques.

10642. Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area. After the hearing, the plan shall be adopted as prepared or as modified after the hearing.

10643. An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan.

10644.

(a) An urban water supplier shall submit the department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. Copies of amendments or changes to the plans shall be filed with the department, the

California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.

(b) The department shall prepare and submit to the Legislature, on or before December 31, in the years ending in six and one, a report summarizing the status of the plans adopted pursuant to this part. The report prepared by the department shall identify the outstanding elements of the individual plans. The department shall provide a copy of the report to each urban water supplier that has submitted its plan to the department. The department shall also prepare reports and provide data for any legislative hearings designed to consider the effectiveness of plans submitted pursuant to this part.

10645. Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.

CHAPTER 4. MISCELLANEOUS PROVISIONS

10650. Any actions or proceedings to attack, review, set aside, void, or annul the acts or decisions of an urban water supplier on the grounds of noncompliance with this part shall be commenced as follows:

(a) An action or proceeding alleging failure to adopt a plan shall be commenced within 18 months after that adoption is required by this part.

(b) Any action or proceeding alleging that a plan, or action taken pursuant to the plan, does not comply with this part shall be commenced within 90 days after filing of the plan or amendment thereto pursuant to Section 10644 or the taking of that action.

10651. In any action or proceeding to attack, review, set aside, void, or annul a plan, or an action taken pursuant to the plan by an urban water supplier on the grounds of noncompliance with this part, the inquiry shall extend only to whether there was a prejudicial abuse of discretion. Abuse of discretion is established if the supplier has not proceeded in a manner required by law or if the action by the water supplier is not supported by substantial evidence.

10652. The California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) does not apply to the preparation and adoption of plans pursuant to this part or to the implementation of actions taken pursuant to Section 10632. Nothing in this part shall be interpreted as exempting from the California Environmental Quality Act any project that would significantly affect water supplies for fish and wildlife, or any project for implementation of the plan, other than projects implementing Section 10632, or any project for expanded or additional water supplies.

10653. The adoption of a plan shall satisfy any requirements of state law, regulation, or order, including those of the State Water Resources Control Board and the Public Utilities Commission, for the preparation of water management plans or conservation plans; provided, that if the State Water Resources Control Board or the Public Utilities Commission requires additional information concerning water conservation to implement its existing authority, nothing in this part shall be deemed to limit the board or the commission in obtaining that information. The requirements of this part shall be satisfied by any urban water demand management plan prepared to meet federal laws or regulations after the effective date of this part, and which substantially meets the requirements of this part, or by any existing urban water management plan which includes the contents of a plan required under this part.

10654. An urban water supplier may recover in its rates the costs incurred in preparing its plan and implementing the reasonable water conservation measures included in the plan. Any best water management practice that is included in the plan that is identified in the "Memorandum of Understanding Regarding Urban Water Conservation in California" is deemed to be reasonable for the purposes of this section.

10655. If any provision of this part or the application thereof to any person or circumstances is held invalid, that invalidity shall not affect other provisions or applications of this part which can be given effect without the invalid provision or application thereof, and to this end the provisions of this part are severable.

10656. An urban water supplier that does not prepare, adopt, and submit its urban water management plan to the department in accordance with this part, is ineligible to receive funding pursuant to Division 24 (commencing with Section 78500) or Division 26 (commencing with Section 79000), or receive drought assistance from the state until the urban water management plan is submitted pursuant to this article.

10657.

(a) The department shall take into consideration whether the urban water supplier has submitted an updated urban water management plan that is consistent with Section 10631, as amended by the act that adds this section, in determining whether the urban water supplier is eligible for funds made available pursuant to any program administered by the department.

(b) This section shall remain in effect only until January 1, 2006, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2006, deletes or extends that date.

APPENDIX B

Public Notification Letter and Water Use Letter

INVITATION TO COMMENT
CITY OF SAN JACINTO 2005 URBAN WATER MANAGEMENT PLAN

The City of San Jacinto announces the availability of the 2005 update to the Urban Water Management Plan (UWMP) for review and comment. An Executive Summary or the full report may be obtained at the City Clerk's Office located at 248 East Main Street. San Jacinto, Ca. 92583. Comments may be submitted in a variety of ways. By 5:00 p.m. Monday, January 30th, comments may be sent via email to Memberton@sanjacintoca.us or by hand delivery or United States mail to:

Michael Emberton
Public Works Director
City of San Jacinto
270 Bissell Place
San Jacinto, CA 92583

SAN JACINTO

August 11, 2005

Mr. Tony Pack
Eastern Municipal Water District
2270 Trumble Road
Perris, California 92570

RE: Urban Water Management Plan

Dear Mr. Pack:

The Urban Water Management Planning Act requires every "urban water supplier[1]" to prepare and adopt an Urban Water Management Plan (UWMP) and periodically update that plan at least once every five years on or before December 31, in years ending in five and zero. The UWMP is a planning document and a source document to direct urban water suppliers to evaluate and compare their water supply and reliability to their existing water conservation efforts. The City of San Jacinto (City) is currently in the process of preparing a 2005 UWMP.

As an urban water supplier, the City is required pursuant to Section 10621 (k) of the UWMP Act to provide Eastern Municipal Water District (EMWD) with water use projections from that wholesale agency for that source of water in five-year increments to 20 years or as far as data is available. In April 2005, the City's water use projections were provided to EMWD.

If you have any questions regarding the City's UWMP please contact our consultants, Stetson Engineers Inc., at (626) 967-9202.

Sincerely,

Barry McClellan, P.E.
Interim Public Works Director

[1]Section 10617 of the Urban Water Management Planning Act states, "*"Urban Water Supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually.*

APPENDIX C

Draft Groundwater Management Plan

Hemet/San Jacinto Groundwater Management Area

DRAFT

Water Management Plan

Prepared for:

Eastern Municipal Water District
Lake Hemet Municipal Water District
City of Hemet
City of San Jacinto

January 2006

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SECTION 1 INTRODUCTION

1.1 PROJECT BACKGROUND

The stakeholders in the Hemet/San Jacinto Groundwater Management Area (Management Area) have developed the Hemet/San Jacinto Water Management Plan (Plan) to provide a foundation that guides and supports responsible water management in the future. The local stakeholders involved in the Plan include Eastern Municipal Water District (EMWD), Lake Hemet Municipal Water District (LHMWD), cities of Hemet and San Jacinto, and Private Water Producers, collectively referred to as "Plan Participants". EMWD, LHMWD, and the cities of Hemet and San Jacinto are collectively referred to as "Public Agencies".

A Policy Committee (PC) of the Plan Participants developed and adopted the Principles for Water Management (Principles), which guide the management, development, and governance of local water supplies. The adopted Principles, along with a variety of technical analyses, guided development of the Plan. The PC established the Principles based on the historical data on the operation of the groundwater basin; historical and projected water demands; and existing and potential future facilities. The California Department of Water Resources (DWR) provided financial, facilitation, and technical support to the PC.

A Technical Committee (TC) supported the PC and served as the investigative and review body to ensure that proper technical analyses were conducted to provide a defensible technical foundation for the Plan. The TC provided technical input to support decisions by the Public Agencies, Private Water Producers, and other stakeholders. DWR also provided financial and technical support to the TC.

A Consultants-Attorneys-Managers (CAM) committee served as an interim body to develop and review technical, legal, institutional, and financial documents, plans and standards. The CAM committee discussed the technical/policy/legal issues in anticipation of evolving documents and recommendations for action by the policy makers for the PC.

EMWD and LHMWD have also worked with the Soboba Band of Luiseño Indians (Soboba Tribe) and the Federal Government to develop a Settlement Agreement (Agreement) that would resolve past issues with respect to Tribal water rights and the water management practices in

the basin. The Agreement will be supported by two stipulated judgments[1] that provide sufficient legal and technical basis for future water supplies for the Soboba Tribe.

1.2 WATER MANAGEMENT PLAN

The Plan adopted by the governing bodies of the Plan Participants, is to provide a roadmap for implementation of the Physical Solution, to ensure adequate and reliable sources of future water supply for the Management Area, and to meet the Prior and Paramount Soboba Tribe water rights requirements. The Plan may be modified and updated in the future based on, among others, the availability of new data, updated technical analysis, and changes in the institutional/financial structure of the stakeholders.

1.3 PHYSICAL SOLUTION

As described in the Stipulated Judgments, the Physical Solution is the court decreed method of managing the water supply in the Management Area to maximize the reasonable and beneficial use of the waters, eliminate overdraft, protect the prior rights of the Soboba Tribe, and provide for the substantial enjoyment of all water rights by recognizing their priorities. Therefore, the Physical Solution is a group of water supply and conjunctive use projects that would serve this purpose.

The project that is considered to be the core of the Physical Solution is the Phase I of the *Hemet/San Jacinto Integrated Recharge and Recovery Project (IRRP)*. Phase I of the IRRP has been designed, funded, the necessary environmental permits have been acquired, and construction is currently underway. Phase II is in planning stages. The project is designed to recharge (replenish) imported water and extract groundwater at a capacity such that the following goals are met:

1. Satisfy Prior and Paramount Soboba Tribe water rights;
2. Offset the estimated 10,000 AFY overdraft in the Management Area;
3. Provide an additional 15,000 AFY to help meet the projected demand increases; and
4. Provide as much as 45,000 AF of storage for conjunctive use/drought management.

Major elements of the Project are:

[1] These judgments are in the case of Soboba Tribe v. Metropolitan Water District, et. Al.; U.S. District Court in Los Angeles, Case No. 00-04208 GAF, and in a Riverside County Superior Court action, yet to be filed.

- Modifications to Pump Stations (Warren and Commonwealth)
- Construction of Pipelines
- Design and Construction of Recharge Basins
- Drilling Three (3) Extraction Wells
- Installation of Pumps and Chlorination Equipment for Three (3) Extraction Wells
- Design and Drilling of Three (3) Monitoring Wells

Additional details on Phase I of the IRRP are presented in Section 3.2.2 of this Plan, and details on Phase II are presented in Section 5.3.1.

In addition to the *San Jacinto River Integrated Recharge and Recovery Project*, there are other projects that the TC has identified as potential projects to be further considered in the future as part of the Physical Solution for the Management Area. These include *direct recharge* and *in-lieu recharge* projects and are described in Section 5.3 of this Plan.

1.4 WATER MANAGEMENT PLAN GOALS

The Principles include eight primary goals for the management of water resources in the Management Area. These are:

- Address pumping overdraft and declining groundwater levels,
- Provide for Soboba Tribe prior and paramount water rights,
- Ensure reliable water supply,
- Provide for planned urban growth,
- Protect and enhance water quality,
- Develop cost-effective water supply,
- Provide adequate monitoring for water supply and water quality, and
- Supersede the Fruitvale judgment and agreement.

1.5 ORGANIZATION OF THE PLAN

The Plan is divided into the following 12 sections:

- **Section 1** - Provides introduction to the Plan;
- **Section 2** - Presents the Plan framework, including the location, partners, and current and past institutional arrangements and agreements;
- **Section 3** - Outlines the Water Management Plan Elements;

- **Section 4** - Outlines the state of the basin, including relevant geology, water quantity, water demand and use, current water supply conditions, and safe yield of the Management Area;
- **Section 5** - Provides details on the projected water demands and future phases of the Physical Solution;
- **Section 6** - Provides details on the groundwater production rights for the public agencies, private water producers, and the Soboba Tribe;
- **Section 7** - Details the surface water rights for Lake Hemet Municipal Water District and Eastern Municipal Water District;
- **Section 8** - Describes the Soboba Tribe settlement requirements, including financial obligations and settlement of water issues;
- **Section 9** - Describes the institutional plan, including details from the Court approved plan and Stipulated Judgment as well as details on the relationship between the Watermaster and the involved parties;
- **Section 10** - Describes the financial plan, including requirements for annual budget, ownership of facilities, assessments, construction of Phase I facilities, and discussion on future capital project facilities;
- **Section 11** - Includes the implementation plan;
- **Section 12** - Provides references used in this document;
- **Appendix A** - Stipulated Judgment
- **Appendix B** - Soboba Agreement
- **Appendix C** - Water Management Principles
- **Appendix D** - Phase I Facilities Agreement
- **Appendix E** - Historical Water Usage
- **Appendix F** - Recycled Water Usage
- **Appendix G** - EMWD License for San Jacinto River Diversion
- **Appendix H** - Average Annual Sources of Water Supply

SECTION 2 MANAGEMENT PLAN FRAMEWORK

This section briefly describes the geographic boundaries of the four divisions, or Management Zones, that make up the Management Area and provides a brief history and background on each of the primary stakeholder organizations. Past agreements and related activities leading to the Plan are discussed below, including the role of the state.

2.1 MANAGEMENT AREA

The Management Area is divided into 4 Management Zones: Canyon, San Jacinto - Upper Pressure (Upper Pressure), Hemet South, and the Hemet North portion of the Lakeview/Hemet North (Hemet North). The locations of the Management Zones are shown in Figure 2.1. The delineation of the Management Zones is based on the recent update by the Santa Ana Regional Water Quality Control Board (RWQCB) in the *Water Quality Control Plan - Santa Ana River Basin (RWQCB, as amended 2004)*. The RWQCB defined these boundaries on the basis of hydrogeologic conditions to support implementation of specific water quality criteria. Additional descriptions of the basin hydrogeology are provided in Section 3.

2.2 MANAGEMENT PLAN PARTICIPANTS

A map of the service area of the Public Agencies and the Soboba Reservation is provided in Figure 2.2. The Plan Participants are briefly described below.

2.2.1 PUBLIC AGENCIES

EMWD, LHMWD, the City of Hemet, and the City of San Jacinto provide water service in various areas of the Canyon, San Jacinto Upper Pressure, and Hemet management zones. Additionally, there are a number of private groundwater producers extracting groundwater for agricultural and domestic use.

2.2.1.1 Eastern Municipal Water District (EMWD)

Since its formation in 1950, EMWD has matured from a small agency primarily serving agriculture to one whose major demands come from domestic customers. In 1951, EMWD annexed to the Metropolitan Water District of Southern California (MWD). With the purchase of the Fruitvale Mutual Water Company in 1971, EMWD acquired all of Fruitvale's assets including appropriative, prescriptive, and riparian water rights; water system, wells, well sites,

pumps, and storage; real property, easements, rights, and interests; and franchises, permits, and licenses. Over time, the agency has continued to grow. Today, in addition to providing retail service, EMWD provides wholesale water to the seven local water agencies within its service area, including the three remaining Public Agencies in the Management Area.

EMWD presently provides approximately 86,000 retail connections, including approximately 400 agricultural connections, in a service area with a population of 494,000 (2005 estimate) within the 555-square-miles, including many areas outside the Management Area. The population within EMWD's boundaries is expected to grow to 830,000 by 2025.

The five-member Board of Directors comprise the governing body of EMWD and are responsible for setting the policies guding the operations of the District. . Board members are elected to four-year terms by the registered voters from five geographic divisions, which are apportioned on the basis of population distribution. Terms of service are staggered to ensure continuity of public elections held in at least two divisions every two years. Directors must reside within the division that they are elected from.

The 2004 water use in the portion of the EMWD service area within the Management Area was 13,900 AFY, and it is projected to increase to 21,000 AFY by the year 2020.

Lake Hemet Municipal Water District (LHMWD)

LHMWD was created in its present form in 1955, but its origins date back to the late 1880s. The service area covers 16,500 acres in the Hemet/San Jacinto Valley area with an additional 2,200 acres in Garner Valley. LHMWD operates the Hemet Dam and reservoir. The dam, an engineering marvel at the time of its construction in 1895, is a gravity-type, granite dam. LHMWD's treatment plant is capable of treating up to 6.2 million gallons per day of surface flow of the San Jacinto River. LHMWD usually maintains approximately 11.7 million gallons in storage in the Hemet/San Jacinto Valley.

LHMWD customers are represented by a publicly elected board of five directors from five divisions, representing approximately 13,700 domestic and 52 agricultural connections within a 21-square mile service area with a 2005 population of approximately 39,100. The population within the LHMWD service area is expected to grow to approximately 49,500 by 2025.

The 2004 water use within the LHMWD service area was estimated to be 16,900 AFY. Due to the expected benefits of more robust conservation efforts, demand is projected to remain fairly constant over the next several years despite an increasing number of service connections. Demand in 2020 is expected to be 16,400 AFY before increasing above the 2004 demand level in years thereafter.

The City of Hemet

The development of Hemet began in 1887 with the formation of the Lake Hemet Water Company and the Hemet Land Company by W. F. Whittier and E. L. Mayberry. The completion of the Hemet Dam in 1895, the formation of Lake Hemet behind the dam, and a water distribution system to and through the valley made future development of the Hemet area possible.

As of 2005, the city had a population of 78,600 with an area of approximately 26 square miles. City of Hemet anticipates a population growth to 154,000 by 2025 (Hemet, 2005).

The City of Hemet was incorporated on January 20, 1910 with a population of 992. The City government is a Council/Manager form of government with seven elected positions, which includes five Council Members, one City Treasurer, and one City Clerk. The Mayor is elected by the Council Members and serves a one-year term. All Council Members serve a four-year term.

The City of Hemet Water Department treats and distributes water to 9,500 connections, covering 5 square miles of the city area. The 2005 population of the Water Department's service area is 20,200 and is projected to grow to 22,300 by 2025. EMWD and LHMWD serve the remaining 21 square miles of the city, with 7,830 and 3,025 connections, respectively. All wastewater collection and treatment within the City of Hemet area is performed by EMWD.

The 2004 water use within the City of Hemet Water service area was estimated to be 6,000 AFY, and is projected to increase to 6,700 AFY by year 2020.

The City of San Jacinto

Incorporated in 1888, San Jacinto is one of the oldest communities in Riverside County. The City has a Council/Manager form of government with a five member Council that includes a Mayor and Vice Mayor. The City of San Jacinto Water/Wastewater Divisions are responsible for the health and safety of the community through the delivery of the potable water supply and the collection of wastewater. The City wastewater collection system is maintained by this Division while wastewater treatment service is provided by the EMWD.

The 2005 population of the City is 34,100; it is anticipated the population of the City will grow to 63,600 by 2025 (San Jacinto, 2005). The City of San Jacinto Water Department serves the central portion of the City with approximately 3,700 residential and commercial service connections. The 2005 population of the Water Department's service area is 13,200 and is projected to grow

to 24,000 by 2025. The remaining portions of the City are served by EMWD and LHMWD, which have 4,636 and 475 service connections within the City boundaries, respectively.

The 2004 water use within the City of San Jacinto water service area was estimated to be 3,100 AFY, and is projected to increase to 5,100 AFY by year 2020.

2.2.2 Private Water Producers

Private Water Producers are those property owners who are pumping groundwater pursuant to overlying water rights, typically for agricultural or domestic uses. There is no comprehensive metering program in-place to monitor groundwater production and/or water use by the Private Water Producers. It is estimated, on the basis of limited data and land use analysis, that the 2004 water use by Private Water Producers was about 22,200 AFY. This annual level of water use is unusually low, compared to a long-term average of 31,000 from 1984-2004. Water use is expected to be approximately 25,000 AFY by 2025.

As the Public Agencies recognize the overlying water rights of private water producers, the Principles provide several options for voluntary participation in the Plan, by the Private Producers. For more details, please see the Principles provided in Appendix C.

There are two classes of participants, Class A and Class B; both agree to have their wells metered and to have those meters read by EMWD personnel at no cost to the participants. The two types of participants are further explained below.

2.2.2.1 Class A Participants

A Private Pumper can sign an agreement acknowledging the existence of the Plan, while not being required to participate in Plan implementation. Class A participants are allowed to vote for and/or serve as the Private Pumper representative on the Watermaster board. The Class A participants may continue to pump from their property without assessments by the Watermaster, so long as the water is put to a reasonable and beneficial use as authorized by California law.

The Class A participants have the right to convert to Class B during a grace period that ends 3 years after the entry of the Stipulated Judgment, and upon payment of the total assessments without interest, as if they were Class B participants to begin with.

The list of Class A participants as of the adoption of this Plan is provided below:

Name	Title	Affiliation
	Grower	Private Pumper
	Grower	Private Pumper
	…	…
	…	…
	…	…
	Dairy	Private Pumper

2.2.2.2 Class B Participants

A Private Pumper can become a Class B participant by electing to limit annual pumping to their estimated average annual production during the 1995 – 1999 calendar years and by agreeing to pay replenishment assessments on amounts in excess of that average annual production. Table 2.1 shows the 1995-99 calendar year production by Class B participants.

Table 2.1. Groundwater Production by Class B Participants

Calendar Year	Production (AF)
1995	
1996	
1997	
1998	
1999	
Average	

Like Class A Participants, Class B Participants can vote for and/or serve as the private pumper's representative on the Plan's governing board.

Additional benefits are given to Class B Participants as well. Under certain conditions, the Class B Participant can convey their adjusted production right to the Plan or to a Public Agency. Also, upon conversion from agricultural to urban uses, Class B Participants would receive credits from the Public Agency toward the satisfaction of any requirements then in effect for water supplies and toward any fees associated with water supply that the public agency may then have in effect.

The list of Class B participants as of the adoption of this Plan is given below:

Name	Title	Affiliation
	Grower	Private Pumper
	Grower	Private Pumper
	…	…

	...	...
	...	...
	Dairy	Private Pumper

2.2.2.3 Non-Participants

A Private Pumper can elect not to participate in the Plan and not to formally acknowledge its existence. These non-participants will continue to exercise their water rights unaffected by the Plan.

2.2.3 Role Of State Of California Department Of Water Resources

In June 2001, the California Department of Water Resources (DWR) executed a Memorandum of Understanding (MOU) with EMWD, LHMWD, and the cities of Hemet and San Jacinto. Initially, DWR worked to bring the group together to establish a mutual understanding of the issues in the Management Area. The goals of the group were determined and included the following: (i) finalizing an approach to groundwater management; (ii) settling on a mechanism to involve the Plan Participants in the water rights claim by the Soboba Tribe; (iii) agreeing on the basic components of a regional conjunctive use program; and (iv) establishing the necessary institutional structures. Major involvement of the DWR to-date include providing technical support to the TC and PC on resolving various technical and data analysis issues, providing facilitation and mediation support to the PC and the CAM committee, providing financial support on a number of studies and projects, including the Plan document.

2.3 PREVIOUS AGREEMENTS AND INSTITUTIONAL BODIES

During the course of history of water supply in the Management Area, there have been other agreements and institutional bodies that have been formed and operated to facilitate the management of water supplies. Following is a brief description of these agreements and institutional bodies, which have all been legally dissolved prior to the adoption of this Plan.

2.3.1 Fruitvale Judgment and Decree

The Fruitvale Judgment and Decree (The City of San Jacinto, et al., v. Fruitvale Mutual Water Company, et al., No. 51546, Riverside County) was entered into Book 72, Page 164 of Judgments, Riverside County, on June 4, 1954. Under the Judgment and Decree, Fruitvale Mutual Water Company (FMWC) could extract groundwater from Canyon Management Zone without any restrictions as long as a specified criteria regarding static depth to groundwater

and production limits were met. After purchase of Fruitvale Mutual Water Company, EMWD was subject to the provisions of the Judgment and Decree. The Water Management Plan and related Stipulated Judgment will subsume and supersede the 1954 Fruitvale Judgment and Decree, along with any other agreements between EMWD and other agencies related to Fruitvale.

In 1971, EMWD purchased all of the FMWD assets and water rights, and FMWC was dissolved. EMWD also agreed to continue to provide to the cities of Hemet and San Jacinto and LHMWD the amounts of water which they had been entitled to receive as shareholders in FMWD. These deliveries were known as "entitlement water" and the water was provided at a fixed rate, subject to annual adjustments. The amounts of water to be provided were:

- City of Hemet: 6.39% of the greater of FMWC pumping or 9,000 AFY
- City of San Jacinto: 0.38% of FMWC pumping
- LHMWD: 3.74% of FMWC pumping

The reporting by EMWD since the purchase of FMWC shows that an average of approximately 10,000 AFY was pumped from FMWC wells. Of this total, an average of 61% was from Upper Pressure, 33% was from Canyon, and 6% AFY was from Hemet South.

2.3.2 Hemet/San Jacinto Groundwater Association

Hemet/San Jacinto Groundwater Association (Association) was formed in 1991 to provide an over-arching organization to proactively address the groundwater issues in the Management Area. The Association Board of Directors included representatives from the Private Water Producers, EMWD, LHMWD, and Cities of Hemet and San Jacinto.

The Mission Statement and Articles of Association were approved on September 9, 1991. The Mission Statement read: *The Hemet/San Jacinto Groundwater Association serves as the regional groundwater management entity for portions of the San Jacinto Valley groundwater basins. The Mission of the Association is to maintain a secure reliable and reasonably priced supply of high quality water for groundwater producers in the basin. The Association will implement its Mission by developing and applying sound groundwater basin management concepts.*

With regard to the area covered by the Association, the Articles of Association state: *The portions of the San Jacinto Valley Groundwater Basins shall include the Canyon area, the Intake area, and the upper pressure area, of the San Jacinto Hydrologic Subarea; the Hemet Hydrologic Subarea; and a portion of the Winchester Hydrologic Subarea. Such also being that portion of the San Jacinto Valley*

southeasterly of Bridge Street and northeast of one-quarter mile west of California Avenue in the area of Simpson Road, together with tributary basins, streams, and watersheds.

In May 1994, following receipt of the Soboba Band of Mission Indians water rights settlement claim, requests were submitted to the U.S. Department of the Interior by EMWD, the Association, and the Soboba Band, to appoint an Indian Water Rights Settlement team to participate in settlement negotiations. The activities of the Association have stopped as the current negotiations took precedence.

2.4 ACTIVE INSTITUTIONAL BODIES

As part of the on-going activities leading to the development and adoption of the Principles, the Stipulated Judgment, and agreement with the Soboba Tribe, the following institutional bodies are formed:

- Hemet/San Jacinto Policy Committee (PC),
- Hemet/San Jacinto Technical Committee (TC), and
- Hemet/San Jacinto Consultant-Attorney-Managers Committee (CAM).

Following is a brief description of each body, their role, and participants.

2.4.1 HEMET/SAN JACINTO POLICY COMMITTEE

The Hemet/San Jacinto Policy Committee (PC) is comprised of elected officials representing EMWD, LHMWD, the cities of Hemet and San Jacinto, and representatives of the Private Water Producers. Each entity, including the Private Water Producers, has three representatives on this committee. In the case of the Public Agencies, the PC representatives are two members of the Board of Directors or City Council members and the agency or city manager. Three representatives reflecting the Private Water Producers interests (agricultural, dairy, golf course, etc.) are selected by the Private Water Producers. Each entity participates and votes as a unit in the PC. The decision making process is based on consensus. DWR provides a facilitator, a project manager, and technical experts to support and facilitate the decisions of the PC and TC members. Observers to the PC include other Private Water Producers, attorneys, and/or consultants representing various members, and representatives of the Soboba Tribe.

The members of the PC at the time of adoption of this Plan are:

Name	Title	Affiliation
	Member, BOD	EMWD
	Member, BOD	EMWD

	General Manager	EMWD
	Member, BOD	LHMWD
	Member, BOD	LHMWD
	General Manager	LHMWD
	Member, City Council	City of Hemet
	Member, City Council	City of Hemet
	City Manager	City of Hemet
	Member, City Council	City of San Jacinto
	Member, City Council	City of San Jacinto
	City Manager	City of San Jacinto
	Private Pumper	Private Pumper
	Private Pumper	Private Pumper
	Private Pumper	Private Water Producers

2.4.2 HEMET/SAN JACINTO TECHNICAL COMMITTEE

The PC formed a Technical Committee (TC) to compile, share, interpret, evaluate, and reach agreement on data; to define problems; and to address the PC's technical issues and make recommendations to the PC. Committee membership consists of representatives assigned by the Public Agencies, the Private Water Producers, and DWR and an engineering consultant provided by DWR as a neutral third-party participant. The representative from LHMWD serves as the TC chairman. Through a collaborative effort, the TC developed the data set (WRIME, Inc., June 2003) that provides the basis for understanding the area's hydrology, and has identified potentially feasible initiatives, programs, and projects to enhance the dependable yield of the Management Zones.

The members of the TC at the time of adoption of this Plan are:

Name	Title	Affiliation
		EMWD
		EMWD
		LHMWD
		LHMWD
		City of Hemet
		City of Hemet
		City of San Jacinto
		City of San Jacinto
		Private Pumper
		Private Water Producers
		DWR
		DWR
		Consultant
		Consultant
		Consultant

2.4.3 Hemet/San Jacinto Consultant-Attorney-Managers Committee

The PC formed the Consultant-Attorney-Managers (CAM) committee, consisting of technical, legal, and management representatives of each agency, assisted by the DWR project manager and facilitator. The role of the CAM is to facilitate the preparation of technical and legal documents in support of the Stipulated Judgment and the Settlement Agreement, and the Plan. Tasks assigned to the CAM include: the development of contractual agreements and MOUs, and the evaluation of the financial impacts to the community for consideration and action by the PC. The CAM provides administrative or policy recommendations to the Policy Committee.

The representatives of each Agency and DWR participating at CAM meetings at the time of adoption of this Plan are:

Name	Title	Affiliation
		EMWD
		EMWD
		EMWD
		EMWD
		LHMWD

		LHMWD
		City of Hemet
		City of Hemet
		City of San Jacinto
		City of San Jacinto
		Private Water Producers
		Private Water Producers
		DWR Representative
		DWR Representative
		Attorney to EMWD
		Attorney to LHMWD
		Attorney to Hemet
		Attorney to San Jacinto
		Consultant to Hemet
		Consultant to San Jacinto
		Consultant to DWR

2.5 RELATED GROUNDWATER MANAGEMENT ACTIVITIES

There have been numerous investigations and technical analyses conducted in the Management Area. This section highlights more recent reports that were produced to support the Plan, reviewed by the TC, and used by the PC to make decisions. There has been a significant amount of work completed by the local agencies documented in the form of presentations to the PC and the TC. These include:

- Analysis of EMWD Fruitvale water transfer and use by other agencies
- Analysis of Conveyance (export) water from the Management Area
- Reconciliation of the Groundwater Production records amongst the participants
- Estimation of basin overdraft
- Review and assessment of the San Jacinto Watershed Groundwater Model
- Recycled water use and activities

A Basin Assessment Study was recently undertaken by the local stakeholders with the support of DWR in order to evaluate the existing conditions of the Management Area, evaluate the likely future conditions, and develop and evaluate potential conjunctive use opportunities in the Management Area. To support the Basin Assessment Study, the following Technical Memoranda (TM) and reports were produced:

- *Operational Yield Study, Hemet/San Jacinto Groundwater Management Area (WRIME, 2003b);*
- *Technical Memorandum No. 1 (TM1), Assessment of Historical and Projected Land and Water Use Data (WRIME, 2003c);*
- *Technical Memorandum No. 2 (TM2) - Description of Preferred Potential Conjunctive Use Projects (WRIME, 2003d).*
- *Basin Assessment Study Executive Summary (ES)(WRIME, 2003e);*
- *Draft Technical Memorandum No. 3 (TM3) - Analysis of Impacts of Conjunctive Use Projects (January 2004).*

The *Operational Yield Study, Hemet/San Jacinto Groundwater Management Area* presents estimates of the operational yield of the Management Area. Several time periods were used to examine the water budgets of each Management Zone and the Management Area as a whole under various hydrologic conditions. The purpose for the report was to review the previous estimates of hydrologic water budget and reconcile differences in the previously prepared water budgets, and to achieve a consensus on the assumptions, data, methods, and yield of the basin. The long-term period of 1958-2001 was used since it had the best available data at the time and represented a balanced hydrologic period.

Hemet/San Jacinto Basin Assessment Study– Basin Assessment Report/Integrated Water Management Plan, Technical Memorandum No. 1 (TM 1), Assessment of Historical and Projected Land and Water Use Data presents background and available data, and analyzes the quality and utility of the data for evaluating basin conditions. The data presented in TM 1 include historical groundwater production, water diversions, water sales, and imported water. The purpose of the report was to obtain agreement on existing conditions, document assumptions, and provide a baseline for purposes of future comparison.

Hemet/San Jacinto Basin Assessment Study– Basin Assessment Report/Integrated Water Management Plan, Technical Memorandum No. 2 (TM 2), Identification and Description of Potential Conjunctive Use Projects presents the process and basis of selection of sites for further evaluation for potential conjunctive use projects. Seven sites were selected from an initial group of 15. The sites were ranked based on screening criteria that included: general site characteristics (size, recharge needs, ownership, etc.), hydrogeologic suitability, sub-basin interactions, engineering suitability, land use suitability, and environmental impacts. An initial screening was also performed for two potential in-lieu projects.

Hemet/San Jacinto Basin Assessment Study– Executive Summary, Provides a summary of TM 1 and TM 2

Draft Hemet/San Jacinto Basin Assessment Study – Basin Assessment Report/Integrated Water Management Plan, Technical Memorandum No. 3 (TM 3), Analysis of Impacts of Conjunctive Use

Projects (January 2004) presents a summary of available information on seven potential recharge sites and two potential in-lieu sites for conjunctive use. Draft TM 3 synthesizes information from multiple sources to compare potential recharge sites and proposes preferred sites and documents any additional study or data needs. The TM 3 was presented to the TC in draft form, and comments were received. Due to initiation of the development of the Water Management Plan, the work to finalize TM 3 was re-scoped, which obviated the need to prepare final TM 3.

Significant other work has been performed and documented by Eastern Municipal Water District. These reports include planning documents and feasibility studies with modeling efforts:

- *West San Jacinto Groundwater Basin Management Plan*
- *Hemet/San Jacinto Water Management Area 2004 Annual Report*
- *Hemet-San Jacinto Recharge and Recovery Program- Feasibility Study*
- *Regional Groundwater Model for the San Jacinto Watershed*
- *Hemet-San Jacinto Integrated Recharge and Recovery Program- Feasibility Study Groundwater Flow Model*
- *Analysis of San Jacinto Streamflows (TetraTech, YEAR)*
- *Development of the Regional Water Resources Database (DCSE, YEAR)*
- *Preliminary Design Report for the San Jacinto Agricultural In-Lieu Water Supply Project (Engineering Resources of Southern California, Jan 2005)*

West San Jacinto Groundwater Basin Management Plan (EMWD, 1995). This plan was prepared in accordance with Assembly Bill 3030. This groundwater management plan covers the western portion of the EMWD service area. Since the groundwater management in the eastern San Jacinto watershed was being developed under Hemet/San Jacinto Groundwater Association in the early 1990's, the Hemet/San Jacinto Groundwater Management Area was excluded from the AB3030 planning process. The goal of the West San Jacinto Groundwater Basin Management Plan is "to maximize the use of groundwater for all beneficial uses in such a way as to lower the cost of water supply and to improve the reliability of the total water supply for all water users in the West San Jacinto Groundwater Basin Management Area" (EMWD, 2004). Implementation of the plan included the establishment of an Advisory Committee; Management Zone prioritization; and groundwater resources evaluation including groundwater quality and level monitoring, extraction monitoring, and hydrogeophysical investigations.

Hemet/San Jacinto Water Management Area 2004 Annual Report (EMWD, 2005). As part of the reporting process to the Management Area stakeholder group, EMWD produces annual reports that summarize groundwater quality, level, and extraction monitoring results, and provide an

update on activities and progress toward meeting the previous year's recommendations and goals of the groundwater management plan. These reports provide technical documentation of the status of the basins and have been prepared for the area to the west of the Management Area since 1996. The first annual report for the Hemet/San Jacinto Area was produced in June 2005.

Hemet-San Jacinto Recharge and Recovery Program- Feasibility Study (Psomas, 2003). This report documents the feasibility of a proposed recharge project. The proposed Hemet/San Jacinto Integrated Recharge and Recovery Program consists of recharge of up to 43,750 acre feet per year of water at a site within the City of Hemet and near the San Jacinto River's confluences with Poppet and Bautista Creeks. This program involves the construction of approximately 15 recharge ponds on a 100-acre site in the San Jacinto River channel, construction of new pipeline facilities, upgrade of existing pump stations, and construction of new extraction wells at various locations within the eastern portion of EMWD's service area. In order to assess the feasibility of the proposed program, a comparative analysis was completed to evaluate potential alternatives to the preferred option of recharging imported water.

Regional Groundwater Model for the San Jacinto Watershed (TechLink Environmental, 2002a). This report documents the development of a regional groundwater flow and transport model for the San Jacinto watershed basin within EMWD's service area, an area that includes the Hemet/San Jacinto Groundwater Management Area as well as the areas to the west included in the *West San Jacinto Groundwater Basin Management Plan. Regional Groundwater Model for the San Jacinto Watershed* includes review of available data, development of a conceptual model, setup of a flow and transport model, calibration of the model, and simulation of management scenarios.

Hemet-San Jacinto Integrated Recharge and Recovery Program- Feasibility Study Groundwater Flow Model (TechLink 2002b). This report documents the application of the regional groundwater model to evaluate the various recharge and recovery activities and alternative water supplies. These model simulations are intended to compare project and no-project alternatives, evaluate the aquifer capability to store large volumes of water, and evaluate the availability of recharged water for extraction.

Analysis of San Jacinto Streamflows ..... (TetraTech, YEAR).

NEED TEXT FROM EMWD ON DESCRIPTION OF THIS ITEM.

Development of the Regional Water Resources Database (DCSE, YEAR).

NEED TEXT FROM EMWD ON DESCRIPTION OF THIS ITEM

Preliminary Design Report for the San Jacinto Agricultural In-Lieu Water Supply Project (Engineering Resources of Southern California, Jan 2005)

NEED TEXT FROM EMWD ON DESCRIPTION OF THIS ITEM

DRAFT

SECTION 3 WATER MANAGEMENT PLAN ELEMENTS

The elements of this Plan include water management goals and a set of management strategies that discuss and identify the actions necessary for meeting the goals.

3.1 MANAGEMENT PLAN GOALS

The Plan has eight primary goals derived from the Principles and Agreement. Each of the goals, listed below, is briefly discussed in the subsequent sections:

- Address pumping overdraft and declining groundwater levels,
- Provide for Soboba Tribe prior and paramount water rights,
- Ensure reliable water supply,
- Provide for planned urban growth,
- Protect and enhance water quality,
- Develop cost-effective water supply,
- Provide adequate monitoring for water supply and water quality, and
- Supersede the Fruitvale Judgment and Decree

3.1.1 ADDRESS PUMPING OVERDRAFT AND DECLINING GROUNDWATER LEVELS

The Principles for Water Management and the Stipulated Judgment recognize that the groundwater levels within the Management Area have generally been declining for a number of years, and that the Management Area is presently in a condition of groundwater overdraft. The amount of groundwater overdraft is estimated to range from 10,000 to 15,000 AFY. This Plan has a goal of reducing the overdraft in the short-term, and completely eliminating the annual overdraft in the long-term, a six (6) year period assuming an annual overdraft of 10,000 acre feet.

The Principles identify management strategies to be included in the Plan to reduce overdraft and ensure long-term supply of reliable water for current and future uses. The Plan contains both management (non-structural) and capital facility (structural) elements whose purpose is to reduce demand and/or increase the available supply. The management elements include: reduction in native groundwater production; enhanced recharge with native (local runoff), imported, and/or recycled water; and water conservation programs. Short-term planned reductions in pumping are part of the Plan while further supplies are obtained through the

identified management elements. The management strategies are described in more detail in Section 4.2.

3.1.2 Provide for Soboba Prior and Paramount Water Rights

The Agreement with the Soboba Tribe provides for financial obligations, settlement of all water rights claims, and water purchases from MWD, including infrastructure and groundwater storage. The Plan requires that all parts of the Agreement with the Soboba Tribe are met. The management elements to ensure this include: Recognition of the 9,000 AFY of Soboba Tribe water rights and up to 4,100 AFY of water use in Canyon and Upper Pressure for the first 50 years from the date of settlement, purchase of replenishment water, and MWD's average delivery of 7,500 AFY of imported water.

3.1.3 Ensure Reliable Water Supply

Reliability is a key component of any water supply system. This goal of the Plan is to ensure that the Public Agencies have a consensus and commitment to develop a comprehensive water supply portfolio that realizes all potential opportunities, and that plans are in place to adapt to changing demands, natural disasters, and drought conditions. Such a portfolio should rely on a range of sources of water supply and include a large component of local supply and storage. These objectives minimize, to the extent possible, reliance on weather patterns, over-stressed aquifers, and over-allocated imported water. The Plan elements that address these goals include imported and recycled water use.

3.1.4 Provide for Planned Urban Growth

The Management Area, like much of the Inland Empire area of Southern California, is experiencing dramatic urbanization. The Principles and the Plan recognize and acknowledge that the Management Area will continue to experience residential, commercial, and industrial growth and development, and that the existing water production and service systems will need to be expanded to meet this growth. This urbanization will affect water supplies in several ways. Urban development on non-irrigated lands will increase water use. Urban development and conversion of irrigated lands may not significantly increase water use, but the urban water use requires a more dependable, higher quality water supply. It is estimated that at least 15,000 AFY incremental water supply capacities over the existing base production rights of Public Agencies must be dedicated to adequately serve this growth. The Plan will help local communities comply with recent changes in state law effective from January 2002 (SB 221 and SB 610) requiring municipal suppliers, water districts, and cities or counties to document water availability from all sources in normal, dry, and multiple dry years whenever land use decisions

are made. Planned urban growth, as identified in prevailing land use and general plans, or in approved Urban Water Management Plans, provided the basis for all demand forecasts and assumptions in the Plan.

3.1.5 Protect and Enhance Water Quality

The Management Area has some of the highest quality groundwater in the San Jacinto Watershed, but it has its own problems and issues. Nitrates and Total Dissolved Solids concentrations have historically increased as the area experienced urban and agricultural growth. As noted above, urban uses will replace agricultural uses, resulting in more stringent water quality standards for most constituents, including nitrates. The Plan seeks to meet goals for water quality through preventing degradation of the groundwater due to activities in the Management Area, and as a result of implementation of the Plan. Each of the Public Agencies also seeks to prevent degradation or to improve groundwater quality to be cost-effective and ultimately avoid high costs for drinking water treatment.

3.1.6 Develop Cost-Effective Water Supply

Equitable distribution of costs and benefits are part of the Plan. It is important that the Plan elements are selected and implemented in a way that keeps costs to a minimum so as to keep water bills as low as possible for customers. Cost management includes purchasing imported water at low rates, utilizing groundwater storage space; fully utilizing existing infrastructure; promoting conservation; and efficiently implementing new infrastructure; and maintaining good quality groundwater and surface water to keep treatment costs low. The Public Agencies also seek to cost- effectively reclaim municipal wastewater for beneficial reuse whenever possible.

3.1.7 Provide Adequate Monitoring for Water Supply and Water Quality

Monitoring programs will be implemented to determine if the Plan's goals are being met; to document that anticipated benefits are being achieved; and to predict future needs. Included in the monitoring should be water quality, measured at sufficient locations to be representative and analyzed for all constituents of concern, and water supply, including water levels, well metering, and tracking of imported water and recycled water availability and deliveries. Monitoring can also be used to improve the yield estimates and the groundwater model performance through the development of better estimates of stream recharge and other components. The results of monitoring will be used to strengthen or relax actions needed to meet Plan goals.

3.1.8 SUPERSEDE THE FRUITVALE JUDGMENT AND DECREE

The Fruitvale Judgment and Decree (The City of San Jacinto, et al., v. Fruitvale Mutual Water Company, et al., No. 51546, Riverside County) was entered into Book 72, Page 164 of Judgments, Riverside County, on June 4, 1954. EMWD, as successor in interest to Fruitvale Mutual Water Company, is subject to the provisions of the Judgment and Decree. Provisions in the document are discussed and summarized in Section 2 of this Plan. The Stipulated Judgment and its Water Management Plan are to supersede the Fruitvale Judgment and Agreement in its entirety.

3.2 WATER MANAGEMENT PLAN STRATEGIES

To meet the stated goals of the Plan, the stakeholders have adopted the following specific strategies.

3.2.1 REDUCE AGENCY GROUNDWATER PRODUCTION

The Agencies have agreed to reduce the groundwater production so that the total production is within the Safe Yield of the Management Area. The average annual groundwater production in the Management Area for the hydrologic period 1958-2004 is estimated to be 54,800 AFY. The initial estimate of Safe Yield is 45,000 AF. The Agencies have also agreed to a 10% reduction from each Base Production Right in the first full year after entry of the Stipulated Judgment. The Public Agencies' share of Safe Yield is calculated based on their Adjusted Production Right, and is discussed further in Section 6. The Watermaster is to estimate the Safe Yield of the Basin every 3-5 years, starting with an initial Safe Yield of 45,000 AFY. Until Adjusted Production Rights are consistent with the Public Agencies' share of Safe Yield, Watermaster will determine the required reductions in Adjusted Production Rights in each subsequent year to achieve Safe Yield within a reasonable period of time as determined by the Watermaster. The Watermaster is to consider the extent of the overdraft, the economic impact on the Parties bound by this Judgment, and other relevant factors in determining the total and pro-rata shares of Adjusted Production Rights. The goal is to achieve Safe Yield over a six (6) year period assuming an annual overdraft of 10,000 acre-feet. In the event the extent of the overdraft is different than assumed, then the period of time reasonably required to reach Safe Yield may be extended or reduced accordingly. However, in no event shall any reduction for any Agency be more than 10% of the Adjusted Production Rights of the prior year.

3.2.2 IMPLEMENT THE SAN JACINTO RIVER RECHARGE AND RECOVERY PROJECT

The stakeholders have agreed that the primary project considered to be the core of the Physical Solution is the *Integrated Recharge and Recovery Project (IRRP)*. The stakeholders have signed a agreement on Phase I project that documents their agreement on the ownership, financing, and operation of the facilities for the Phase 1 of the IRRP.

The SJIRRP is designed to recharge (replenish) imported water and extract groundwater at a capacity such that the following goals are met:

- Satisfy the Tribe's prior and paramount rights as set forth in the Settlement Agreement with the Tribe by providing an average annual supply of 7,500 acre-feet from the SJWGB pursuant to the terms of such agreement. The proposed Program would provide The Metropolitan Water District of Southern California (Metropolitan) with the right to store up to 40,000 acre-feet of imported water in the Upper Pressure Sub-basin as advance deliveries under its agreement to provide an average annual supply of 7,500 acre-feet.
- Offset the existing overdraft of the Management Area, estimated at approximately 10,000 AFY.
- Provide approximately an additional 15,000 AFY of water storage to help meet projected demand increases.
- Provide as much as 45,000 acre-feet (over four years) of conjunctive use and/or drought management water storage, contributing to water storage goals identified by the CALFED Bay-Delta Program.

Major elements of the Project are:

- Modifications to Pump Stations (Warren and Commonwealth)
- Construction of Pipelines
- Design and Construction of Recharge Basins
- Drilling Three (3) Extraction Wells
- Installation of Pumps and Chlorination Equipment for Three (3) Extraction Well
- Design and Installation of Three (3) Monitoring Wells

The project is designed and implemented in two Phases. While project Phase I activities are defined in detail, Phase II of the project is defined at conceptual level and the detailed design are to be developed in the future.

3.2.2.1 Phase I

This phase of project consists of construction of the San Jacinto Integrated Recharge and Recovery Project, which will provide up to 40 cfs of recharge water capacity. Phase I is

scheduled to be completed by August 2007, and will cost approximately $13.5 million. Major activities during Phase I are:

1. **Completion of Environmental Process** - The Environmental Impact Report (EIR) was prepared and adopted in August of 2004. Additional permitting requirements include Section 7 consultation with USFWS and issuance of Biological Opinion by appropriate federal agency.

2. **Acquisition of Land** - A 100 acre parcel has been purchased by EMWD for required habitat mitigation measures for a 33 acre parcel that is dedicated to recharge basins. In addition, EMWD is in the process of acquiring approximately one acre of land (in several parcels) for monitoring wells.

3. **Approval, Advertising, and Award of Construction Contract** - EMWD Board has approved the bidding process, and EMWD has awarded the construction contract to start work.

4. **Drilling of Extraction Wells No. 1, 2, and 3** - This includes construction and testing of three (3) 18-inch diameter extraction wells to a depth of approximately 1,000 feet, with perforation depth of approximately ____ feet. The wells are designed to produce ____ GPM.

5. **Installation of Pump and Chlorination Equipment for Wells No. 1, 2, and 3** - This includes installation of pump and chlorination equipment, appurtenances and site improvements required to complete and operate the new extraction wells.

6. **Modifications to the Pump Station** - This includes modifications to the Warren and Commonwealth Pump Stations. The modifications include upgrades to increase pump station capacity to provide a seasonal maximum of 40 cfs to the recharge basins.

7. **Construction of Recharge Basins** - This activity includes construction of six (6) recharge ponds within the San Jacinto river bed in two clusters of three basins each. The footprint of the recharge area will be approximately 40 acres, along the west side of the San Jacinto River, immediately upstream of the river confluence with the Meridian Channel.

8. **Construction of Pipelines** - This includes design and construction of pipelines and appurtenances to convey, regulate, and meter raw imported water flows into the recharge basins. Pipelines include two (2) 24-inch diameter laterals to convey water from an existing 33-inch diameter transmission main along the proposed Ramona Expressway alignment to the first basin in each of the two-basin clusters. There will be appurtenances including regulation valves, meters to record water flow, telemetry-based flow control systems, and discharge piping into the recharge basins.

9. **Design and Construction of Monitoring Wells** - Three (3) monitoring wells will be constructed outside the river bed along the west berm. The wells are designed to monitor the vertical and lateral migration of recharge water into the

underlying aquifer zones. These clustered wells will be multi-casing and perforated to monitor the groundwater levels at various depths.

3.2.3 Implement Groundwater Replenishment Program

The groundwater aquifers in the Management Area are a valuable resource and provide many advantages to operating a reliable water supply system. To many Private Water Producers, groundwater is their sole source of water. Declining water levels increases costs for pumping water and can also cause wells to go dry, requiring deeper drilling, or can result in the intrusion of poor quality groundwater from neighboring sub-basins, rendering the groundwater unsuitable for many beneficial uses. Also, the replenishment of high quality imported water from the State Water Project or high quality runoff from the surrounding mountains can maintain or improve the quality of the groundwater in the Management Area.

Groundwater replenishment, therefore, is a major part of the water management strategies considered by the stakeholders. Replenishment efforts to increase water supply in the Management Area can be grouped into two categories:

1. Direct replenishment of groundwater to store water for future use; and
2. Augmentation of imported or recycled water supplies to provide immediate increases in water supply and the associated decrease in groundwater pumping. Often, these categories are combined, with increases in imported or recycled water being used to replenish groundwater for future use.

3.2.3.1 Enhancing Natural Replenishment

The Management Area already receives a significant amount of natural recharge, from sources such as direct recharge from rainfall and infiltration from the San Jacinto River and its tributaries. While much of this water is able to infiltrate naturally, natural recharge could be increased by capturing surface flows during storm events, allowing the water to infiltrate over time rather than be swept out of the Management Area. As part of the Basin Assessment Study, the TC has identified and considered several conjunctive use and natural replenishment projects that have the potential to address such water supply management strategy. These are described in Section 5.3 of the Plan.

3.2.3.2 Additional MWD Replenishment Water

Utilizing replenishment allows for significant cost savings when purchasing imported water from MWD. MWD provides special rates for water used for replenishment purposes. This water is available during the low-demand winter period and currently costs $238/AF for

untreated water, while full-service Tier 1 & 2 untreated water currently costs $427/AF and $331/AF, respectively.

3.2.4 EXPAND THE USE OF RECYCLED WATER PROGRAM

Recycled water is available from EMWD's Hemet/San Jacinto Regional Water Reclamation Facility. Currently, recycled water is used by agricultural users and other large-scale outdoor irrigators such as golf courses and municipal facilities in place of groundwater. This strategy entitles the Watermaster to use recycled water as a significant part of the water supply portfolio for replenishment of the groundwater basin. The Watermaster will work with EMWD to determine the operational constraints currently facing the availability of recycled water for replenishment of the basin. The recycled water is to follow the State and Federal guidelines. Future phases of the Plan include upgrade of the Hemet/San Jacinto Regional Water Reclamation Facility to tertiary treatment.

3.2.4.1 Continue and Expand the In-Lieu Replenishment with Recycled and/or Imported Water

In-lieu replenishment with recycled and/or imported water provides many benefits over direct replenishment of the groundwater. In-lieu involves utilizing an alternate source, in this case imported or recycled water, instead of pumping groundwater. Using in-lieu recharge means that there is no cost to pump groundwater, no land is needed for a spreading basin, and there is no constant recharge through a basin to push contaminants out of the unsaturated zone. Disadvantages include timing of the supplies with demand; that is, most in-lieu customers cannot use the quantity of water available during the off-peak time. To maximize use of water available for in-lieu replenishment, significant infrastructure will be needed to serve maximum customers. This strategy authorizes the Watermaster to work with EMWD, other agencies, and private pumpers to develop specific plans on the expansion of use of recycled water for in-lieu replenishment of the basin.

3.2.4.2 Expand and Upgrade the Hemet / San Jacinto Wastewater Treatment Plant

The Hemet/San Jacinto Wastewater Treatment Plant is currently an 11 MGD plant with capability to treat wastewater at secondary level of treatment. While this plant is scheduled for upgrade to tertiary treatment, the recycled water discharge beyond the sale to the agricultural customers is currently being recharged to the basin. The plant is scheduled for expansion in size and upgrade on the treatment level, and the upgraded plant will have the capacity to treat 14 MGD by 2011 and 18 MGD by 2024. The Watermaster shall have the right of first refusal to purchase all recycled water produced from the treatment facilities serving the Management

Area that is not subject to then existing contracts. The Watermaster will analyze the need anad and decide for the amounts of recycled water for direct recharge and/or direct delivery.

3.2.5 Provide for Reliable Water Supply to Meet the Future Demand

The Plan is to provide sufficient water supplies to meet the future water demands in the basin. This strategy is tied directly with the SJIRRP that is designed to provide 15,000 AFY of additional supplies to meet the projected water demands. As part of this strategy, additional conjunctive use projects are also identified in Section 5.3 of this Plan that will augment the Phase II of the SJIRRP. These projects are mostly designed to capture the winter run-off for recharge, unlike the SJIRRP that is designed to recharge imported water.

3.2.6 Implement Additional Water Conservation Measures

The current level of water conservation has significantly helped to reduce the water demand in the Management Area. In addition to the conservation measures implemented by the municipalities and urban agencies, additional conservation measures can be designed and implemented by the agricultural and dairy water users. The conservation committee along with the Watermaster should develop specific strategies for additional water conservation by the municipalities. In addition, they should identify practical steps and means for voluntary implementation by the agricultural and dairy water users that would help the water management of the basin.

3.2.7 Implement and Expand Monitoring Program

At the heart of any water management plan is a robust monitoring program capable of assessing the status of the basin and monitoring the responses to the future management actions.

EMWD, on an informal and voluntary basis, has compiled historical groundwater elevation and quality data from mid-1950s through present. In the early data collection efforts, the location and frequency of monitoring were not as stable as with the more recent measurements. This was mostly due to the voluntary nature of participation in the monitoring program, as well as funding availability. This lack of cohesiveness in data collection has caused inconsistent data being available for rigorous and thorough analysis. However, long-term hydrographs as well as contours of groundwater levels have been produced by EMWD to present long-term trend in groundwater conditions over time, and with appropriate geographic extent.

In 2004, the Hemet/San Jacinto Groundwater Monitoring Program was initiated to collect, analyze, and compile groundwater-related data. This program was undertaken by the Agencies and DWR. The monitoring program provides information necessary for a comprehensive view of the Management Area, and contains the following elements:

- Groundwater Level Monitoring;
- Groundwater Quality Monitoring;
- Groundwater Extraction Monitoring; and
- Inactive Well Capping and Sealing

Finally, the monitoring program utilizes the EMWD's Regional Water Resources Database, for assembling and assessing the groundwater-related data in the Management Area. All Public Agencies provide data on their wells and assist in communicating with private well owners in their respective jurisdictions to collect their data and information.

This strategy reconfirms that the monitoring program, as established in 2004, should continue and be expanded to new areas, such as surface water monitoring. The Watermaster, in coordination with EMWD and other Agencies, will develop plans for expansion of the monitoring program, as well as, specific actions for implementation of the monitoring program in the Management Area. In addition, the Watermaster will work closely with the Agencies to develop and secure funding sources for expansion and continuation of the monitoring program in the Management Area.

3.2.7.1 Groundwater Monitoring

Groundwater level and quality monitoring are valuable, but can be costly and time consuming. A robust network of monitoring wells can be established to develop optimum amount of data on groundwater. Some criteria in development or modification of the network may include:

- Monitor the same well for selected seasons over many years to understand trends and variability;
- Develop an unbiased distribution of monitoring wells, aerially and vertically, that account for differences in
  - Topography,
  - Geology and soils,
  - Climate, and
  - Land Use;
- Maintain supporting data to aid in analysis, including:
  - Meteorological data,

- Hydrologic data, and
- Land use data, including pumping and irrigation;

- Monitor at a frequency that captures variability of water level and water quality fluctuations;
- Utilize wells, to the extent possible, intended solely for groundwater monitoring, not production; and
- Maintain high levels of data quality.

The Watermaster is to work cooperatively with the Public Agencies and Private Water Producers to establish an optimum network of monitoring wells for collection and analysis of groundwater trends and variability.

3.2.7.2 Surface Water Monitoring

Surface water monitoring would include the following criteria:

- Monitor the same location for many years to understand trends and variability;
- Maintain supporting data to aid in analysis, including:
  - Meteorological data,
  - Groundwater data, and
  - Land use data, including pumping and irrigation; and
- Maintain high levels of data quality.

Gaging station should be installed on reaches not currently being monitored, such as:

- San Jacinto River near Highway 74 bridge crossing,
- Bautista Creek near Highway 74 bridge crossing, and
- Salt Creek near State Street.

The Watermaster is to work cooperatively with the Public Agencies to establish specific monitoring locations for collection and analysis of surface water trends and variability.

SECTION 4 STATE OF THE MANAGEMENT AREA

This section discusses the local geologic and hydrologic conditions that provide the foundation for the development of the Plan. The ability to manage the available water supplies is to a large degree governed by the naturally occurring conditions and the physical environment. This section further describes the water supply conditions and sources; historical and current water demands; status of the groundwater basin; and summarizes water quality conditions.

4.1 GEOGRAPHY AND CLIMATE

4.1.1 GEOGRAPHY

The Management Area is located in western Riverside County, approximately 70 miles southeast of the City of Los Angeles. The area encompasses the cities of Hemet and San Jacinto; unincorporated residential/commercial areas, including Valle Vista; and agricultural lands. State Highway 74 (Florida Avenue) crosses the valley in an east-west direction and State Highway 79 provides a north-south corridor for the region. The San Jacinto mountain range, to the east of the valley, is the dominant geographic feature of the region, rising to a height of 10,805 feet at Mount San Jacinto. Elevations on the valley floor range from approximately 1,400 to 1,800 feet. There are various bedrock outcrops in the area, none of which exceed 2,700 feet.

The San Jacinto Watershed (Figure 4.1) includes the Management Area and surrounding mountains and covers an area of approximately 728 square miles, measured above a point just downstream from Railroad Canyon Dam. All of the streams and rivers in the watershed are ephemeral, flowing only when precipitation occurs and losing much of this flow to groundwater infiltration. The San Jacinto River rises in and drains the western slopes of the San Jacinto Mountains. Waterways tributary to the river include the North and South Forks and Strawberry, Indian, Poppet, and Bautista Creeks. Lake Hemet, located in the mountains on the South Fork of the San Jacinto River, is a 12,775 AF capacity LHMWD-operated reservoir completed in 1895. The San Jacinto River recharges the groundwater basin, primarily in the area southeast of the City of San Jacinto. It then occasionally flows northwest past the Lakeview Mountains, filling Mystic Lake, before turning southwest to flow across the Perris Valley floor. The San Jacinto River ultimately flows into Lake Elsinore via Railroad Canyon and Canyon Lake. Lake Elsinore, when full, overflows into Temescal Wash, which joins the Santa Ana River near Prado Dam.

4.1.2 CLIMATE

The climate of the area is that of a dry, semi-arid, near-Mediterranean zone, typical of the moderately elevated inland valleys of southern California. The climate is characterized by wet and dry seasons, generally low precipitation, and a large proportion of clear days, moderately high summer temperatures, and mild winter temperatures. The yearly average temperature at the City of San Jacinto is 62°F (25°C). Summer temperatures are often more than 100°F (38°C), and the recorded maximum at San Jacinto is 120°F (49°C). Frost occasionally occurs during the December through February period. The lowest recorded temperature was 7°F (-14°C). The average frost-free period is 247 days long, from March 15 to November 19. These temperatures for the San Jacinto climate station are considered to be generally representative of temperatures throughout the valley area.

Along with the rest of Southern California, the area is subject to the annual Santa Ana winds. Usually occurring in the fall of the year, these winds blow from the northeast, bringing hot, dry desert air with velocities of up to 50 miles per hour. Relative humidity has at times dropped below 5 percent with temperatures of 105°F (40°C) and higher. This phenomenon normally lasts only a few days, but has been known to last for several weeks, thereby greatly increasing the evaporation rate.

As a result of the hot, dry climate, the area has a high rate of evapotranspiration. Evapotranspiration is recorded as reference evapotranspiration (ETo; evapotranspiration from a standardized grass surface) by the California Department of Water Resources's California Irrigation Management Information . Reference evapotranspiration averages 57 inches per year and is highly seasonal, with an average monthly maximum of 7.9 inches in July and average monthly minimum of 2.0 inches in December (DWR CIMIS, 2006).

Virtually all precipitation falls in the winter months, with some summer thunderstorms. Topography generally controls the relative amounts of precipitation from one location to the next. On the valley floor, about 13 inches of precipitation is average, but near Mt. San Jacinto, the average precipitation is approximately 40 inches. Figure 4.2 shows the distribution of rainfall in the watershed.

The Riverside County Flood Control and Water Conservation District (RCFCD) currently maintains rainfall records from the National Weather Service rainfall gauge at the California Division of Forestry Station in San Jacinto. Annual San Jacinto rainfall totals for the 1850/51 through 2004/05 rain years (July – June) are shown in Figure 4.3. For the 155 years from July 1850 through June 2005, average precipitation equaled 13.12 inches; median precipitation was

12.13 inches; the year with the highest rainfall was 1883/84 with 35.77 inches of rain; and the driest year was 2001/02 with 3.85 inches.

Figure 4.3 also shows the cumulative departure from mean precipitation. This chart represents wet periods with increasing values, such as 1882-1890 and 1990-1998; normal periods with near-constant values, such as 1859-1881 and 1980-1988; and dry periods as decreasing values, such as 1944-1976 and 1999-2004.

4.2 SURFACE WATER CONDITIONS

The San Jacinto River and its tributaries are the primary surface water elements in the Management Area. This river and its tributaries provide water for direct use, artificial recharge, as well as for significant natural recharge to the groundwater system through the riverbeds.

EMWD and the Riverside County Flood Control and Water Conservation District (RCFCD) have partnered with USGS to monitor stream flows. USGS gaging stations along the San Jacinto River and its tributaries in the Hemet/San Jacinto and surrounding area are listed in Table 4.1, below.

Table 4.1. USGS Surface Water Gaging Stations

Station No.	Description:	Lat.; Long.*	Data Type	Time Frame
11069200	Lake Hemet WC up Canyon near San Jacinto	33°44'20"; 116°49'30"	Daily flows	1961-1991
11069300	WF San Jacinto Tributary near Valle Vista	33°43'20"; 116°48'00"	Peak flows Daily flows	1962-1973 1961-1967
11069500	San Jacinto River near San Jacinto (Cranston Ranger Station)	33°44'17"; 11649'59"	Real time Peak flows Daily flows Water Qual.	 1921-2004 1920-2004 1998
11069501	San Jacinto River near San Jacinto plus Canals	33°44'17"; 116°49'59"	Daily flows	1948-1990
11070000	Bautista Creek Near Hemet	33°41'40"; 116°51'00"	Peak flows Daily flows	1947-1969 1947-1969
11070020	Bautista Creek at head of Flood Channel in Hemet	33°42'42"; 116°52'04"	Peak flows Daily flows	1988-2003 1987-2004
11070050	Bautista Creek at Valle Vista	33°44'04"; 116°53'33"	Peak flows Daily flows	1970-1987 1969-1987
11070150	San Jacinto River above State Street near San Jacinto	33°49'17"; 116°58'21"	Peak flows Daily flows	1997-2004 1996-2004
11070158	Line D Storm Drain at Santa Fe St. near San Jacinto	33°46'44"; 116°57'46"	Peak flows	1997-1999
11070160	Line E Storm Drain at Santa Fe St. near San Jacinto	33°46'41"; 116°58'18"	Peak flows	1997-1999
11070185	Lamb Canyon at Victory Ranch near San Jacinto	33°51'31"; 117°00'53"	Peak flows	1997-2004
11070190	Laborde Canyon near San Jacinto	33°51'44"; 117°01'29"	Peak flows	1962-1973
11070210	San Jacinto River at Ramona Expressway near Lakeview	33°50'23"; 117°08'06"	Real time Peak flows Daily flows	 2001-2004 2000-2004

* The longitude and latitude measurements are published figures, but were estimated by the USGS from maps and, therefore, only have an accuracy of +/- 500 feet.

In 1996, EMWD entered into a Cooperative Water Program Joint Funding Agreement with the USGS for a long-term water budget study in the San Jacinto area. As part of this project, the USGS installed two stream flow gages and three stage gages in the San Jacinto Watershed.

The USGS applied a rainfall-runoff model to estimate the water budgets for groundwater and surface water flows and to determine the hydrological effects of urbanization. The study used historical rainfall data with the model to produce a simulated long-term record of groundwater recharge and surface water runoff for a variety of potential urbanized conditions. The major objectives of the study were to:

1. Estimate groundwater recharge and surface water flows in the Canyon, Intake, and Upper Pressure Management Zones;

2. Summarize the long-term water budget of the study area upstream of Mystic Lake; and

3. Determine the effects of urbanization in the study area.

Five gages were installed upstream of Bridge Street in the San Jacinto basin area. Two stream flow gages were installed in the San Jacinto River, one at the State Street (Highway 79) crossing and the other at the Cranston Ranger Station. Three crest stage gages were installed in Potrero Canyon near San Jacinto, Lamb Canyon near San Jacinto, and at an urban runoff site.

Groundwater recharge in the Canyon and Upper Pressure Management Zones was measured and simulated in addition to the surface runoff leaving the San Jacinto sub-basin (including urban runoff) that reaches the Mystic Lake area. The study results are summarized in the USGS Water Resources Investigations Report 02-4090, *Rainfall-Runoff Characteristics and Effects of Increased Urban Density on Streamflow and Infiltration in the Eastern Part of the San Jacinto River Basin, Riverside County, California*. The report includes all measured, simulated, and statistical data used to support the conclusions of the study.

After the end of the study, some of the crest stage gages were no longer monitored and fell into disrepair. However, EMWD continues to fund, and USGS continues to operate, the stream gage on the San Jacinto River at State Street. The crest stage gage at Lamb Canyon Creek at Victory Ranch is still jointly funded by EMWD and USGS. For the 2005/2006 monitoring, the effort was funded as part of the Hemet/San Jacinto Monitoring Program by EMWD, LHMWD, and the cities of Hemet and San Jacinto. The stream gage on the San Jacinto River at Cranston Ranger Station is currently funded and maintained by USGS and Riverside County Flood Control District with real-time data available on the USGS website.

4.3 GEOLOGY

The geology of the Hemet/San Jacinto area, relevant to groundwater supplies, has two primary features: a sediment filled graben, and the San Jacinto fault zone. The sediments in the graben provide for the majority of storage and movement of groundwater in the area and the movement of water is altered by the presence of the faults, which provide most of the internal boundaries for the area's Management Zones.

The Management Area partially contains a geomorphic feature known as a graben or fault-graben, along with additional permeable materials in alluvium-filled valleys. A graben is a depressed, trough-like structure in the Earth's crust, filled or partially filled with sediments, and usually formed by faulting and the relative downward movement of block-like geologic structures. The San Jacinto graben is a deep, sediment-filled structure approximately 2.5 miles wide and more than 20 miles long and forms the Upper Pressure Management Zone's

boundaries in the Management Area. The Management Area, including the graben, is nearly surrounded by impermeable bedrock mountains and hills. Internally, island-like masses of granite and metamorphic bedrock rise above the valley floor. Surface and near-surface sediments in the graben and alluvium filled valleys are primarily sand and sandy silt with some silt and silty clay. The San Jacinto graben consists of a forebay area in the southeast where surface water recharge primarily occurs and a pressure area in the northwest where deep aquifers exist under confined conditions. The northwest-southeast oriented graben is formed by the right-slipping San Jacinto fault zone, believed to be the most seismically active in southern California. Between 1899 and the present, seven earthquakes of Richter magnitude 6.0 or greater have occurred along the San Jacinto fault between the San Gabriel Mountains and Mexico. This complex zone of faulting and cross faulting has two main branches, the Claremont and the Casa Loma, which form the northeast and southwest borders of the graben, respectively (see Figure 4.4)

The Claremont fault separates the graben from the Badlands and the San Jacinto Mountains on the northeast. This fault follows Gilman Springs Road from State Highway 60 to the City of San Jacinto, hugging the foothills. It then follows the San Jacinto River before shifting to Bautista Creek south of Valle Vista. To the west, the Casa Loma fault generally parallels the Claremont Fault. The Casa Loma portion of the San Jacinto fault zone forms the southwesterly border of the graben. It runs from Pico Hill (also known as Casa Loma) to the northwest toward Reche Canyon. The Bautista Creek fault is an extension of the Casa Loma fault, but is separately named due to differences in fault movement (DWR, 1969). The Bautista Creek fault runs from Bautista Canyon through the intersection of Menlo and San Jacinto Streets, joining the Casa Loma fault on the western side of Pico Hill.

The portions of the Management Area outside the graben, to the east of the Claremont Fault and to the west of the Casa Loma and Bautista Creek faults, are sediment filled alluvial basins. These sediments are similar in nature to those in the graben, but are much thinner.

The faulting in the Management Area plays an important role in the movement of groundwater and is therefore a key factor in the delineation of Management Zones.

4.4 DELINEATION OF MANAGEMENT ZONES

Groundwater Management Zones (Figure 2.1) were delineated by the Santa Ana Regional Water Quality Control Board based on major impermeable boundaries (such as bedrock or faults), flow systems that prevent widespread mixing even without a physical barrier, and water quality. Groundwater flow, whether or not determined by a physical barrier, was the primary characteristic used to define the Management Zones. Water quality data were used to

support understanding of the flow regime and to assure that unusually high or poor quality waters were distinguished for regulatory purposes. (RWQCB, Resolution No. R8-2004-0001).

The four Management Zones within the Hemet/San Jacinto Management Area are:

1. Canyon;
2. San Jacinto Upper Pressure (Upper Pressure);
3. The Hemet North portion of Lakeview/Hemet North (Hemet North); and
4. Hemet South.

The Canyon Management Zone lies along a northwest to southeast axis in the eastern part of the Management Area. The boundaries of the Canyon Management Zone include the virtually impermeable San Jacinto Mountains to the east and Claremont Fault to the west. The Claremont Fault inhibits flow between Canyon and Upper Pressure except for instances when water levels are high enough to reach the recent alluvium, where the fault provides less of a barrier to flow.

Like the Canyon Management Zone, the Upper Pressure Management Zones lies along a northwest to southeast axis in the eastern part of the Management Area. The Upper Pressure Management Zone is bounded by the Claremont Fault to the northeast, the Casa Loma and Bautista Creek Faults to the southwest, and the flow system boundary with the San Jacinto Lower Pressure Management Zone to the northwest.

Boundaries of the Hemet North portion of the Lakeview/Hemet North Management Zone include the Casa Loma Fault to the east; the groundwater divide near Esplanade Avenue to the south; the impermeable bedrock of the Lakeview Mountains to the west; and a constricted area of permeable materials between the Lakeview Mountains and the Casa Loma Fault to the northwest. While the Casa Loma fault zone is a known barrier to groundwater flow, some groundwater leaks across the fault zone as underflow from the Upper Pressure Management Zone.

Hemet South Management Zone boundaries include the Casa Loma and Bautista Creek faults to the east; the groundwater divide near Esplanade Avenue to the north; the groundwater divide in the Winchester area to the west; and various crystalline bedrock outcrops to the south. The Casa Loma and Bautista Creek faults are known barriers to groundwater. However, some groundwater leaks across the fault zones as underflow from the Upper Pressure Management Zone.

For the Management Area as a whole, the mountains (Figure 4.1) form a nearly impermeable boundary such that there are only three pathways for groundwater to migrate to or from other Management Zones outside the Management Area. These locations are:

- Between Hemet South and Perris South, in the southwest;
- Between the Hemet North portion and Lakeview portion of Lakeview/Hemet North, in the northwest; and
- Between Upper Pressure and Lower Pressure, in the northwest.

Groundwater flow in and out of the Management Area is important, as water quality is typically better in the Management Area than in the surrounding areas.

4.5 SOILS

The influence of soils on water use and hydrologic processes makes it an important component to consider when estimating changes in water use due to land use change as well as for siting spreading basins for artificial recharge projects.

The predominant soils, as defined in the USDA's soil survey at the series level, in the Management Area are shown in Figure 4.5 and are listed below:

- Dello
- Grangeville
- Greenfield
- Metz
- San Emigdio
- Traver

The remaining soils are classified as "Other" in Figure 4.5 and consist of Chino, Domino, Exeter, Hanford, Pachappa, Ramona, Riverwash, as well as other soil series occurring in less than 1 square mile of the Management Area.

An important soil classification used by the USDA for hydrology is the hydrologic soils group. The hydrologic soils group can be used to estimate the amount of infiltration that can be expected from a certain soil. This grouping is based on estimates of the intake of water during the latter part of a storm of long duration, after the soil profile is wet and has an opportunity to swell, without the protective effect of any vegetation. Also considered are depths to the seasonal high water table and to a slowly permeable layer. The classification is useful at a planning level, but detailed studies are required for a thorough understanding of the infiltration capacity of soils. Features such as slope, ground cover, or low permeability materials away from the upper soil profile may impact the soil's capability to infiltrate water.

Under the hydrologic soils group classification system, soils are grouped A to D with "A" having the lowest runoff potential (highest infiltration rates) and "D" having the highest runoff

potential (lowest infiltration rates). A map of hydrologic soils groups is provided as Figure 4.6 (USDA-SCS, 1971) and a corresponding table of hydrologic soil groups and soil series is provided in Table 4.2. As can be seen on Figure 4.6, most of the Management Area is classified as "B", soils with a moderate infiltration rate. Of the Management area, nearly 80% are "B" soils, 10% are "A" soils, and the remainder are either "C", "D", or are deemed too variable to be classified. The "A" soils are generally located along the San Jacinto River and Bautista Creek; much of the "variable" soils along these watercourses also have the potential for very high infiltration rates.

Table 4.2. Hydrologic Soils Groups

Common Soil Series	Hydrologic Soils Group	Minor Soil Series	Hydrologic Soils Group
Dello	A-C	Chino	B-C
Grangeville	B-C	Domino	C
Greenfield	B	Exeter	C
Metz	A	Hanford	B
San Emigdio	B	Pachappa	B
Traver	B-C	Ramona	B-C
		Riverwash	variable
		Other	variable

4.6 GROUNDWATER CONDITIONS

As previously stated, groundwater flow between Management Zones is inhibited by geologic faults, (Figure 4.4) notably the Casa Loma Fault, Bautista Creek Fault and Claremont Fault, all strands of the San Jacinto fault zone. The Claremont Fault acts as a barrier to flow between Canyon and Upper Pressure Management Zones, while the Casa Loma Fault is a barrier to flow between Upper Pressure Management Zone and both Hemet North and Hemet South Management Zones.

The San Jacinto River enters the basin in the southeast part of the Management Area and flows north and west across the Upper Pressure Management Zone. In most years, all river flow is lost to percolation and limited evapotranspiration in Canyon and Upper Pressure. Recharge from the San Jacinto River and its tributaries forms a large portion of total inflow for Canyon and Upper Pressure.

Groundwater pumping for irrigation and domestic purposes is the principal source of groundwater outflow. Major pumping depressions occur in Hemet South and Upper Pressure. Historically, extraction in excess of recharge has resulted in lowered groundwater levels and altered directions of groundwater flow.

4.6.1 ARTIFICIAL RECHARGE OPERATIONS

In addition to natural inflows and return flows from agricultural and municipal uses, there has been and continues to be artificial recharge operations in the Management Area. These artificial recharge operations use imported water, typically at lower winter rates, to artificially recharge groundwater through spreading basins, adding to the volume of groundwater in storage. The annual volume of imported water recharged during the period 1984-2004 is presented in Figure

4.7. More recently, the Public Agencies have signed memoranda of understanding in 2004 and 2005 to plan for the recharge at two existing recharge facilities in the San Jacinto riverbed.

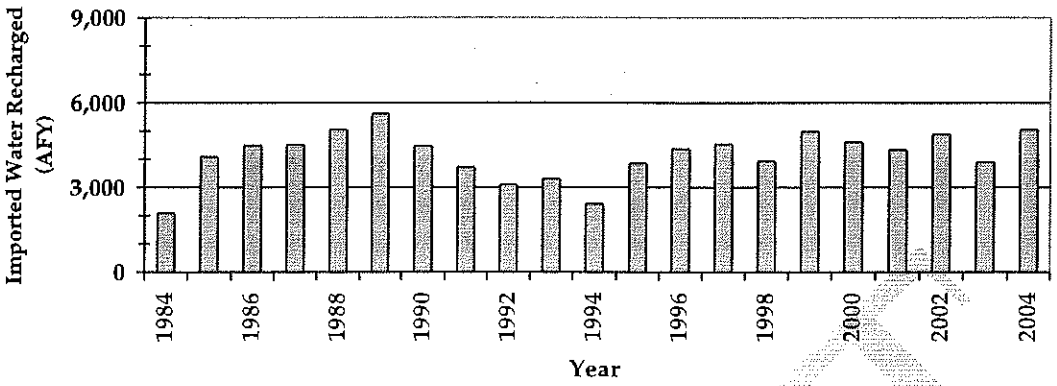

Figure 4.7 Annual Imported Water Recharged

The artificial recharge operations help address the impact of overdraft caused by past groundwater production.

4.6.2 GROUNDWATER LEVELS AND FLOW

Historical groundwater extraction from the Management Area has resulted in a significant drop in groundwater levels. The lowered groundwater levels also changed the direction of flow in parts of the Management Area. Figure 4.8 shows the flow directions in the early 20th Century. Figure 4.9 shows current flow directions. Notable changes over time include the development of a groundwater divide between Hemet South and Perris South (previously flow was out of Hemet South into Perris South and flow from Heinet North to Lakeview due to lower water levels in Lakeview. (TechLink, 2002)

Figure 4.10 shows the current groundwater levels, as of Spring 2004. The groundwater level contours show pumping depressions in the northeastern part of Hemet South and in the northwestern part of Upper Pressure. These pumping depressions are due to concentrated pumping in those areas in excess of the local recharge capacity.

Historical groundwater levels are affected by both climatic conditions, which impact the amount of recharge, and pumping. Historical conditions at the four Management Zones can be studied in relation to their unique setting by analyzing observed water levels at representative wells with long periods of record. Hydrographs for four selected wells are presented in the following sections. The locations of the wells can be found on Figure 4.11.

4.6.2.1 Canyon

Canyon benefits from significant surface water recharge from the San Jacinto River and its tributaries. This additional recharge reduces the impact of the pumping occurring in Canyon. Figure 4.12 shows groundwater levels from 1948 to present for EMWD's #6 Cienega well. This figure shows the impact of hydrologic variability and pumping in the area. One drought period, 1989 to 1990, resulted in groundwater levels dropping by approximately 100 feet. Such declines in groundwater levels are likely due to a combination of reduced rainfall, reduced recharge from streamflow, and effects of pumping. Most of this decline is recovered in the wet period that followed from 1991 to 1993.

Changes are also seen seasonally, with groundwater levels changing by as much as 100 feet from late fall to late spring. These seasonal changes in water levels are also due to a combination of reduced rainfall, reduced recharge from streamflow, and effects of pumping.

4.6.2.2 Upper Pressure

Upper Pressure benefits from surface water recharge from the San Jacinto River and its tributaries and supplies most of the groundwater for the Management Area. However, even with significant recharge from surface water as well as other inflows, wells in Upper Pressure have shown a decline in water levels over time. Figure 4.13 presents water level elevations for EMWD #9 Hewitt and Evans well, showing a consistent decline through the dry period of the 1950s, 1960s, and 1970s with a drop of more than 200 feet over the 30-year period. The hydrologically wet and normal periods during 1978 to 1986 resulted in a recovery of about half the decline from the previous three decades. Since 1986, groundwater levels have dropped approximately 200 feet. The changes seen in the well are likely due to a combination of reduced rainfall, reduced recharge from streamflow, and effects of pumping.

4.6.2.3 Hemet North

Groundwater levels in Hemet North have shown a steady decline followed by a recent stabilization. These declines occur even though significantly less water was pumped from Hemet North than from other Management Zones. Hemet North does not receive as much surface water recharge as seen in Upper Pressure and Canyon, thus impacts of pumping are more pronounced than they might be in those sub-basins. Figure 4.14 shows groundwater levels at EMWD's #21 Old Dairyland well. Since the beginning of record in 1966, groundwater levels have steadily declined, with little of the variability typically caused by hydrologic variability or changing pumping stresses. After dropping more than 100 feet from the mid-

1960s to the mid-1990s, groundwater levels have stabilized at approximately 1,250 feet above msl.

4.6.2.4 Hemet South

Groundwater levels in Hemet South have shown a steady decline, although the recent rate of decline has slowed. Figure 4.15 shows groundwater levels at EMWD's #22 Sneed well since the beginning of record in 1952. While data is limited for the 1952 to 1990 period, groundwater levels declined through the 1952-1990 period, and the increased data available from 1990 to 2005 shows little of the variability typically caused by hydrologic variability or changing pumping stresses. Groundwater level declines have slowed but have still dropped approximately 20 feet in the past 10 years.

4.6.3 GROUNDWATER BUDGET

The changes in groundwater levels and flow directions are the result of changes in the balance of inflows and outflows from the Management Area. A groundwater budget can identify potential causes of an imbalance. The groundwater budget presented in Table 4.3 shows average annual values of the components of total inflow and total outflow. The values are based on a water balance spreadsheet tool developed for use by the TC. The Excel-based tool allowed the TCmembers to investigate the impact of inclusion and exclusion of specific water budget components, such as artificial recharge, imported water, and others, as well as the impacts of different data sources, such as the calibrated groundwater model and the database with underflow estimates. This allowed for a more thorough understanding of the potential impacts of definitions of water budget on the calculated yield and overdraft. The values presented here, as agreed upon by the TC, use results of the calibrated groundwater model except for groundwater extraction, which is obtained from the data tabulated in *Assessment of Historical and Projected Land and Water Use Data* (WRIME, 2003).

Table 4.3 Groundwater Budget for the Management Area

(Average Annual Volume for Water Years 1984-2004*)

Inflow Component	Volume (AF/Year)	Outflow Component	Volume (AF/Year)
Recharge from Rainfall	8,900	Groundwater Production	57,800
San Jacinto River and Bautista Creek Recharge	9,900	Subsurface Outflow from Hemet South to Perris South	300

Recharge from Agency Sales	2,900	Subsurface Outflow from Hemet North to Lakeview	1,500
Recharge from Irrigation	9,600		
Conjunctive Use Recharge	800		
Reclaimed Water Recharge	1,500		
Subsurface Inflow from Mountain Fronts	8,000		
Subsurface Inflow from Lower Pressure to Upper Pressure	1,700		
Total	43,300	**Total**	59,600

* Values for Groundwater Production represent 1984-2004 averages, an update from the 1984-2003 values presented in WRIME, 2003. All other data is taken from the 1984-1999 modeling results (TechLink, 2002).

The total average annual inflow is 43,300 AFY and the total average annual outflow is 59,600 AFY, resulting in an average annual deficit of 16,300 AFY for the 20-year hydrologic period of 1984 to 2004. Nearly all (97%) outflow is from groundwater extraction while inflow is primarily natural recharge, representing 66% of inflow and the remainder a direct result of recharge from applied water or other human activities. The 1984-2004 hydrologic period presented in Table 4.4 represents the period during which the most consistent and continuous data for the Management Area is available. It should be noted, however, that this period does not necessarily represent the long-term groundwater basin conditions, and as described in Section 4.9 of this document, long-term overdraft is estimated based on longer periods, as well as other methods and criteria.

4.6.4 LAND SUBSIDENCE

In additional to water quantity and quality concerns, there is the potential for further land subsidence in the Management Area, although not at rates to cause significant damage. Widespread land subsidence has been observed in the San Jacinto basin as the area and its groundwater resources have been developed. Three forms of subsidence have been reported by the U.S. Environmental Protection Agency (Boen, et al., 1971): local or regional tectonic adjustments along the faults in the area; groundwater withdrawals and subsequent artesian head decline; and soil collapse or compaction due to causes other than tectonic or artesian head decline. Rates of subsidence of approximately 0.1 feet per year have been recorded. Lofgren (1975, 1976) reported in studies that, through the years, the periods of subsidence tend to correspond to the periods of groundwater production; land surface elevation at the well tends

to be lower each year; and subsidence has been greater within the graben than on either side of the graben.

4.7 LAND USE

Land use in the Management Area has experienced changes over the past half-century. The conversion from agricultural or undeveloped lands to urban uses has an impact on the basin hydrogeology as well as on water demand. Figure 4.16 and Table 4.4 show land uses in 1998 for most of the project area.

Table 4.4 Land Use Distribution Based on the 1998 Survey

Land Use	Canyon	Upper Pressure	Hemet South	Hemet North	Total
Total Area (acres)	4,400	21,200	25,300	5,600	56,500
% Urban and Suburban	24%	24%	36%	11%	28%
% Irrigated Crops and Recreational	12%	49%	15%	47%	31%
% Non-Irrigated Crops and Native Vegetation	16%	24%	45%	42%	35%
% Unmapped	48%	3%	4%	0%	7%

Much of the urban uses in the area are recent. This is shown by the significant population growth in the area, as highlighted Figure 4.17, which displays population data from the decennial US Census reports and a 2004 US Census estimate for the incorporated areas of Hemet and San Jacinto.

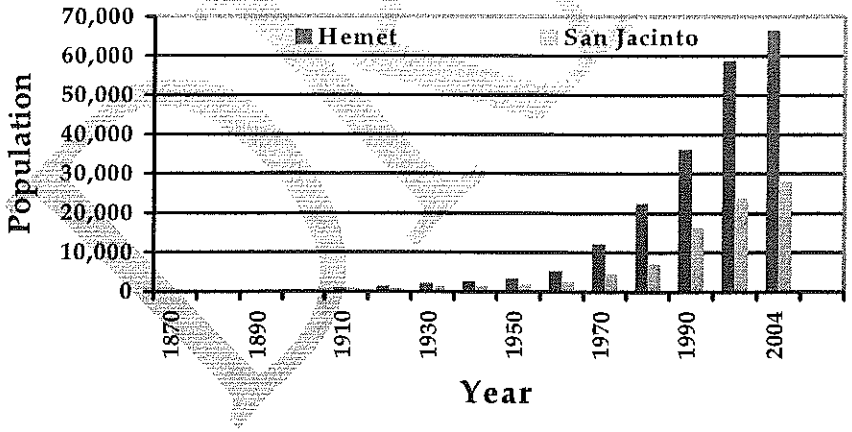

Figure 4.17 Population Growth in Incorporated Hemet and San Jacinto

From 1950 to 2004, the population in Hemet increased twenty-fold and the population in San Jacinto increased sixteen-fold. Such urbanization results in changes in both water demand and hydrologic processes. For newly urbanized areas that were previously non-irrigated, water demands obviously increase significantly. Areas that change from irrigated-agricultural uses to urban uses do not typically see major changes in the total annual water demand. However, water demand from urban users is typically less elastic than water demand from agricultural users, making drought contingencies more important. The requirements for water quality are also typically more stringent for urban users. From a hydrologic perspective, urbanization results in an increase in the impervious land area, e.g., more pavement and buildings, with the resulting increased runoff and decreased infiltration. Additionally, the water used indoors by urban users is sent to treatment plants, shifting the potential for recharge of this water from the area of use to the treatment plant area.

The urbanization trend is not unique to the Management Area, but has been pervasive throughout the fringes of urbanized Southern California. While the rate of urbanization may change in the future, the trend of urbanization is likely to continue and to play a significant role in land use and water demand. Further discussion of future land use changes may be found in Section 5.

4.8 CURRENT WATER SUPPLIES

There are four agencies primarily responsible for water supply in the Management Area: EMWD, LHMWD, and cities of Hemet and San Jacinto. In addition, Private Water Producers produce groundwater and purchase water from EMWD, and the Soboba Tribe pumps groundwater for their respective uses. Each entity pumps groundwater, and some entities also utilize a mix of some of the following sources: surface water diversions, surface water and/or groundwater purchases, surface water imports, and recycled water. The water supply conditions in the Management Area and the interrelationships among the various agencies is a primary factor for future water management in the area. Figure 4.18 shows these interrelationships in a diagram form.

Figure 4.19 shows the makeup of the water supply and how this mix has changed from 1985 to 2004 for the Management Area. Groundwater is the predominant source of water supplies for the Management Area. The remaining sources are smaller, but still important, sources of water. Supplies listed by entity are provided in Appendix E. Note that items such as sales to other agencies are not subtracted in these supply values, resulting in a supply that represents both wholesale and retail supplies. As a result of this definition, supplies will not equal the historical demand. Historical demand for the individual entities is shown in Figures 4.20 – 4.25.

4.8.1 GROUNDWATER

All entities pump groundwater for all or a portion of their water supply. The quantity of groundwater extraction for each Management Zone is shown in Figures 4.26a, 26b, and 4.27.

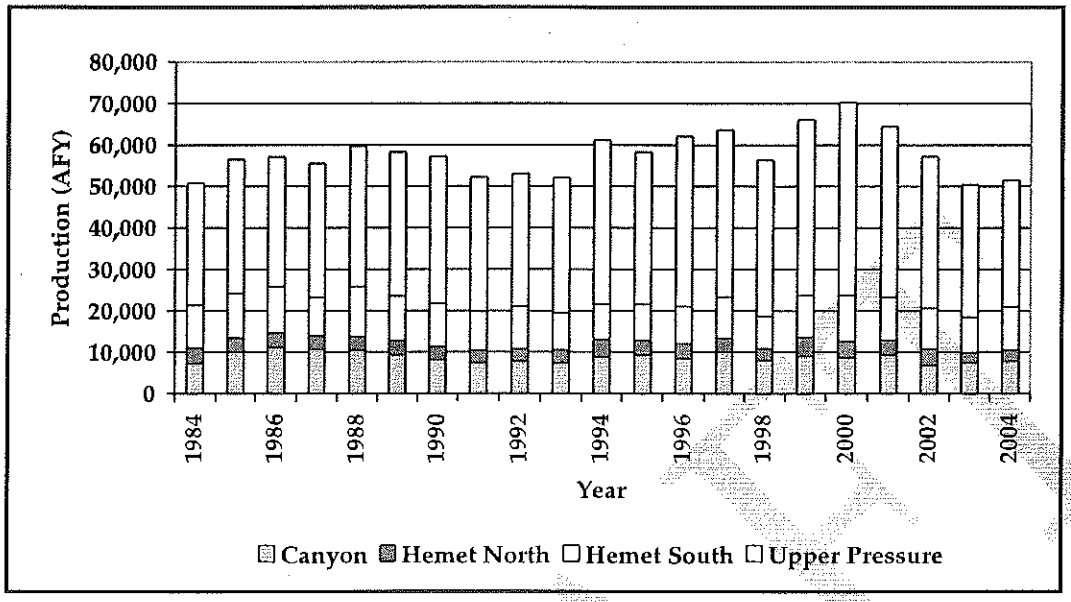

Figure 4.26a Annual Groundwater Production by Management Zone

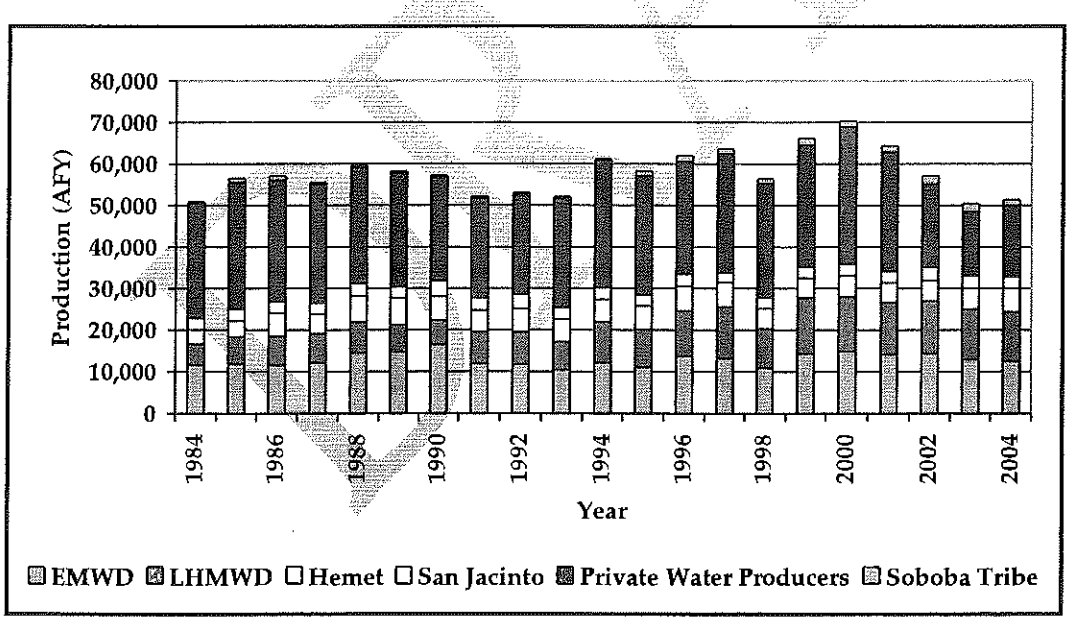

Figure 4.26b Annual Groundwater Production, by Entity

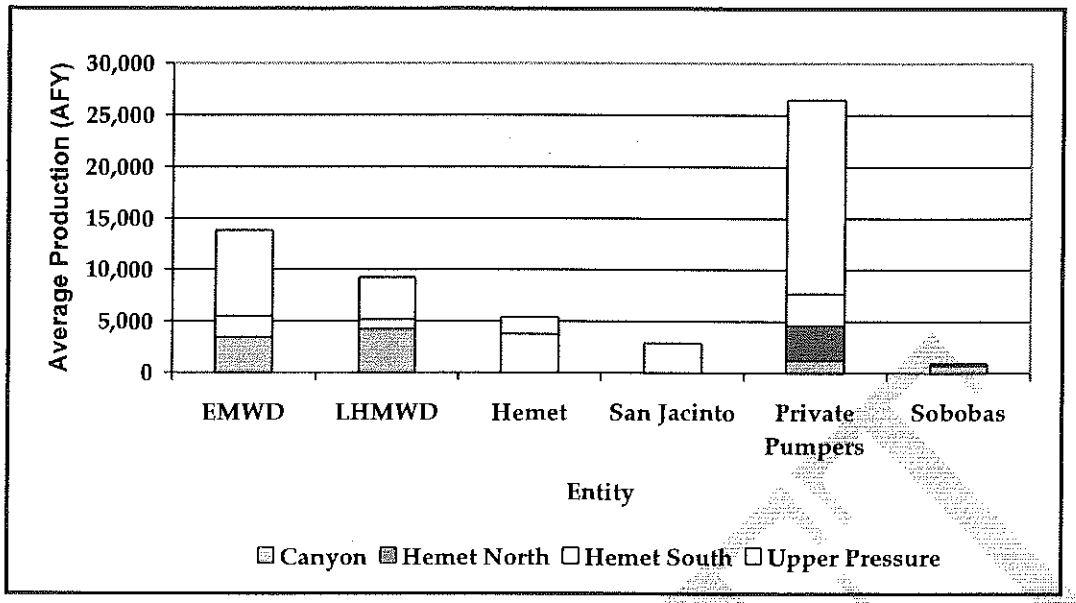

Figure 4.27 Average Annual Entity Groundwater Production by Management Zone

4.8.2 IMPORTED WATER

EMWD is a member agency of the MWD, and, as such, is able to import water from Northern California via the State Water Project and from the Colorado River Aqueduct. Imported water is used for supply as well as for groundwater recharge; this section only discusses imported water for supply, imported water for recharge is discussed in Section 4.6.1. District-wide, imported water comprises 80% of EMWD's total potable water supply. However, imported water is a small portion of EMWD's water supply in the Management Area due to the availability of high quality groundwater, which is less common in the rest of the EMWD service area. Over the 1984-2004 period, imported water represented 13% of EMWD's supply and 2% of the total Management Area supply (WRIME, 2003). In 2004, imported water represented 41% of EMWD's supply and 9% of the total supply for the Management Area (EMWD, 2005).

The usage of imported water for direct use has been variable over the past decades, as shown in Figure 4.28. The volume of water imported was reduced in 1991 as the importation of unfiltered Colorado River water to the Management Area was curtailed to meet the requirements of the Surface Water Treatment Rule, part of the Safe Drinking Water Act.

The imported water usage in recent years has increased, which would in turn reduce the stress on groundwater resources in the Management Area.

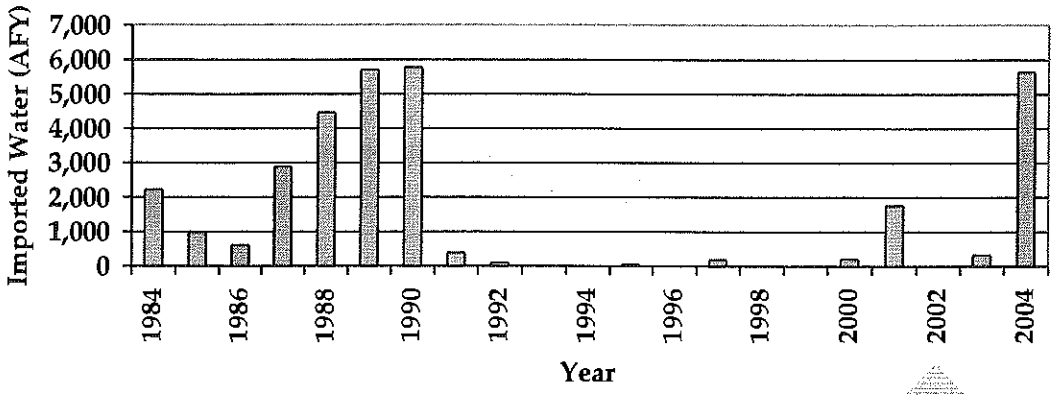

Figure 4.28 Annual Imported Water Supply

4.8.3 RECYCLED WATER

Recycled water is treated at the San Jacinto Regional Water Reclamation Facility and is currently used primarily for irrigation in the public municipal areas, industrial uses, and agricultural irrigation purposes in the Management Area. Recycled water is a highly reliable source of supply and will increase in availability as the population of the Management Area increases. Most of the recycled water is sold by EMWD to Private Water Producers for agricultural use. Recycled water usage in the Management Area has been fairly stable over the past decades, with approximately5,000 AF supplied in 2004. Annual amounts of recycled water use are presented in Figure 4.29.

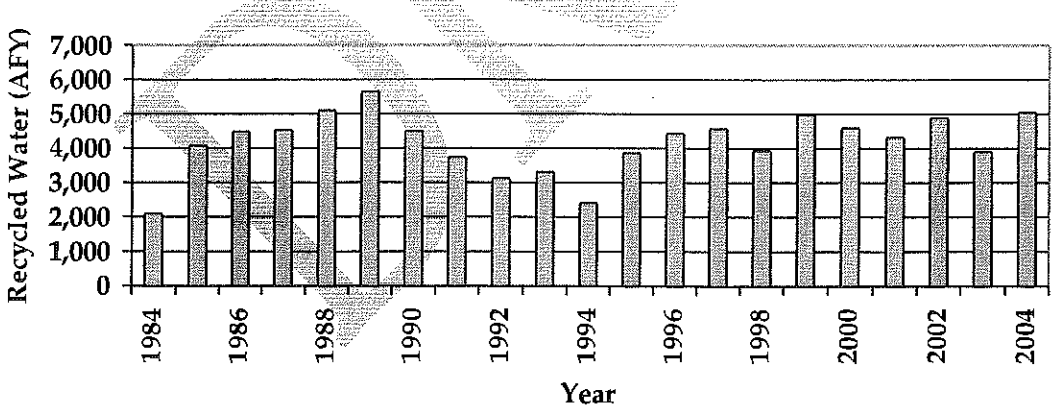

Figure 4.29 Annual Recycled Water Supply

4.8.4 SURFACE WATER

LHMWD has pre-1914 rights for the diversion and storage of surface water from the San Jacinto River and its tributaries. These rights date back to the late 1800's, and the diversion amounts are filed each year with the Division of Water Rights, State Water Resources Control Board on Annual Notices of Groundwater Extraction or Diversion, numbers G330016, G330017, and G330018.

When available, LHMWD diverts surface water for direct use. It should be noted that the San Jacinto River is an ephemeral river. The river may not flow every year and, therefore, there may be occasional years where diversion is not possible. Annual surface water diversions for 1985-2004 are shown in Figure 4.30. LHMWD's annual diversions from the San Jacinto River, for the period 1972 through 2004 are shown in Appendix E; details of the water rights are discussed in Section 7.1.

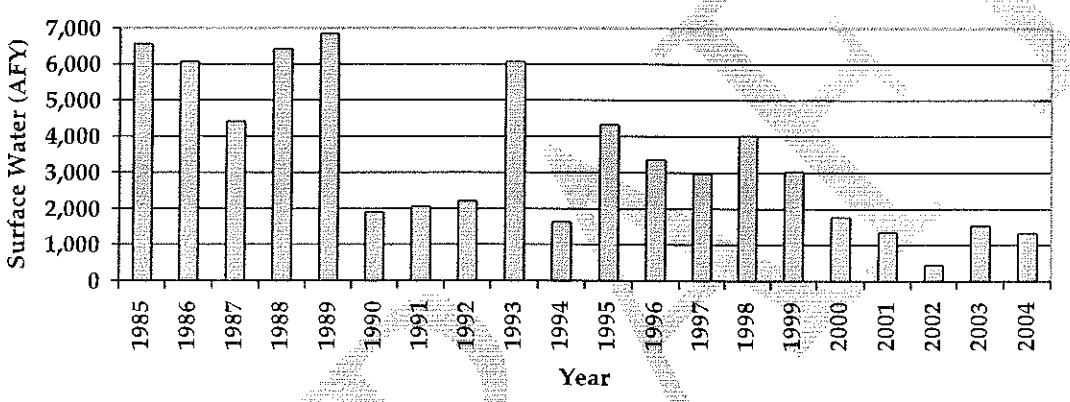

Figure 4.30 Annual Surface Water Supply

EMWD's surface water diversions are not utilized for direct use and are therefore not considered part of the water supply. More information on EMWD's surface water diversions is included in Section 7, Surface Water Rights.

4.8.5 PURCHASES FROM EMWD

LHMWD, City of Hemet, and City of San Jacinto purchase water from EMWD to supplement their water supplies. The annual volume of water sold to the other agencies by EMWD is shown in Figure 4.31. In addition to these sales, EMWD sells recycled water to Private Water Producers for agricultural use.

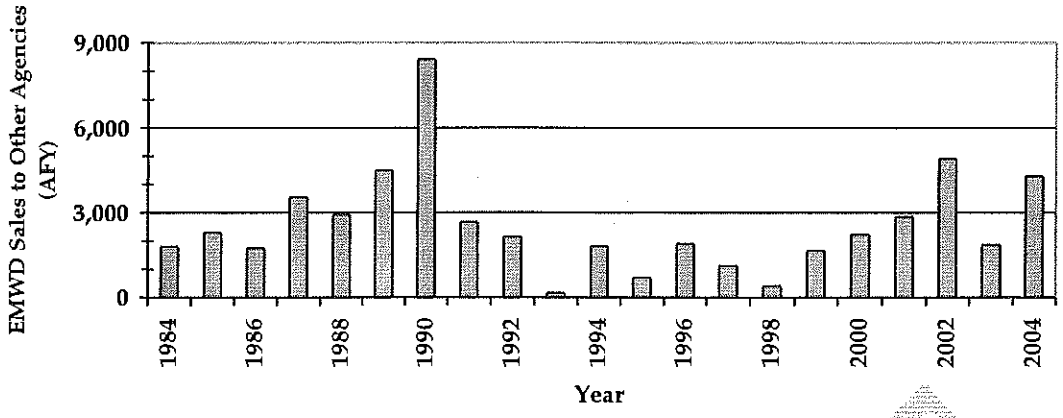

Figure 4.31 Annual Sales by EMWD to Other Agencies within Management Area

4.9 ESTIMATES OF SAFE YIELD AND OVERDRAFT

4.9.1 SAFE YIELD

The Safe Yield of the Management Area is defined in the Stipulated Judgment as the long term, average quantity of water supply in the Management Area that can be pumped without causing undesirable results, including the gradual reduction of natural groundwater in storage over long-term hydrologic cycles.

The following clarifying notes are presented to better define the Safe Yield definition:

- **Period of Record:** Safe Yield is a function of annual variability of the hydrology, but should reflect long-term average conditions, including wet and dry replenishment conditions. Identification of "long term, average" is important, but difficult to determine as precipitation is highly variable from year to year and subject to long-term climatic changes. As hydrologic data will continue to be collected and a greater understanding of the hydrology will be gained, the period of record for determining the Safe Yield will be subject to change over time.
- **Water Supply Components:** The following components of water supply are considered in the definition of Safe Yield:
  a. Natural recharge from infiltration of rainfall
  b. Recharge from infiltration of streamflow and other surface water runoff
  c. Recharge from infiltration of irrigation applied water on agricultural lands
  d. Recharge from infiltration of outdoor irrigation in the urbanized areas

e. Artificial recharge (i.e., replenishment programs) historically operated, using imported, recycled, and surface water diversions

f. Subsurface groundwater inflows (e.g., from Lower Pressure and the boundaries of the basin)

g. Subsurface groundwater outflows (e.g., to Lakeview and Perris South)

- **Study Area:** Safe Yield is calculated for the Management Area as one unit, and not by smaller units of Management Zones.
- **Undesirable Effects:** The definition of Safe Yield emphasizes protection of groundwater in storage. It is assumed that potential undesirable effects on water quality are indirectly addressed, and therefore are not included in the analysis.

The Safe Yield of the Management Area has been estimated in a number of studies in the past. A summary of methods, hydrologic periods, and results from each study is presented in Table 4.5.

Table 4.5. Published Estimates of Safe Yield for the Management Area

Yield Study	Method	Time Period	Safe Yield (AFY)	Pumping (AFY)	Overdraft (AFY)
Fritz and Rosell, 1947	Water Balance (Conventional)	1920-1945	27,400 (35,100 w/o trees/brush)	32,400	4,800
Schwartz, 1967	Water Balance (Conventional)	1923-1960	26,100	n/a	12,100
EMWD White Paper, 2000	Water Level Recovery Analysis	Variable	50,000	60,600	10,600
GIS Recharge Estimates	Change in Storage (GIS)	1998-2003	39,700	n/a	n/a
WRIME, 2003	Water Balance (Conventional)	1984-2001	44,700	59,000	14,300
Based on TechLink, 2002	Water Balance (Model-based)	1984-1999	41,300	58,000	16,700

Two major methodologies have traditionally been used to estimate the Safe Yield: (1) Water Balance methodology, and (2) Change in storage methodology. These methods are briefly described below.

4.9.1.1 Method 1 - Water Balance Method

The water balance method utilizes inflows and outflows from the basin to estimate change in storage and the Safe Yield of the basin. The amount of pumping that can be sustained with little or no long-term change in storage is the Safe Yield of the basin. The Safe Yield estimate may be calculated from

Inflows – Outflows + Groundwater Pumping,

where Inflows-Outflows represents the change in groundwater in storage. The estimate must be over a long-term base period which reflects a number of wet, normal, and dry periods. Groundwater Pumping has been calculated through actual pumping data (denoted as the Conventional Method) or through the use of results from a calibrated groundwater model (Model-based Method). In either case, the following inflow and outflow components are used for the Management Area:

Inflows

- Recharge from Retail Water Sales
- Recharge from Irrigation Return Flow
- Recharge from Precipitation
- Grant Street Ponds Diversion Recharge
- Reclaimed Ponds Recharge
- Recharge from Recycled Water Sales
- Recharge from Wholesale Sales to Subagencies
- Subsurface Inflow from Other Sub-basins
- Bautista Creek Recharge
- San Jacinto River Recharge
- Boundary Inflow

Outflows

- Subsurface Outflow to Other Sub-basins
- Boundary Outflow
- Groundwater Production

4.9.1.2 Method 2 - Change in Storage Methodology

This method uses a GIS database to develop surfaces of groundwater elevations based on observed groundwater levels at multiple control points (i.e., wells) throughout the Management Area at two different time periods. The product of change in volume between the two surfaces at two different times and the specific yield of the aquifer determines the change in storage between those two time points. The Safe Yield is then calculated as the sum of the calculated change in storage and the groundwater production during the same time period. Variations of this method are used based on the spatial distribution, including vertical distribution, of the specific yield in the aquifer system.

4.9.1.3 Summary of Previous Yield Estimates

Calculation of Safe Yield is a function of the hydrologic period used in the analysis. Figure 4.32 presents the long-term hydrologic conditions as rainfall at San Jacinto gaging station, along with estimates of the Safe Yield. As indicated in the figure, the Safe Yield estimates range from 26,400 to 44,700 AFY. Since the two estimates made by Fritz & Rosell (1947) and Schwartz (1967) are based on much older data sets and short-term hydrologic records, and the geographic area may not be consistent with some of the more recent estimates, the TC decided in its August 25, 2005 meeting not to use these estimates. Instead, the TC concluded that the Safe Yield of the Management Area ranges from approximately 40,000 to 45,000 AFY based the most recent analyses.

The TC also concluded that the following guidelines for future estimation of Safe Yield of the Management Area be considered by the Watermaster when calculating Safe Yield in the future:

- Update the estimates of Safe Yield every 3-5 years.
- Use latest available data with consideration for proper spatial, temporal, and vertical characteristics of the aquifer system.
- Consider a long period of record that includes above average, below average, and normal conditions.
- Consider latest methodologies that can provide more flexibility based on the available data and information, as necessary.
- Consider using the San Jacinto Watershed Groundwater Model, with appropriate updates and calibration, for re-estimation of groundwater conditions, as needed.

4.9.2 OVERDRAFT

Overdraft is defined in the Stipulated Judgment as the condition whereby groundwater production in the Management Area exceeds the Safe Yield, creating undesirable conditions in the basin. The amount of overdraft is calculated as the difference between long-term average annual groundwater production in the Management Area and Safe Yield. Figure 4.33 shows the estimated annual groundwater production in the Management Area, along with the range of Safe Yield. Based on this figure, the overdraft in the Management Area is estimated to be 10,000 to 15,000 AFY. For planning purposes and to evaluate options to reduce the overdraft, this Plan assumes that the overdraft is at least 10,000 AFY.

4.10 WATER QUALITY CONDITIONS

This section presents a summary of the groundwater quality conditions in the Management Area. This description will assist in establishing a baseline condition for future water management efforts to maintain or improve groundwater quality in the Management Area.

The Management Area lies within the jurisdiction of Region 8 - the Santa Ana Regional Water Quality Control Board (RWQCB). The RWQCB implements state and federal laws through adoption of Water Quality Control Plans or Basin Plans (RWQCB, 1995). The Basin Plan establishes both the legal beneficial use designations and sets the standards to protect these uses. The Basin Plan was recently amended (RWQCB, 2004) to incorporate an updated Total Dissolved Solids (TDS) and Nitrogen Management Plan for the Santa Ana Region, including revised groundwater Management Zones (combining Hemet North and Lakeview into one Management Zone; Hemet North remains treated separately from Lakeview in this Plan), TDS and nitrate quality objectives for groundwater, TDS and Nitrogen waste load allocations, and stream reach designations.

Within the Santa Ana Watershed, which includes the Management Area, a statistical method has been developed to use nitrate (as N) and TDS to evaluate the status of water quality; to compare sub-basin concentrations; and to trigger management actions (RWQCB, 2004; Wildermuth, 2000, 2005). Point statistics were used to show (i) historical ambient water quality conditions as represented by the 1954-1973 time period, (ii) 1997 Current ambient water quality conditions as represented by the 1978-1997 time period, and (iii) 2003 Current ambient water quality conditions as represented by the 1984-2003 time period. A summary of the data is shown in Table 4.6, revealing nitrate (as N) levels below the MCL of 10 mg/L for all cases. TDS exceeds the recommended secondary MCL of 500 mg/L in Hemet South (current and historical) and Hemet North (current and historical), and TDS exceeds the maximum secondary MCL of 1000 mg/L in the 1997 current levels in Hemet South.

Table 4.6. Historical (1954-1973), 1997 Current (1978-1997), and 2003 Current (1984-2003) Ambient Nitrate as N and TDS Concentrations (mg/L)

Sub-basin	Nitrate as N [1]				TDS[2]			
	Basin Plan Objective[3]	Historical	1997 Current	2003 Current	Basin Plan Objective[4]	Historical	1997 Current	2003 Current
Canyon	2.5	2.5	1.6	2.1	230	**234**	220	**420**
Upper Pressure	1.4	1.4	**1.9**	**1.7**	320	**321**	**370**	**370**
Hemet South	4.1	4.1	**5.2**	**5.4**	**730**	**732**	**1030**	**850**
Hemet North	1.8	1.8	**2.7**	**3.4**	520	519	**830**	**840**

Source: Wildermuth, 2005. 2003 update 1984-2003)
[1] Table 3-2
[2] Table 3-1
[3] Basin Plan Amendment, 2004 (Table 5-4)
[4] Basin Plan Amendment, 2004 (Table 5-3)

The point statistics and water quality objectives were used by the RWQCB to develop estimates of assimilative capacity. Areas with assimilative capacity are able to accept waters with higher concentrations of a constituent than the concentration in the receiving waters because natural processes such as recharge and dilution will allow for the water quality objectives to continue to be met. The most recent computations indicate that Hemet South, Hemet North, Canyon, and Upper Pressure do not currently have assimilative capacity for TDS. For nitrate, the Hemet South, Hemet North, and Upper Pressure do not have assimilative capacity remaining, and the Canyon area has only a very small amount of nitrate that it can assimilate (0.4 mg/l nitrate as N; Wildermuth, 2005).

Table 4.7 shows the changes seen over the 30-year time period between the historical and 2003 Current time periods. Canyon shows a decrease in nitrate as N concentrations while all other nitrate (as N) and TDS concentrations for all other Management Zones show increases in concentrations of between 0.3 and 1.6 mg/L nitrate (as N) and 49 to 321 mg/L TDS. It should be noted that changes seen between these time periods are a combination of true changes in ambient water quality and artificial changes due to limitations in monitoring data and the estimation technique (Wildermuth, 2005). In the future, as current monitoring programs assemble more data, a long-term record of analytical data at specific wells will be available to better show changes over time at specific locations.

Table 4.7 Change in Ambient Concentration (mg/L) of Nitrate as N and TDS, Between Historical (1954-1973) and 2003 Current (1984-2003) Time Periods

Sub-basin	Change in Nitrate as N (mg/L)	Change in TDS (mg/L)
Canyon	-0.4	186
Upper Pressure	0.3	49
Hemet South	1.3	118
Hemet North	1.6	321

The most recent data from public and private wells, as complied by EMWD, were used to plot the 2004 nitrate (as N) and TDS conditions as shown in Figures 4.34 and 4.35. While these values are taken from wells screened at different depths, the plots show the general variability in concentrations across the Management Area.

SECTION 5 PROJECTED WATER DEMANDS AND FUTURE PLAN PHASES

5.1 PROJECTED LAND USE CONDITIONS

This Section presents a brief description of the projected land use conditions in the Management Area. Figure 5.1 shows the general land use categories at build-out, based on Riverside County General Plan.

Other area Urban Water Management Plans (UWMP) echo the projected urban growth indicated in the Riverside County General Plan:

- EMWD UWMP – EMWD service area population projected to increase from 494,000 in 2005 to 830,000 in 2025. (EMWD, 2005)
- LHMWD UWMP – LHMWD service area population projected to increase from 39,100 in 2005 to 49,500 in 2025. (LHMWD, 2005)
- Hemet UWMP
  - City of Hemet population projected to increase from 78,600 in 2005 to 154,000 in 2025.
  - City of Hemet water system service area population projected to increase from 20,200 in 2005 to 22,300 in 2025. (Hemet, 2005)
- San Jacinto UWMP
  - City of San Jacinto population projected to increase from 34,100 in 2005 to 63,600 in 2025.
  - City of San Jacinto water system service area population projected to increase from 13,200 in 2005 to 24,000 in 2025. (San Jacinto, 2006)

Based on the Riverside County General Plan, the total land use acreage for each category is estimated and presented in Table 5.1.

Table 5.1. Generalized Projected Acreage in the Management Area

Land Use	Total Acreage	Percent
Urban	37,100	65%
Irrigated Cropland	8,100	14%
Non-Irrigated Cropland	4,500	8%

Water	3,600	6%
Unmapped	4,000	7%
Total	57,300	100%

Based on Tables 5.1 and 4.3, the urban area is projected to increase from 28% in the 1998 survey to 65% at build out. This increase is due to a combination of conversion of agricultural land and undeveloped land to urban uses. These future conversions have significant implications on the total projected water demand in the Management Area, as well as impacts on the rainfall, runoff, and recharge conditions. This concept is further discussed in the following sections.

5.2 PROJECTED WATER DEMANDS

Projected water demands are based on the analysis performed by the Technical Committee during their 2004 meetings. These are documented in Basin Assessment Report Technical Memorandum No. 1 (WRIME, 2003c), as well as the *Hemet/San Jacinto Water Management Area 2004 Annual Report* (EMWD 2005). The projected water demands of each of the stakeholders are described below:

5.2.1 EMWD

Projected water demand of EMWD is developed on the basis of an analysis using Southern California Association of Governments (SCAG) population projections for the 2004 Transportation Plan, the Riverside County Integrated Plan, and the Market Absorption Analysis for EMWD, Hemet/San Jacinto Area. Projected total demand is shown together with recent historical demand in Figure 5.2.

5.2.2 LHMWD

Projected water demand is based on an analysis using Southern California Association of Governments (SCAG) population projections for the 2004 Transportation Plan, the Riverside County Integrated Plan, and the Market Absorption Analysis for EMWD - Hemet/San Jacinto Area, and communications with LHMWD. Projected total demand is shown together with recent historical demand on Figure 5.3.

5.2.3 CITY OF HEMET

Projected water demand is based on an analysis using Southern California Association of Governments (SCAG) population projections for the 2004 Transportation Plan, the Riverside County Integrated Plan, and the Market Absorption Analysis for EMWD - Hemet/San Jacinto Area, and communications with Hemet. Projected demand is shown together with recent historical demand on Figure 5.4.

5.2.4 CITY OF SAN JACINTO

Projected water demand is based on an analysis using Southern California Association of Governments (SCAG) population projections for the 2004 Transportation Plan, the Riverside County Integrated Plan, and the Market Absorption Analysis for EMWD - Hemet/San Jacinto Area, and communications with San Jacinto. Projected demand is shown together with recent historical demand on Figure 5.5.

5.2.5 SOBOBA TRIBE

Projected water demand for the Soboba Tribe is a refinement of estimates presented in the Operational Yield Study (WRIME, 2003) based on updated information on current and future development and their impact on water demand. Projected total demand is shown together with recent historical demand on Figure 5.6.

5.2.6 PRIVATE WATER PRODUCERS

Projected water demand for the Private Water Producers is a refinement of estimates presented in the Operational Yield Study (WRIME, 2003) based on updated information on current and future development and their impact on water demand. Figure 5.7 shows the assumed future agricultural water use by local producers together with recent historical demand.

5.3 FUTURE PLAN PHASES

The primary project considered to be the core of the Physical Solution is the *San Jacinto River Integrated Recharge and Recovery Project*. The project is designed and implemented in two (2) Phases. Phase I is described in Section 3 of this Plan. While Phase II facilities are designed at conceptual level, and the EIR is certified, there are additional projects that have been considered by the TC and will need to be evaluated for possible design and implementation. Following is a

discussion of the Phase II of the *San Jacinto River Integrated Recharge and Recovery Project*, along with other potential projects.

5.3.1 San Jacinto River Integrated Recharge and Recovery Project, Phase II

Phase II of the project consists of construction of remaining portions of the San Jacinto Integrated Recharge and Recovery Project, which will provide up to 110 cfs of recharge water capacity. Phase II will cost approximately $44 million. A schematic of Phase II is shown in Figure 5.8. Major activities during Phase II are:

1. **Construction of Recharge Basins** - This activity includes construction of nine (9) additional recharge ponds within the San Jacinto river bed in three clusters of three basins each, covering approximately 60 acres. Combined Phases I and II will have 15 basins covering approximately 100 acres.
2. **Construction of Pipelines** - This includes design and construction of a 7.7 mile water supply pipeline from the EM-14 turnout to the proposed recharge basins. Included is increasing the capacity of the EM-14 turnout structure from 40 cfs to 110 cfs; replacing 200 feet of 48-inch-dimater pipeline with 63-inch-dimater pipeline; constructing 15,800 feet of new 54-inch-dimater pipeline paralleling the existing 39-inch-dimater pipeline; and constructing 24,800 feet of new 57-inch-dimater pipeline paralleling the existing 33-inch-dimater pipeline.
3. **Pump Station Upgrades** – Upgraded or new pump stations would be built to increase capacity at the Warren Road and Commonwealth pump stations
4. **Drilling of Extraction Wells** - This includes construction and testing of up to 5 additional extraction wells designed and operated identically to those constructed in Phase I. The construction of these new wells will result in a total of up to eight Phase I and II extraction wells.
5. **Design and Construction of Monitoring Wells** – Up to three (3) additional monitoring wells will be constructed, bringing the total number of Phase I and II monitoring wells to up to six wells..

While the environmental permitting for both Phase I and II of the project has been certified, only Phase I project has been designed in detail and funding sources secured. Phase I is currently under construction.

5.3.2 Potential Conjunctive Use Projects

Conjunctive use is the coordinated operation of surface water storage and use, groundwater storage and use, and conveyance facilities to meet water management needs. This recognizes that there is a hydrologic connection between the surface water resource and the groundwater resource. (DWR, 2006) In the Management Area, conjunctive use helps utilize available subsurface storage along with seasonally available water (imports and local surface water) or

recycled water. Methods currently being considered include direct recharge and in-lieu recharge.

As part of the basin planning process, the TC identified and selected seven potential direct recharge sites and two potential in-lieu recharge projects for further evaluation and prioritization out of a pool of 15 direct recharge sites and two in-lieu projects initially considered. Further information is provided in Hemet/San Jacinto Basin Assessment – Basin Assessment Report/Integrated Water Management Plan, Technical Memorandum No. 2, Analysis of Impacts of Conjunctive Use Projects (WRIME, January 2004).

The recharge sites were selected based on screening criteria that included:

- General site characteristics (size, recharge needs, ownership, etc.),
- Hydrogeologic suitability,
- Sub-basin interaction,
- Engineering suitability,
- Land use suitability, and
- Environmental impacts.

The seven potential direct-recharge sites and two in-lieu projects are shown on Figure 5.9. In general, the direct recharge sites would utilize imported water, surface water, or recycled water to recharge the groundwater through surface spreading; the in-lieu projects (Upper Pressure In-Lieu Project and Hemet-Simpson CU Area) were designed to reduce the amount of groundwater production by delivering imported water, from either the Colorado River or the State Project, to be used in conjunction and coordination with local groundwater.

A preliminary description of the recharge sites is presented based on information from Hemet, San Jacinto, LHMWD, and EMWD along with brief review of available reports. Table 6.1 summarizes the findings for the nine potential projects. All findings are tentative planning-level data and should not be used in any intensive analysis without further research.

Table 5.1. Summary of Selected Conjunctive Use Site Conditions

Site	Project Type	Water Source	Annual Water Availability	Soils Infiltration Rates	Approximate Depth to Water (ft)	Potential Constraints
Buena Vista	Recharge	runoff, recycled, or imports	600 AF	N/A	200 - 250	groundwater quality
Fairview	Recharge	river diversion	N/A	High	210 - 240	Kangaroo Rat, Water Rights
Cienga	Recharge	river diversion	N/A	High	210 - 240	Kangaroo Rat, Water Rights
Bautista along Florida	Recharge	irrigation water, Bautista Creek diversion, imports	N/A	Moderate	N/A	N/A
Salt Creek between Lyon and State Street	Recharge	Salt Creek diversion/runoff,	1,000 AF	Moderate	200 - 250	N/A
Little Valley	Recharge	runoff, LHMWD flume, or imports	N/A	High and variable	85	potential archaelogical sites, shallow bedrock
Bautista Flood Control	Recharge	surface runoff/ river diversion	N/A	N/A	180 - 210	No Proponent
Upper Pressure In-Lieu Project	In-Lieu	imports (Colorado River)	N/A	N/A	N/A	must gain agreements between many parties
Hemet-Simpson CU Area	In-Lieu	imports (State Project and Colorado River)	N/A	N/A	N/A	must gain agreements between many parties

Note: all values are approximations and subject to change
N/A = Not Available

The identification of the potential sites allows for the concentration of future work on these sites. The future work includes:

- Evaluation of the general site conditions;
- Evaluation of water supply availability and reliability;
- Preparation of environmental checklist; and
- Evaluation of the effectiveness of the projects in meeting the goals and objectives of the Management Area.

A more detailed description of each site is provided below.

5.3.3 Direct Recharge Projects

Direct recharge projects involve utilizing available imported, surface, or recycled water to a constructed basin for percolation to groundwater. Successful project require a site with high permeability to allow for water to quickly percolate to groundwater; compatible nearby land uses; an available and accessible water supply; and the ability to either recapture water or allow the water to raise groundwater levels. The Plan supports the use of quality direct recharge projects.

5.3.3.1 Buena Vista Flood Control Basin

The existing Buena Vista flood control basin has been identified as a potential recharge project site. Buena Vista basin, located at the end of Buena Vista Street north of Esplanade, is located in Upper Pressure Management Zone and is owned and operated by Riverside County Flood Control and Water Conservation District (RCFCWCD).

The site would initially use storm water for recharge purposes. Recharge water would be conveyed to the site from the 2,700-acre drainage area by existing drainage facilities that are owned by RCFCWCD. It is estimated that approximately 600 AF of water could be delivered to the basin via runoff, with a first flush volume of approximately 20 AF. Surface water quality is good, with some elevated levels of oil and grease, suspended residues, and iron, based on testing in 1993 (Singh, 1992). The basin can be enlarged through excavation to provide an additional 36 AF of storage volume, approximately equal to the average storm event runoff.

There is an existing EMWD raw water pipeline that runs nearby along Oakwood Street. This pipeline could potentially be used to supply the project with recycled or imported water (if supplies were to be available) in the future, although it would require the construction of an approximately 4,000-foot pipeline to connect to the basin.

The following items should be considered before moving forward with this project:

- Availability of the site for use and coordination with flood control needs;
- Surface water quality;
- Water infiltration potential;
- Availability of imported water to augment surface runoff;
- Subsurface conditions; and
- The clogging potential of surface soils with local runoff.

5.3.3.2 Cienega and Fairview

The Cienega and Fairview sites are adjacent, thus conditions are essentially the same and described together. Preference between the two sites would be based on political, engineering, environmental, and operational factors.

The Cienega and Fairview sites are located in Canyon Management Zone. Fairview was first used in the early 1990s by LHMWD. LHMWD cut basins near the riverbed and placed a diversion dam in the river. Water was diverted into the basins during the rainy season, typically the 1st quarter of the year. Future use of Fairview, potentially by LHMWD and/or EMWD, would likely involve an expansion of the basin area. Water would be supplied from

the river during periods of increased flow, typically January through March. Imported water could also be used if water becomes available and infrastructure could be built. Infiltration rates are considered high based on monitoring well responses during LHMWD's use, a study by EMWD at the Cienega blowoff pond, and the prevalence of coarse-sand riverbed deposits.

Potential problems for development of the project include San Bernadino Kangaroo Rat habitat and water rights.

5.3.3.3 Bautista along Florida

Bautista along Florida is located along the boundary between Upper Pressure and Canyon Management Zones. There is an existing recharge site located along Bautista Creek. The creek was placed in a concrete channel in the 1970s and 1980s, reducing recharge to the aquifer system. The current recharge facility was installed in the 1960s and consists of 3 ponds located along the creek. The three ponds cover approximately 15–20 acres. Future use of the site could include increasing the pond area through expansion to the north and increasing the supply of water to the ponds. Water for the existing project is provided by a turnout that captures agricultural runoff from Bautista Creek. In general, creek water is not diverted into the ponds. Currently, approximately 200-300 AF/yr is recharged. Future recharge activities could take advantage of the nearby imported (State Project Water) raw water line on Cedar Avenue. Percolation rates at the site are considered reasonable based on casual observations.

5.3.3.4 Salt Creek between Lyon and State Street

Two potential sites are identified along Salt Creek for a recharge project. One site, State Street Basin, is at the State Street crossing of Salt Creek; a second site, Lyon Basin, is downstream of State Street, near Lyon Avenue. Both sites are located in Hemet South Management Zone. Lyon Basin is the preferred location and is planned to be approximately 40 acres in size and approximately 5 feet deep, resulting in a maximum storage volume of 200 AF. The volume of the State Street Basin would likely be similar to that of Lyon Basin. Both sites would initially use storm runoff for recharge purposes. Recharge water to both sites would be conveyed to the site via Salt Creek. It is estimated that 5 storm events per year could each fill the Lyon Basin, resulting in delivery of approximately 1000 AF/year for recharge. Anticipated future development of the watershed will likely increase the amount of available runoff. The State Street site would likely have slightly lower volumes due to its upstream location. Due to limited upstream development, water quality is anticipated to be good.

5.3.3.5 Little Valley

Little Valley is located in Hemet South Management Zone. Previously a pilot project, water was supplied over 2 or 3 years via a LHMWD flume to the area. Water for the recharge basin would be provided by local surface runoff, the LHMWD flume, or from imported water. Infiltration testing in the past has shown rates between 0.6 and 1.4 feet/day in the central part of the valley and 2.0 and 4.6 ft/day in the eastern part of the valley (Rees, 1994).

The following items should be considered before moving forward with this project:

- Potential environmental constraints including possible archeological sites; and
- Shallow depth to bedrock may limit the amount and rate of recharge at the site.

5.3.3.6 Bautista Flood Control Ponds

Bautista Flood Control Ponds are located in Upper Pressure Management Zone, very close to the boundary with Hemet South.

Existing ponds are owned and operated by RCFCWCD and are comprised of a debris dam that creates the 49 acre pond. Future use of the site, apart from continued flood control, would likely be for water harvesting.

5.3.4 In-Lieu Projects

In-lieu recharge projects involve reducing the usage of groundwater and substituting it with available imported, surface, or recycled water. Successful project requires water users whose needs coincide with the availability of the alternate water supply and an available and accessible water supply. The Plan supports the use of quality direct recharge projects.

5.3.4.1 Raw Water In-Lieu Projects

Raw imported water is available from MWD and provides opportunities for in-lieu recharge projects for agricultural users or landscape irrigation. Raw water is available from the State Water Project via EM-14 and from the Colorado River Aqueduct via EM-1. Proximity to these connections is an important factor for keeping costs low for in-lieu projects. One hurdle for such projects is that the period when there is the most availability of raw water, winter, coincides with the period of lowest demand for most agricultural users. Another hurdle is the need for blending of the raw water with higher quality groundwater supplies to meet the needs of some of the more sensitive users, such as dairies.

5.3.4.2 Recycled Water In-Lieu Projects

Recycled water is a reliable source of water year round and offers an opportunity for in-lieu use. Public perception generally limits the usage of recycled water to agricultural and landscape irrigation uses. The nearest source of recycled water is the Hemet/San Jacinto Regional Water Reclamation Facility. Proximity to this source is an important factor for keeping costs low for in-lieu projects.

One project already in planning stages would deliver between 3,500 and 8,000 AFY of recycled water to Rancho Casa Loma and Scott Brothers Dairy, both located roughly between Ramona Expressway and Gilman Springs Road and between Sanderson Avenue and Bridge Street in the northwestern-most portion of the Upper Pressure and Hemet North Management Zones. The delivered recycled water would coincide with a equivalent reduction in groundwater pumping by Rancho Casa Loma and Scott Brothers Dairy. Details of the project include construction of approximately 13,000 linear feet of 24-inch pipeline, installation of a booster pump station, and acquisition of property in fee title and easement. Project costs would be split between the Public Agencies based on the pro-rata share of proposed production rights. Agreements with Rancho Casa Loma and Scott Brothers Dairy would set limits on groundwater production and provide for payment of a portion of O&M costs.

5.3.4.3 Hemet-Simpson Conjunctive Use project

Currently MWD delivers treated water from Colorado River and State Water Project to its wholesale customers using the Skinner Water Treatment Plant. Although the Skinner plant is at full capacity, during wet years there appear to be excess water available from the plant for other potential wholesale customers.

The Simpson pump station plant is currently capable of pumping water to both west and east valley. The treated water available from Skinner plant would be used by customers such as the City of Hemet, in lieu of groundwater pumping. Simpson has a capacity of approximately 14.5 cfs.

The following issues and constraints should be evaluated for this project:

1. Quantity and timing of water available from Skinner Plant;
2. Quality of Skinner Plant water in relation to the groundwater quality used by customers such as City of Hemet, and any blending issues;
3. Usage of chlorinated water from Skinner Plant versus well water that does not contain chlorine;

4. Transmission pipeline from Skinner line to Simpson Plant and from Simpson to local distribution system;
5. Connections to the local distribution system and its impacts on the distribution system pressure zones; and
6. Cost of MWD water and cost distribution of such delivery.

5.3.4.4 Hemet Water Filtration Plant

Availability of treated imported water for distribution, in-lieu of groundwater production has become a significant source in reducing stress on the groundwater system. One of the limiting factors in the substitution of imported water for groundwater is the ability to treat the imported water, which requires more treatment than groundwater. To allow for increased usage of imported water, EMWD is building the 10 mgd (11,000 AFY) Hemet Water Filtration Plant near the intersection of Commonwealth Avenue and Kirby Street in Hemet. The plant will initially utilize Colorado River water, but future pipelines are planned to connect the plant to State Water Project supplies as well.

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SECTION 6 GROUNDWATER RIGHTS

The purpose of this Section is to document the background and settings in establishing the groundwater production rights for each agency. The Base Production Rights (BPR) and the method for determining Adjusted Production Rights (APR) have been established in a collaborative manner among the agencies, and have been the basis for distribution of cost in a number of occasions during the development of the Plan.

6.1 PUBLIC AGENCIES BASE PRODUCTION RIGHTS

6.1.1 GENERAL

Together, the Public Agencies agreed upon some basic principles as a basis for allocating BPR. The base period for documenting actual pumping was determined to be calendar years 1995 through 1999. This period was selected as the most recent five-year period of available pumping records. It was also recognized that, as a result of various operational activities of the public Agencies, several adjustments would need to be made to the raw pumping data for 1995-1999. It was ultimately agreed to finalize all appropriate adjustments and to make one comprehensive adjustment to each agency's raw 1995-1999 recorded pumping.

The operational activities that impacted groundwater resources, and therefore were used to make appropriate adjustments to raw 1995-1999 pumping data, include:

- Recharge Activities;
- MWD San Jacinto Tunnel Seepage;
- Fruitvale Entitlement Water Sold by EMWD to LHMWD, Hemet and San Jacinto;
- Stream Diversions;
- Conveyance Water Deliveries; and
- Other Considerations.

The Fruitvale Entitlement allocation amount was determined to be a total of 597 acre-feet for LHMWD, and Cities of Hemet and San Jacinto. The Tunnel Seepage allocation amount was determined to be 1,800 acre-feet per year, and the stream diversions were determined to be 3,635 acre-feet per year for pro-ration to the four agencies. The Public Agencies have, therefore, been assigned the following pro-rata shares of Base Production Rights:

Public Agency	Base Production Rights (AFY)	Base Production Rights (Percent)
EMWD	10,869	33.7
LHMWD	11,063	34.2
City of Hemet	6,320	19.6
City of San Jacinto	4,031	12.5
Total	32,283	100

The details of the Public Agencies Base Production Rights, with their corresponding adjustments, are described below:

6.1.2 EMWD Base Production Rights

For EMWD, the 1995-1999 actual average annual pumping was determined to be 15,166 acre-feet per year. After consideration of all appropriate adjustments, it was determined that EMWD's Base Production Rights would include a deduction of 2,497 acre-feet for conveyance water and an additional net deduction of 1,800 acre-feet for other operational activities, including tunnel seepage, export, and Fruitvale Entitlement water sales. Therefore, EMWD's Base Production Right was set at 10,869 acre-feet per year.

6.1.3 LHMWD Base Production Rights

For LHMWD, the 1995-1999 actual average annual pumping was determined to be 11,063 acre-feet per year. Since there were no additional adjustments to be considered for LHMWD, the BPR for LHMWD is set to 11,063 AFY.

6.1.4 City of Hemet Base Production Rights

For Hemet, the 1995-1999 actual average annual pumping was determined to be 5,420 acre-feet per year. After consideration of all appropriate adjustments, it was determined that LHMWD's Base Production Rights would include the addition of a total 900 acre-feet per year additional pumping right to account for Fruitvale Entitlement water sales, tunnel seepage credit, and surface diversion water. Therefore, Hemet's Base Production Rights were set at 6,320 acre-feet per year.

6.1.5 City of San Jacinto Base Production Rights

For San Jacinto, the 1995-1999 actual average annual pumping was determined to be 2,631 acre-feet per year. However, review of San Jacinto's historic pumping showed the 1995-1999 base period was not as representative as other historic pumping periods. Therefore, it was

determined that San Jacinto should receive an additional 500 acre-feet per year of pumping rights for a new total of 3,131 acre-feet per year. In addition, after consideration of all other appropriate adjustments, it was determined that San Jacinto's Base Production Rights would include the addition of a total 900 acre-feet per year additional pumping right to account for Fruitvale Entitlement water sales, tunnel seepage credit and surface diversion water. Therefore, San Jacinto's Base Production Rights were set at 4,031 acre-feet per year.

6.2 PRIVATE PUMPER PRODUCTION RIGHTS

6.2.1 GENERAL

Development of the Hemet-San Jacinto Water Management Plan recognizes the rights of the overlying pumpers to pump and beneficially use needed groundwater. The overlying pumpers within the management area include Private Water Producers (and the Soboba Band of Luiseño Indians, discussed later). In recognition of the Private Water Producers' overlying rights, the management plan does not adversely impact or affect these rights and uses that are consistent with historical uses.

The Plan provides for Private Water Producers to be Non-participants, Class A Participants, or Class B Participants. For Non-participants, the pumper(s) may elect to not participate and/or not acknowledge the Plan's existence. Non-participants are free to continue their past practices of pumping groundwater for beneficial uses according to state law. Non-participants are also excluded from future participation in the Plan. Class A and Class B Participants are described below.

6.2.2 CLASS A PRODUCTION RIGHTS

Class A Participants to the Plan have agreed to cooperate with the administrative and pumping accounting portions of the Plan. While Historic pumping and beneficial uses may continue, the Class A Participants pumping facilities are subject to metering, testing, and water level and water quality sampling at no cost to the owner. This information is valuable to successful implementation of the Plan. Class A participants are eligible to convert to Class B Participants during the first three (3) years of formal Plan implementation (Entry of the Judgment), with the payment of all past assessments (without interest) that would have been incurred as a Class B Participant.

6.2.3 CLASS B PRODUCTION RIGHTS

Class B Participants become participants to the Plan on the same pumping management terms as the water agencies. The annual Base Production Right shall be determined based upon documented pumping during the 1995-1999 base period for beneficial use. The Class B Participant is subject to Replenishment Water Assessments for pumping in excess of the individual Base Production Right. Class B Production Rights are not subject to Administrative Assessments or subject to potential annual adjustment for management purposes. Class B Participants may sell or lease unused groundwater to the Watermaster or one of the Public Agencies, and the Class B Production Rights are transferable to the appropriate public water agency (with appropriate adjustments), upon conversion of land from agricultural use to a use requiring water services by that public water agency. Class B Participants to the Plan have also agreed to participate in the administration and pumping accounting portion of the Plan, at no cost to the owner.

6.3 SOBOBA TRIBE WATER RIGHTS

Section 8 of this document provides a detailed description of the Soboba Indian Tribe water rights.

SECTION 7 SURFACE WATER RIGHTS

This Section provides a description of the surface water rights and licenses held by Lake Hemet MWD and Eastern MWD. The contents of this Section are provided for general information and documentation of the surface water rights only; such rights are not affected by the Stipulated Judgment or this Plan.

7.1 LHMWD'S DIVERSION RIGHTS

Lake Hemet Municipal Water District ("Lake Hemet") holds pre-1914 rights to divert and store water in Lake Hemet, and to divert water from Strawberry Creek, and from the North and South Forks of the San Jacinto River. These rights have been acquired as successor in interest to rights established by the Fairview Land and Water Company, the Lake Hemet Company, the Lake Hemet Water Company, the Florida Water Company, Charles Thomas, H. M. Johnston, E. L. Mayberry, W. F. Whittier, William B. and Mary Webster, and others.

7.1.1 LAKE HEMET

Construction of Lake Hemet Dam began in 1889 and was completed in 1895. The reservoir is located in Townships T6S, R3E, Sections 7 and 8. Water rights for the diversion and storage of water are based on actual use and upon at least these Notices of Appropriation filed on November 18, 1884 in Book 1 of Water Claims, page 38; on January 19, 1885 in Book 1 of Water Claims, page 47; on December 23, 1885 in Book 1 of Water Claims, page 115; on April 7, 1886 in Book 1 of Water Claims, page 134, and on October 18, 1890 in Book 2 of Water Claims, page 61. The reservoir impounds water from Hurkey and South Fork Creeks, and has a capacity of 12,775 acre-feet. Releases from the reservoir are discharged into the South Fork of the San Jacinto River.

7.1.2 SOUTH FORK OF THE SAN JACINTO RIVER

This diversion site is located about a quarter of a mile upstream from the confluence with Strawberry Creek. A wooden diversion dam was originally constructed in 1888, but later replaced with a concrete diversion dam, taking water through a tunnel on the right bank of the stream and into a 30-inch pipeline. Water rights are based on actual use and upon at least these Notices of Appropriation filed on June 6, 1885 in Book 1 of Water Claims, page 61; on August 11, 1886 in Book 1 of Water Claims, page 160; and on the Judgment entered

November 24, 1894 in the case of Florida Water Company v. Mary Webster, et al., No. 169, Riverside Superior Court.

7.1.3 North Fork of the San Jacinto River

This diversion site is now located on the North Fork of the San Jacinto River near the "Falls" in Section 17, T5S, R2E. The original facilities consisted of a small rock dam and a 10-inch sheet iron pipe constructed in about 1887. Current facilities, constructed in 1969-1970, consist of a concrete diversion dam, concrete intake and control structure, and 24-inch steel pipeline. Water rights are based on actual use and upon at least these Notices of Appropriation filed on September 14, 1886 in Book 1 of Water Claims, page 173; on May 19, 1897 in Book 1 of Water Claims, page 159; and on the Judgment described above.

7.1.4 Strawberry Creek

The District's diversion site on Strawberry Creek is located in Section 28, T5S, R2E, about 1300 feet upstream of its confluence with the South Fork of the San Jacinto River. Original construction of a concrete diversion dam and flume, carrying the water over the South Fork and into the main water line, occurred in about 1905. Current facilities consist of a concrete diversion dam, intake structure, and 28-inch pipeline. Water rights are based upon actual use and at least on these Notices of Appropriation filed on January 27, 1885 in Book 1 of Water Claims, page 49; on August 11, 1886 in Book 1 of Water Claims, page 160; and on deeds recorded July 24, 1885 in Book 51, page 145; on August 25, 1886 in Book 64, page 223; on February 21, 1887 in Book 73, page 235; on April 21, 1887 in Book 79, page 264; on April 27, 1887 in Book 79, page 266; and on the Judgment described above.

7.2 EMWD'S DIVERSION RIGHTS

EMWD holds a license to divert water from the San Jacinto River (see Appendix G). EMWD currently does not divert surface water for direct use, but recharges the water, when available, into the aquifer to augment groundwater supplies. Thus, the diversion is not directly part of their water supply. However, as it plays an indirect role in the groundwater resource, information on these diversions is presented here.

EMWD's recharge of surface water from the San Jacinto River to the Canyon management zone takes place at EMWD's Grant Street Ponds in the Valle Vista area. An application for a permit to appropriate water from the San Jacinto River and Indian Creek, Application 924, was filed on February 14, 1918 by the Citizens Water Company. Permit 468 was subsequently approved on August 15, 1918. On November 23, 1920, the filing was assigned to the Fruitvale Mutual Water

Company as the successor-in-interest to the Citizens Water Company. Upon its 1971 acquisition of the Fruitvale Mutual Water Company, EMWD became the successor-in-interest to the filing.

Based on Application 924, Permit 468, the State Water Resources Control Board issued License No. 10667 for Diversion and Use of Water to EMWD on June 8, 1976. This license, still held by EMWD, allows for the diversion, underground storage by spreading, and subsequent extraction and beneficial use of 5,760 acre feet per year of San Jacinto River water to be collected from November 1 of each year to June 30 of the succeeding year at a rate of 41 cfs (cubic feet per second). Additionally, the rate of diversion may be increased to a maximum of 100 cfs provided that the total quantity in any 30-day period does not exceed 2,442 acre feet.

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SECTION 8 SOBOBA TRIBE SETTLEMENT REQUIREMENTS

8.1 ORIGINAL SOBOBA CLAIM

In 1995 the Soboba Tribe filed claims against EMWD and LHMWD for an alleged infringement of their water rights, and for damages in the sum of $70 million related to the alleged historical interference with the Tribe's rights and the unauthorized use of its water. EMWD and LHMWD denied any such interference or wrongful use of Tribal water, but agreed to negotiations to determine the water rights of the Tribe.

8.1.1 EARLY NEGOTIATIONS

Negotiations with the Tribe began in 1995 and in time involved the active participation of the United States.

8.1.2 UNITED STATES SETTLEMENT PROPOSAL

In 1998, the United States proposed a settlement whereby the Tribal Water Right would be determined to be 9,000 AFY, and the Federal government would provide a supply of 7,500AFY. Subsequently this proposal proved not to be feasible.

8.1.3 TRIBAL CLAIM AGAINST MWD

In 2000 the Metropolitan Water District of Southern California (MWD) was brought into the dispute when the Tribe filed suit against MWD in the U.S. District Court in Los Angeles, Case No. 00-04208 (GAF) (MANx) ("Los Angeles case"). The complaint alleged that the MWD tunnel drilled through Mt. San Jacinto in the 1930's had dried up springs on the Reservation and otherwise interfered with the Tribe's water supply.

8.1.4 MWD'S CROSS COMPLAINT

MWD brought EMWD into the Los Angeles action based upon an indemnity agreement signed by EMWD when the District was annexed to MWD, and in return for seepage water that continued to flow into the San Jacinto tunnel.

8.1.5 Final Negotiations

After lengthy negotiations among the Tribe, United States, EMWD, LHMWD and MWD, the parties reached a Settlement Agreement in 2004, subject to approval of Congress.

8.1.6 Status of Congressional Approval

The Settlement Agreement has not yet been approved by Congress, and it expires if such approval is not obtained by December 31, 2007.

8.2 FRAMEWORK OF THE SETTLEMENT AGREEMENT

The Settlement Agreement determines the water rights of the Tribe, and settles all claims among the parties, including those made in the Los Angeles case. The Settlement Agreement will be incorporated into a Stipulated Judgment in the Los Angeles case, and made subject to the continuing jurisdiction of the Court.

8.3 TRIBAL WATER RIGHT

Under the Settlement Agreement, the Tribe has a prior and paramount right, superior to all others, to pump 9,000 acre-feet annually from the Canyon Sub-basin and the Intake portion of the Upper Pressure Sub-basin for any use on the Reservation, and on lands now owned or hereafter acquired by the Tribe contiguous to the Reservation or within the Management Area. The Tribe's right is subject to an agreement to limit its pumping according to a yearly schedule, with a maximum of 4,100 acre-feet per year, for 50 years after the effective date of the Settlement Agreement.

8.4 PAYMENTS TO THE TRIBE

The United States agrees to pay $11 million to the Tribe, and EMWD and LHMWD are obligated to pay $17 million to the Tribe.

8.5 FUNDS RECEIVED BY THE LOCAL AGENCIES

The United States agrees to contribute to EMWD, on behalf of the participants in this Water Management Plan, the sum of $10 million for construction and operation of recharge facilities to accommodate deliveries of Imported Water.

8.6 IMPORTED WATER

MWD agrees to provide an average supply of 7,500 acre-feet per year of Imported Water to recharge the Management Area, at untreated replenishment rates, until 2035, and to negotiate in good faith for an extension of the supply for a total of 50 years after the effective date of the Settlement Agreement.

8.6.1 MWD STORAGE RIGHT

The local agencies are obligated to provide groundwater recharge facilities to accommodate a flow rate of 42 cfs and to store up to 40,000 acre feet of Imported Water.

8.6.2 USE OF MWD SUPPLY

The supply of Imported Water provided by MWD is to supply water for the Tribe, and to reduce overdraft. Water not used by the Tribe is available for use by the participants in the Water Management Plan, pursuant to the terms hereof.

8.7 WATER QUALITY REQUIREMENTS

The Settlement Agreement provides that all water recharged shall conform to all applicable State water quality regulations and recharge in the Canyon Sub-basin and shall not exceed Federal or State primary or secondary drinking water quality standards (except for turbidity, color or coliform bacteria), nor 0.3 mg/l boron, or 0.05 mg/l lithium.

8.8 PROPERTY TRANSFERS

EMWD shall convey to the Tribe approximately 106 acres of land at Domenigoni Parkway and Highway 79. MWD shall convey to the Tribe approximately 21.7 acres of land. LHMWD shall make available for environmental mitigation purposes approximately 12 acres in the San Jacinto River bed. The Tribe shall make available up to 98 acres of land for habitat preservation and/or environmental mitigation in connection with the recharge facilities.

8.9 APPROVAL OF WATER MANAGEMENT PLAN

The Settlement Agreement provides that EMWD and LHMWD, with the cooperation of other groundwater producers, shall develop and implement a Water Management Plan for the

Management Area that will address the current overdraft, and recognize and take into account the Tribal Water Right. This Plan is intended to meet such requirements of the Settlement Agreement, and is subject to the approval of the Soboba Tribe and the United States. No implementation or subsequent modification of this Plan shall threaten or adversely affect the rights of the Tribe under the Settlement Agreement, and the Tribe and the United States shall have the right under the continuing jurisdiction of the Court in the Los Angeles case to litigate any such issue.

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SECTION 9 INSTITUTIONAL PLAN

9.1 PURPOSE

The purpose of the Watermaster is to implement the Water Management Plan (WMP) as embodied in the Stipulated Judgment (JUDGMENT) in [case name citation]; said implementation may be by Watermaster actions alone, actions undertaken through or in conjunction with one or more Public Agency Members or through a joint powers authority composed of some or all of its Public Agency Members.

9.2 WATERMASTER

9.2.1 COMPOSITION

The Watermaster Governing Board will consist of one (1) elected official representing each of the Public Agencies, namely, Eastern Municipal Water District (EMWD), Lake Hemet Municipal Water District (LHMWD), and the Cities of Hemet and San Jacinto (collectively, Public Agencies), and one (1) representative selected by the Class A and Class B private groundwater producers (Private Water Producers).

9.2.2 TERMS OF OFFICE

Each member of the Watermaster shall serve until replaced by the Public Agency or Private Water Producers that made the original appointment.

9.2.3 REMOVAL AND REPLACEMENT

Any Watermaster member may be removed and replaced by the same procedure used in his or her appointment.

9.2.4 VOTING

Each member of the Watermaster shall have one (1) vote. All actions by the Watermaster shall require three (3) affirmative votes, except actions in the following matters that shall require four (4) affirmative votes:

- Any change sought in the form of governance;

- Any change in voting requirements;
- Establishing, levying, increasing or decreasing all assessment amounts;
- Determining the extent of overdraft and quantifying safe yield;
- Determining Adjusted Production Rights;
- Decisions regarding the financing of supplemental water or facilities, other than any financing provisions included in the Judgment;
- Decisions regarding ownership of facilities, other than ownership of the Phase I facilities (described in Section ____), which facilities shall be owned by EMWD, subject to a right of use by those parties participating in the financing thereof;
- Policies for the management of the Management Area;
- Any decision that involves a substantial commitment by the Watermaster, including any contracts for conserved water;
- Retaining the services of legal counsel or Advisor; and
- Adoption or amendment of an annual budget.

9.3 RULES AND REGULATIONS

The Watermaster may make such rules and regulations as may be necessary for the implementation of the Water Management Plan and Judgment, and for its own operations and procedures, subject to Court approval.

9.4 MEETINGS

The meetings of the Watermaster and standing committees will be subject to those provisions of the California Government Code known as the Brown Act (also popularly known as the Open Meeting Laws).

9.5 WATERMASTER ORGANIZATION

In carrying out its development and implementation responsibilities, Watermaster may hire full-time or part-time staff personnel, such as managers, engineers, attorneys, hydrologists, geologists, accountants, operators, secretaries, clerical or others, may retain outside consultants on a full-time, part-time, or as-needed basis, and may contract with other agencies to perform some or all of the development and implementation tasks.

The Watermaster shall retain the services of an independent attorney or law firm to act as Watermaster's legal counsel.

Watermaster shall retain the services of a qualified independent individual or engineering firm with appropriate experience in hydrology to serve as Advisor to the Watermaster. The Advisor shall assist the Watermaster in the performance of Watermaster's responsibilities as follows:

- Provide advice to the Watermaster on all matters within the authority and jurisdiction of the Watermaster;
- Provide recommendations for action to the Watermaster on all matters within the authority and jurisdiction of the Watermaster;
- Evaluate proposals for projects and/or recommendations for action received from members of the Watermaster regarding matters within the authority and jurisdiction of the Watermaster;
- Propose and/or evaluate contracts and other agreements to be entered into by the Watermaster necessary to the performance of its responsibilities;
- To administer all contracts and agreements entered into by the Watermaster;
- Assist the Watermaster in evaluating and analyzing data, the collection of which is required under the Judgment and/or Water Management Plan;
- Coordinate the evaluation and analyses of data, proposals, projects, and recommendations by the Technical Advisory Committee with members of the Watermaster and other consultants of the Watermaster;
- Serve as the Chairman of the Technical Advisory Committee; and
- Perform such other services, and take such actions, as may be approved by the Watermaster, that are necessary to implement and execute the directions and policies of the Watermaster.

The Watermaster retains the authority to assign or contract the performance of any task or function necessary to consider or perform any matter within the authority and jurisdiction of the Watermaster to any member of the Watermaster, the Technical Advisory Committee, or any other independent engineering firm or qualified individual. Such assignment or contract shall be coordinated and administered by the Advisor.

As used herein, the term independent means that Consultant's or Advisor's representation of the Watermaster does not create any actual or potential conflict of interest between the Consultant or Advisor and any other member entity under applicable California statute, regulation, or court decision, or under the common law. Nothing in this definition shall prohibit the Watermaster and affected entity, after appropriate vote, from waiving such conflict in writing.

9.6 GENERAL DUTIES

The general duties of the Watermaster in order to implement the Judgment fall into three categories, as follows:

9.6.1 POLICY

The Watermaster is responsible for the administration of the Judgment and for the development of policies necessary to carry out the implementation of the Water Management Plan, and for additions and modifications thereof.

9.6.2 WATER MANAGEMENT PLAN IMPLEMENTATION

The Watermaster shall implement a water management plan; its responsibilities in that regard include the following:

- Calculating and making determinations regarding the following: (i) safe yield of the Management Area; (ii) each member's share of safe yield; (iii) necessary reductions in each member's base production rights to ensure production ultimately equals safe yield; (iv) unused storage capacity which may be used for put and take operations of recycled or imported water; and (v) whether replenishment of exported water is accomplished with an appropriate amount of similar or better quality water.
- Approving projects to be undertaken by the Watermaster in collaboration with member entities as proposed by members of the Watermaster or by the Advisor.
- Providing for the recharge of the Management Area. This includes: (i) implementing a replenishment program for the Management Area; (ii) acquisition of supplemental water supplies (imported, recycled, and Soboba Tribe water); and (iii) providing for the construction and operation of all necessary facilities (including surface and sub-surface percolation and injection facilities).
- Determining the amount of, and levying, billing and collecting the administrative and replenishment assessments.
- Budgeting and appropriating funds collected by or on behalf of the Watermaster and paying, or authorizing the payment of, costs and expenses of the Watermaster consistent with the Judgment and Water Management Plan.
- Initiating and performing such planning and study activities as may be necessary to implement the Judgment and Water Management Plan, including, but not limited to, preparation of a Watermaster's Annual Report.

- Initiating necessary conservation and drought management measures, and developing water conservation agreements with the Private Water Producers and/or Soboba Tribe for local conservation measures.
- Identifying and participating in the in-lieu replenishment projects.
- Performing all other tasks and taking all other actions as may be necessary to carry out the purpose and intent of the Judgment and WMP.

9.6.3 TECHNICAL OVERSIGHT

9.6.3.1 Technical Advisory Committee Composition

The Stipulated Judgment provides for the operation of a Technical Advisory Committee (TAC), consisting of representatives named in a written designation by EMWD, LHMWD, the cities of Hemet and San Jacinto, and the Private Water Producers (as one entity). The representative(s) of an entity may be changed by that entity by written notice of the change to the Watermaster.

9.6.3.2 TAC Purpose

The TAC will provide such technical assistance as the Watermaster may request and should make recommendations to the Advisor and to the Watermaster on all matters requiring four votes for Watermaster action as outlined in the Voting section above, and on such other matters as requested by the Watermaster. The TAC members shall also keep their respective City Councils and Boards of Directors of the public agency parties and private pumpers fully informed about the implementation of the WMP.

9.6.3.3 TAC Chairperson

The Advisor will act as the TAC's Chairperson and fulfill all the necessary administrative functions required on behalf of the Technical Committee.

9.6.3.4 TAC Costs

Costs incurred by the individual TAC members are the responsibility of the entity appointing the member, and Watermaster funds cannot be used to cover the costs and expenses incurred as a result of the TAC activities and functions.

9.7 WATERMASTER INTERACTION WITH EMWD

9.7.1 CONTRACT FOR SERVICES

Watermaster will contract with EMWD to provide the following services:

- Collection and maintenance of all production, water level, water quality, and other technical data necessary under or required by the Water Management Plan and the transmittal of such data to the Watermaster, its Advisor and the TAC, as directed by the Watermaster; the foregoing shall not restrict the Watermaster from entering into other agreements with other members of the Watermaster and/or private firms and individuals for the collection of data;
- Obtaining imported water from Metropolitan or other sources as requested by the Watermaster for replenishment or direct delivery; the foregoing shall not restrict the Watermaster's ability to enter into other agreements with other members of the Watermaster and/or private firms and individuals for the purchase and delivery of imported and/or supplemental water;
- Construct and operate the Phase I facilities (existing EMWD facilities, expansions thereof, and newly constructed facilities) in a manner consistent with the Water Management Plan.
- Perform the accounting functions necessary under the Judgment, i.e., the levy, billing and collection of all assessments provided for under the Judgment, the payment of costs and expenses of the Watermaster, and related and required accounting and related functions. All funds collected shall be held in a segregated account. All expenses and disbursements shall be separately accounted for. The foregoing shall not restrict the Watermaster from entering into other agreements with other members of the Watermaster and/or private firms and individuals to perform some or all of the accounting functions.

9.7.2 FINANCIAL RESPONSIBILITIES

EMWD will establish restricted accounts and hold all funds collected on behalf of the Watermaster separate from other EMWD funds. All expenditures, encumbrances, and use of funds from these accounts are subject to Watermaster authorization and will be limited to activities related to the WMP. EMWD will transmit periodic reports regarding its financial activities to the Advisor, including annual reporting summarizing the preceding fiscal year financial activities for the approval of the Advisor and the Watermaster.

SECTION 10 FINANCIAL PLAN

10.1 ANNUAL BUDGET

The Advisor shall prepare an Annual Budget for review, approval and adoption by the Watermaster. This Budget shall identify each public agency member's financial obligations and assessments and a description of budgeted expenditures, including:

- Replenishment water purchase;
- Operation and maintenance;
- Data collection and evaluation;
- Plan implementation administration;
- Project planning and reporting;
- Billing and assessment collection;
- Capital facilities financial obligations; and
- Preparation of an Annual Audit.

10.2 OWNERSHIP OF FACILITIES

Each Public Agency will continue to own its existing capital facilities for water management. However, in some situations, it may be necessary and/or convenient to form a Joint Powers Authority (JPA) to finance and build specific capital facilities. Responsibility for the cost of any existing and future capital facilities of the Management Plan should be apportioned among the Public Agencies based on relative benefit to be derived by each Public Agency.

10.2.1 EXISTING FACILITIES

The existing groundwater recharge facilities in the Management Area are owned by EMWD. The Phase I project which is an upgrade of the existing recharge facilities is defined in Section 3.2.2 of this document, and EMWD will own these upgraded facilities. However, the use of the upgraded facilities and the benefits of the low-cost MWD water deliveries through this system will be shared by all agencies based on the level of construction funding contributions for the Phase I facilities and level of participation in the Soboba Settlement financing (described in Section 9).

10.2.2 Future Projects

Any of the participating Public Agencies may propose water supply projects to the Watermaster for inclusion in the Plan. Such proposals, after evaluation by the Advisor and the TAC, shall be presented to the Watermaster for approval or rejection. If the Watermaster chooses to reject the proposal, the proposing Public Agency may implement the rejected project as long as it does not significantly impact the implementation of the Plan and/or interfere with ongoing groundwater production by the Public Agencies.

10.2.3 Use of Member Agency Assets

It is the intent of the Member Agencies that their respective facilities shall be used in a manner that facilitates the implementation of the Plan, on terms that are equitable to all parties and consistent with each agency's obligations to its customer base.

10.3 ASSESSMENTS

Public agencies participating in the Plan are subject to two different assessments:

- Administrative Assessment; and
- Replenishment Assessment.

The purpose and use of these assessment funds are described in the following two sections:

10.3.1 Administrative Assessments

Administrative Assessments will be levied on each acre-foot pumped by each public agency up to the agency's Adjusted Production Right. These assessments can be used to pay costs associated with:

- Advisor's activities and his/her administrative expenses;
- Billing and assessment collection costs;
- Data collection and evaluation projects;
- Plan implementation administration, including monitoring plan, associated salaries and overhead; and
- Project planning and reporting expenses.

Initially, the Administrative Assessment shall be Fifty Dollars ($50.00) per acre-foot, subject to adjustment by the Watermaster.

At the discretion of the Watermaster, any excess funds not used for the above expenditures at the end of the fiscal year can be used to purchase, deliver, and recharge the groundwater within the Management Area. These recharge waters are above and beyond groundwater replenishment waters purchased using the replenishment assessments, as defined in Section ___, and should not be credited to individual Public Agencies as part of their required replenishment obligations. This shall not prohibit the development of a program or plan to provide credits for water purchased above and beyond that needed to satisfy a party's replenishment obligation.

10.3.2 Replenishment Assessments

Replenishment Assessments will be levied on each acre foot of water pumped in excess of each Public Agency's or Class B Participant's Adjusted Production Right. Replenishment Assessments will be in amounts equal to the cost of importing or acquiring supplemental water to recharge the Management Area. The component costs will include cost of the water (including conveyance and recharge losses, transportation and energy costs, operations and maintenance costs, a reserve for replacement and other administrative costs). These assessments will be levied on a per acre-foot of water in excess of each respective member's adjusted Base Production Rights. The revenue received for the replacement component shall be placed in a separate reserve fund to be used to fund the replacement cost of the existing system. New and/or expanded facilities will be financed from other resources.

10.3.3 Collections and Accounts

All the collected assessments and accounts associated with the Plan will be administered by the EMWD and are subject to the policies set by the Watermaster. All payments made to the Watermaster shall be maintained in a separate restricted account established by EMWD, and all accounts shall be subject to annual independent financial audits.

All revenues and assessments shall be used exclusively to acquire supplemental water for the recharge of the management Area and for the facilities and operational and administrative expenses associated with the Plan. Subject to the Watermaster's approval, funds may also be used to acquire and deliver water for direct use in lieu of pumping.

10.4 PHASE I FACILITIES CONSTRUCTION AND SOBOBA SETTLEMENT FINANCING

10.4.1 EMWD Construction Cost

The initial facilities, Phase I, shall consist of existing EMWD facilities and expansion and additions to be constructed by EMWD at a cost currently estimated at $13.7 million less public grants totaling $5.0 million, for a net cost of $8.7 million. EMWD shall finance the construction of these facilities through a bond issue or cash payment or by combination thereof. Each Public Agency shall be responsible for pro-rata repayment of the bonds through EMWD or reimbursement of EMWD (to the extent EMWD pays cash for said construction) based on that Agency's base production rights allocation percentage, i.e., 34.2% for LHMWD, 33.7% for EMWD, 19.6% for the City of Hemet, and 12.5% for the City of San Jacinto.

10.4.2 Payments to Soboba Tribe

In addition to the financing of the construction of Phase I facilities referred to in Section 11.4.1 above, the Soboba Settlement requires the payment of an additional $17 million to the Soboba Tribe in return for the right to use low cost MWD water delivered for the benefit of the Tribe but which the Tribe does not use and other unused Tribal water. The $17 million will be financed in the same manner as the construction of the initial Phase I facilities, i.e., by bond issue or cash payment by EMWD or a combination thereof. The $17 million obligation will be partially offset by a $10 million contribution by the United States toward the costs of constructing the Phase I facilities. Each Public Agency shall be responsible for pro-rata repayment of the bonds through EMWD or reimbursement of EMWD (for cash payment) based on that Agency's base production rights allocation percentage, as set out in Subparagraph (a) above.

10.4.2.1 Water Cost

The payment described above to the Soboba Tribe for the right to use low-cost MWD water delivered for the benefit of the Tribe but not used by the Tribe does not include the price for the water itself, which must be paid to MWD. Each Public Agency shall contractually agree with EMWD that it will pay MWD's price for such water that it acquires for use to EMWD to enable EMWD to pay MWD.

10.4.3 EMWD Obligation

Agreements between EMWD and each other Public Agency setting forth that Agency's financial commitment as required under Sections 11.4.1 and 11.4.2 (*citation*) above will be required as a condition precedent to EMWD's obligation to finance the facilities construction and the payment to the Tribe so as to establish a dedicated source of revenue for bond repayment or reimbursement, as appropriate. Said agreements shall also provide that, in return for said financial commitment, the Public Agency shall be entitled to (1) share in the capacity of the Phase I facilities (those in existence and those to be constructed) and (2) share in the rights to the MWD water not used by the Tribe and other unused Tribal water, in each case based on the Agency's Base Production Right allocation percentage, as set out in Subparagraph (a) above. Each agreement with EMWD shall provide for the Agency's method of pro-rata repayment of bonds or reimbursement of EMWD, provided, however, that no Agency will be required to do so by cash payment without its consent.

10.4.4 Right to Transfer Entitlement to Use Facilities and/or Entitlement to Share in Rights to Water not Used by Tribe

Each Public Agency shall have the right to sell, lease or otherwise transfer the rights and obligations it holds to use the Phase I facilities described in Section 11.4.1 above and/or to share in the rights to the MWD water not used by the Tribe or other water not used by the Tribe described in Sections 11.4.2 and 11.4.3 above, provided that the transferee thereof shall be bound by said obligations. The foregoing notwithstanding, the Watermaster shall have the right of first refusal regarding any such transfer proposed by a Public Agency.

10.5 FUTURE CAPITAL FACILITIES

Future facilities may be required to meet the growth needs of the Management Area, which may require that a JPA or other financing conduit be formed. In either case, each Public Agency's contribution toward the cost of acquiring the added facilities shall be established by the Watermaster at the time such facilities will be needed. The use of such facilities shall be at the discretion of the Watermaster and be dedicated to replenishment activities. The foregoing shall not affect the right of a public agency to undertake a water supply project pursuant to Section 11.4.2 above.

SECTION 11 IMPLEMENTATION PLAN

This section to include points for implementation of the Plan. These can include topics such as:

1. Why San Jacinto sub-basin will be the focus of recharge using information in Section 4 on Geology and Water Supply systems.
2. What happens in the first 6 years of implementation, using information in Sections on Financial Plan, Soboba Settlement, and Overdraft (Section 4).
3. What general criteria Watermaster will use to determine the use of recycled water and/or explanation of Phase I or development of new projects. This criteria will use information in Section that deals with monitoring, growth needs, etc.
4. How the Watermaster would decide on expansion of the water recycling facilities, and how to coordinate the operation of the facilities with EMWD and other Agencies and Private Water Producers. Also, how to market the additional recycled water available through expansion of the plant.
5. How Watermaster administration will function using the information about the role of the advisor, Stipulated Judgment, and EMWD contract. Publish Annual Reports.
6. How often would the WMP need to be updated.
7. Financial plan implementation, bonds set up, repayment terms, etc.
8. How often would the Safe Yield and overdraft need to be estimated and updated. The TC recommended 3-5 year cycle. Would the updated estimates of the Safe Yield be on a running average cycle (e.g. past 25 years), or would it always be based on "1984-*present*" basis. Need TC's opinion/recommendation on this.
9. How would the Watermaster coordinate the design/expansion and implementation of the monitoring program for GW level, GW quality, and Surface water flows.
10. How would the Watermaster coordinate on development/expansion of database management tools for storage analysis of the data.
11. How would the Watermaster coordinate on development/expansion of the analytical tools (such as hydrologic/groundwater models) for analysis of the data and potential operational scenarios.
12. How the Watermaster would protect the groundwater resources by implementing well abandonment and destruction programs, well-head protection measures, protection of recharge areas, control of migration and remediation of any kind of contamination sources, and control and monitoring of the Management Area salinity level.

We expect that this section will be written up after thorough discussion at the CAM/PC on the items to be included.

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APPENDIX A STIPULATED JUDGMENT

APPENDIX B SOBOBA AGREEMENT

APPENDIX C WATER MANAGEMENT PRINCIPLES

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APPENDIX D MEMORANDA OF UNDERSTANDING

PREPARATION OF WMP

PHASE I FACILITIES

MONITORING PROGRAM

OTHERS ....

APPENDIX E HISTORICAL WATER USAGES

LHMWD SURFACE WATER DIVERSION

EMWD SURFACE WATER DIVERSION

EMWD IMPORTED WATER USAGE

EMWD RECYCLED WATER PRODUCTION

EMWD RECYCLED WATER SALES

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APPENDIX F RECYCLED WATER USAGE

APPENDIX G

EMWD LICENSE FOR SAN JACINTO RIVER DIVERSION

APPENDIX H AVERAGE ANNUAL SOURCES OF WATER SUPPLY

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APPENDIX D

City of San Jacinto's Water Rates

SJ. WATER

RESIDENTIAL & COMMERCIAL METERS

2004/2005

Rate	Meter Size	Flat Rate	Per Unit	0-5 Unit	6-15 Unit	16+ Unit	20+ Unit	21+ Unit
BW	Bulk Water		$ 1.63					
CM	Construction	$ 52.99	$ 1.62					
FS	Fire	$ 12.64						
I1	5/8"			$ 12.64	$ 1.26	$ 1.74		
I2	3/4"			$ 12.64	$ 1.26	$ 1.74		
I3	1"		$ 19.77				$ 1.26	$ 1.74
I4	1 1/2"		$ 37.98				$ 1.26	$ 1.74
I5	2"		$ 56.97				$ 1.26	$ 1.74
I6	3"	$ 60.94	$ 1.34					
I7	4"	$ 104.46	$ 1.34					
I8	6"	$ 189.92	$ 1.34					
I9	8"	$ 275.39	$ 1.34					

Rate	Meter Size	Flat Rate	Per Unit	0-5 Unit	6-15 Unit	16+ Unit	20+ Unit	21+ Unit
O1				$ 12.64	$ 1.26	$ 1.74		
O2				$ 12.64	$ 1.26	$ 1.74		
O3		$ 19.77					$ 1.26	$ 1.74
O4		$ 37.98					$ 1.26	$ 1.74
O5		$ 56.97					$ 1.26	$ 1.74
O6		$ 60.94	$ 1.34					
O7		$ 104.46	$ 1.34					
O8		$ 189.92	$ 1.34					
O9		$ 275.39	$ 1.34					
Energy Surcharge/ per Meter								
	$2.00	per account						

RESOLUTION NO. 2265

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SAN JACINTO, CALIFORNIA, ADJUSTING WATER RATES AND OTHER WATER AND SEWER RELATED FEES

WHEREAS, the water rate structure currently established for subscribers of water through the water system of the City of San Jacinto is contained in Resolution No. 97-18, and

WHEREAS, the City of San Jacinto has caused to be prepared a Master Plan of the City's water service area, which identified capital improvement needs required for both current development and future development; and

WHEREAS, the City Council supported a multi-year water rate increase schedule to keep water rate increases to more manageable increases; and

WHEREAS, the City Council desires to provide quality water at a competitive price to the citizens of the City of San Jacinto.

THEREFORE, IT IS HEREBY RESOLVED that the City Council of the City of San Jacinto adopted the following:

Section 1. That Resolution No. 97-18 is hereby repealed.

Section 2. The City of San Jacinto shall charge and collect from each subscriber to water service amounts according to the following rates:

A. Minimum Rate - A monthly base charge according to the size of the subscriber's meter as follows:

Meter Size	Basic Monthly Charge
5/8"	$9.93
3/4"	$9.93
1"	$15.52
1 ½"	$29.81
2"	$44.72
3"	$47.83
4'	$81.99
6"	$149.07
8"	$216.15
Construction	$41.60

B. Consumption Charge - All customers shall pay the following rates on all water consumed in addition to their monthly base charge:

For meter size 5/8" and 3/4"

500 - 1,500 cf	$0.99 per 100 cf
1,500+ cf	$1.37 per 100 cf

For meter size 1" to 2"

0 - 2,000 cf	$0.99 per 100 cf
2,000+ cf	$1.37 per 100 cf

For meter size larger than 2"

For all water consumed, the charge shall be $1.05 per 100 cf

For Construction Meters

For all water consumed, the charge shall be $1.27 per 100 cf

C. Temporary Meters - A rental fee of $36.00 per month, plus a charge of $2.50 per day, shall be imposed for each temporary meter in addition to a consumption charge of $1.37 per 100 cf of water used during the rental period. Deposits for temporary meters shall be $450.00. Meter relocation fee of $25.00 per move.

D. Fire Meters - The rate shall be the same basic monthly charge depending upon size of meter.

Section 3. The rates established in this resolution shall be effective upon the monthly billing period which commences in July, 2000, billed in August, 2000. All subsequent annual rate increases shall become effective July 1, of each successive year and shall apply to the water consumption in the preceding billing period.

Section 4. All monthly charges and consumption rates shown above shall be increased annually by the following percentages:

2001-02	2002-03	2003-04
+7.5%	+7.5%	+5%
2004-05	**2005-06**	**2006-07**
+5%	+5%	+5%

Section 5. The following are delinquent penalties and special charges:

Deposit	
Single Family Residential	$50.00
Multi-Family Residential	$50.00 per unit
Commercial	$100.00
Deposits to be increased to the equivalent of two months average billing upon any delinquent payment.	
Delinquent Penalty	10% of Total Utility Bill
48 Hour Shut Off Notice	$25.00 Flat fee
Water Reconnect Fee	$50.00 Flat fee
Tampering Fee	$50.00 Flat fee plus actual cost of damages
Water Meter Reinstallation Fee	$50.00 Flat fee
Meter Valve Replacement Fee	$75.00 Flat fee
Emergency Water Turn On Fee (Applies to requests for same day service received after 3:00 P.M.)	$50.00 Flat fee
Emergency Shut Off Fee	$25.00 Flat fee
Collections Charges (Applies to all accounts that are delinquent 30 days or more)	$35.00 Flat fee
Returned Check Charge	$35.00 per check
Special Utility Account Research Fee (Administrative charge for special requests for utility account research beyond the basic billing reports currently generated by the system)	$35 per hour
Meter Installation Charge	Per Ordinance

Currently As Follows:

3/4"	$400.00
1"	$500.00
1-3/4"	$750.00
2"	$1,000.00
4"	$2,000.00

Meter Testing (If requested by consumer) $25.00

Damages to any city property shall be charged actual cost.

APPROVED AND ADOPTED this 6th day of September, 2000, by the following vote:

AYES: Ayres, Good, Carlson Buydos, Conner, and Williams
NOES: None
ABSENT: None
ABSTAIN: None

Patrick A. Williams, Mayor

ATTEST:

Grace Alvarez, City Clerk

CERTIFICATE

STATE OF CALIFORNIA)
COUNTY OF RIVERSIDE)
CITY OF SAN JACINTO)

I hereby certify that the foregoing is a true copy of Resolution No. 2265 duly adopted by the City Council of City of San Jacinto at a regular meeting thereof held the 6th day of September 2000.

WITNESS my hand and official seal of the City of San Jacinto this 6th day of September 2000.

City Clerk

APPENDIX E

2004 Annual Water Quality Report

2004 Annual Water Quality Report

The City of San Jacinto is pleased to provide you with its Annual Water Quality Report, which contains information about the sources and quality of drinking water we deliver to our customers. This includes details about where the City of San Jacinto water originates, what it contains, and how it compares to standards set by regulatory agencies.

In 2004, your drinking water has met all U. S. Environmental Protection Agency (USEPA) and California Department of Health Services Standards (CDHS). The City of San Jacinto's source of water is from three deep wells. These wells are located in the San Jacinto Groundwater Basin. We also purchased water from Eastern Municipal Water District's Fruitvale well system. These connections are used as needed to supplement our wells.

If you have any questions about this report, please contact Aaron Anderson, Water Supervisor, at (951) 487-7381.

INFORMATION ON CITY OF SAN JACINTO WATER QUALITY MONITORING

The City of San Jacinto routinely monitors for contaminants in your drinking water according to USEPA and State Laws CDHS. This table shows the results of our monitoring for the year 2004. Although we have learned through our monitoring and testing that some contaminants have been detected, **the USEPA has determined that your water IS SAFE at these levels.** All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (1-800-426-4791).

The Unregulated Contaminant Monitoring Rule (UCMR) program requires water systems to monitor for 12 currently unregulated chemical contaminants and to provide the monitoring data to the USEPA to determine if these contaminants should be regulated in the future.

If you have questions about this report or would like more information about UCMR or other monitoring reports, please contact Aaron Anderson, Water Supervisor at (951) 487-7381 or aanderson@sanjacintoca.us.

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

DEFINITIONS, ABBREVIATIONS AND NOTES

Public Health Goal (PHG): is the level of a contaminant in drinking water below which there is no known or suspected risk to health. PHGs are set by the California Environmental Protection Agency.

Maximum Contaminant Level Goal (MCLG): is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

Maximum Contaminant Level (MCL): is the highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs): as is economically and technologically feasible. **Secondary MCLs** are set to protect the odor, taste, and appearance of drinking water.

Regulatory Action Level (AL): is the concentration of a contaminant which, when exceeded, triggers treatment or other requirements that a water system must follow.

Primary Drinking Water Standard (PDWS): are MCL's for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

LEAD & COPPER:

In accordance with the Federal Lead and Copper Rule, the City obtained residential water samples for lead and copper testing. The typical source of these contaminants is household plumbing. The City of San Jacinto met both Action Level Standards for these constituents:

	Action Level (AL)	PHG	90th Percentile Value	Sites Exceeding AL/Number of Sites	AL Violations?	Sampling Most Recent	Typical Source of Contaminant
Lead	15	2	ND	0	No	2002	Household Plumbing
Copper	1.3	0.17	0.49	0	No	2002	Household Plumbing

BACTERIOLOGICAL INFORMATION

All City of San Jacinto wells are chlorinated to insure that we are providing the safest water for our customers. All sites are monitored daily to maintain an average system residual of 0.7 mg/L. There were 218 bacteriological samples taken in 2004.

Total Coliform: Coliforms are Bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present.

Fecal coliform and E. coli: Fecal coliforms and E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these waters can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, and people with severely compromised immune systems.

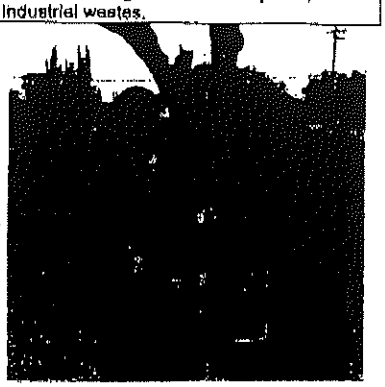
	Number of samples taken---	Number of samples present	Number of samples absent	Highest No. of monthly positive	Total # of Positive Fecal during the year
Coliform Bacteria	218 routine samples	0	218	0	0

IMPORTANT HEALTH INFORMATION

Manganese & Iron: Manganese and Iron were found at levels that exceed the secondary MCL of 50 ppb, for Manganese; and 300 ppb for Iron. The MCL was set to protect you against unpleasant aesthetic affects such as color, taste, odor and the staining of plumbing fixtures (e.g., tubs and sinks), and clothing while washing. The high Manganese & Iron levels are due to leaching of natural deposits. The City operates two groundwater treatment plants for removal of iron and manganese. treatment, the average level of Manganese is 49 ppb and Iron is 74 ppb. Without treatment, the high levels of iron and manganese in the groundwater would exceed the secondary MCL, and could cause unacceptable staining of clothing and fixtures in the home. After treatment, the average level of Manganese is 49 ppb and Iron is 74 ppb.

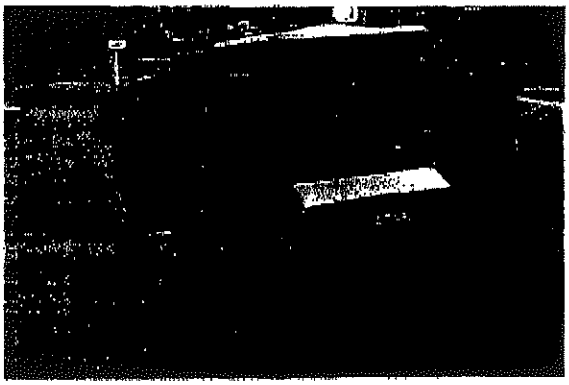
Summary of 2004 Water Quality Results

CONTAMINANT	UNITS	STATE MCL	PHG MCLG	CITY OF SAN JACINTO WELLS RANGE (AVERAGE)	EMWD CONNECTION RANGE (AVERAGE)	VIOLATION	TYPICAL SOURCE OF CONTAMINANT
Gross Alpha Particle Activity	pC/L	15	NS	1.0 – 4.1 (2.2)	0.45 – 7.7 (2.3)	No	Erosion of natural deposits.
Barium	Ppm	1	2	0 – 0.16 (0.09)	ND	No	Discharge of oil drilling wastes and from metal refineries; erosion of natural deposits.
Copper	Ppm	AL=1.3	0.17	ND	0.001-1.01 (0.004)	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Fluoride	Ppm	2	1	0.2-0.4 (0.3)	0.2-0.76 (0.3)	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Nickel	Ppm	100	12	ND	0.01-0.01 (0.01)	No	Erosion of natural deposits; discharge from metal factories.
Nitrate as N03	Ppm	45	45	ND	2.3-11.7 (5.4)	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Chloride	Ppm	500	NS	9-20 (13)	12-17 (14)	No	Runoff/leaching from natural deposits; seawater influence.
Color	Ppm	15	NS	0-15 (7)	0-5 (3)	No	Naturally-occurring organic materials.
Copper	Ppm	1	NS	ND	0.001-0.010 (0.004)	No	Leaching from natural deposits; discharge from mining and industrial waste; leaching from copper pipes.
Iron Treated **	Ppm	0.3	NS	0-0.49 (0.31)	0-0.26 (0.05)	No	Leaching from natural deposits; industrial wastes.
Manganese **	Ppm	0.05	NS	0.05-0.29 (0.15)	0-0.029 (0.026)	No	Leaching from natural deposits.
Odor – Threshold	Units	3	NS	ND	1-1 (1)	No	Naturally-occurring organic materials.
Specific Conductance	umhos/cm	1600	NS	340-430 (380)	321-537 (406)	No	Substances that form ions when in water; seawater influence.
Sulfate	Ppm	500	NS	7-42 (22)	11-99 (45)	No	Runoff/leaching from natural deposits; industrial wastes.
Total Dissolved Solids	Ppm	1000	NS	220-270 (250)	216-428 (286)	No	Runoff/leaching from natural deposits.
Turbidity	NTU	5	NS	0.2-2.1 (1.3)	0-1.6 (0.6)	No	Soil runoff.
Zinc	Ppm	5	NS	ND	0.002-0.006 (0.003)	No	Runoff/leaching from natural deposits; industrial wastes.
		Action Level					
Boron	Ppm	1	NA	0.01-0.05 (0.03)		N/A	
Bicarbonate	Ppm	NS		180 – 220 (193)	138 – 218 (166)	N/A	
Calcium	Ppm	NS		39 – 53 (44)	26 – 78 (46)	N/A	
Hardness	Ppm	NS		110 – 150 (127)	72 – 229 (134)	N/A	
Magnesium	Ppm	NS		3.6 – 5.0 (4.2)	0 – 0.09 (0.03)	N/A	
pH	Ph units	NS		7.1 – 7.7 (7.3)	7.5 – 8.5 (7.8)	N/A	
Potassium	Ppm	NS		2.8 – 3.4 (3.1)	2.1 – 4.2 (3.2)	N/A	
Sodium	Ppm	NS		19 – 35 (28)	18 – 49 (32)	N/A	
Total Alkalinity	Ppm	NS		150 – 160 (160)	119 – 176 (136)	N/A	



UNIT ABBREVIATIONS

NTU	Nephelometric Turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
NS	No Standard.
ND	Laboratory analysis indicates that the constituent is not present.
NA	Not analyzed.
N/A	Not Applicable.
ppm	Parts per million, one part per million corresponds to 1 drop in 10 gallons.
pCi/L	Pico curies per liter is a measure of the radioactivity in water.
Umhos.cm	Standard measurement for Specific Conductance.
pH units	Standard measurement for pH. Measurement of acidity and alkalinity of water.
**	see note, *Important Health Information*



GENERAL INFORMATION

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, that can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.
- In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) and the California Department of Health Services (CDHS) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. CDHS regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the U.S. Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791).

EDUCATIONAL INFORMATION

Groundwater is protected from many infectious organisms, such as the parasite *Cryptosporidium*, by the natural filtration action of water percolating through soils. There is no indication that *Cryptosporidium* has breached this natural soil filter and entered the San Jacinto water supply.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

An assessment of the drinking Water Sources for the City of San Jacinto was completed June 2001. The City of San Jacinto Water Department's wells are not considered vulnerable to any potential activities associated with contaminants detected in the water supply. The wells considered most vulnerable to the following activities not associated with any detected contaminants: Gas Stations, High Density Septic systems (>1/acre). A copy of the complete assessment is available for your review by contacting Aaron Anderson, Water Supervisor, (951) 487-7381

CONTACT INFORMATION

Water Operations Information

City of San Jacinto Water Department
Aaron Anderson, Water Supervisor
270 Bissel Place, San Jacinto, CA. 92582
(951) 487-7381

Public Participation Opportunity

The San Jacinto City Council meets the first and third Thursday of each month in the boardroom of the San Jacinto Unified School District, 2045 S. San Jacinto Avenue, San Jacinto, CA.
A portion of each meeting is devoted to "Communications from the Public," during which time, public comment is accepted.

APPENDIX F

Multi-Hazard Functional Plan

CITY OF SAN JACINTO

MULTI-HAZARD FUNCTIONAL PLAN

1996

Graybar Printing Services

Part One

BASIC PLAN

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1-2 Hazard Mitigation

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1-2-B Hazard Mitigation Addition to the Federal/State Agreement

1-3 Mutual Aid

Attachments:

1-3-A California Disaster and Civil Defense Master Mutual Aid Agreement

1-3-B City of San Jacinto Master Mutual Aid Agreement

1-4 Continuity of Government

Attachment:

1-4-A Standby Officers for the City of San Jacinto

1-5 Management Watch

1-6 Glossary of Terms

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Appendices: Hazard-Specific Situations

Appendix 1-1 Major Earthquake in San Jacinto

Attachments:

1-A, Modified Mercalli Intensity Scale
1-B, Richter Scale

APPENDIX G

Draft Water Shortage Contingency Resolution

RESOLUTION NO._____

CITY OF SAN JACINTO
RESOLUTION PROHIBITING WASTEFUL USE OF WATER

City of San Jacinto (herein after the City) does hereby resolve as follows:

REGULATIONS AND RESTRICTIONS ON WATER USE
It is hereby resolved by the City, to conserve water supply for the greatest public benefit and to reduce the quantity of water used within the City, wasteful use of water should be eliminated. The City encourages the following regulations and restrictions on water use:

1. No customer shall waste water. As used herein, the term "waste" means:

   a. Use of potable water to irrigate turf, ground-cover, shrubbery, crops, vegetation, and trees (agricultural accounts are excluded from the time of irrigation restriction) manner as to result in runoff for more than five (5) minutes;
   b. Use of potable water to wash sidewalks, walkways, driveways, parking lots, open-ground or other hard surfaced areas except where necessary for public health or safety;
   c. Allowing potable water to escape from breaks within the customer's plumbing system for more than twenty-four (24) hours after the customer is notified or discovers the break;
   d. Washing cars, boats, trailers, aircraft, or other vehicles by hose without a shutoff nozzle and bucket except to wash such vehicles at commercial or fleet vehicle washing facilities using water recycling equipment;

2. The following restrictions are effective during a declared Water-Shortage Emergency.

   a. No restaurant, hotel, café, cafeteria or other public place where food is sold, served or offered for sale, shall serve drinking water to any customer unless expressly requested;
   b. Use of potable water for construction, compaction, dust control, street or parking lot sweeping, building washdown where non-potable or recycled water is sufficient;
   c. Use of potable water for sewer system maintenance or fire protection training without prior approval by the City Manager;
   d. Use of potable water for any purpose in excess of the amounts allocated or each class of service.

3. Other restrictions may be necessary during a declared Water Shortage Emergency, to safeguard the adequacy of the water supply for domestic, sanitation, fire protection, and environmental requirements.

APPENDIX H

Minutes to February 2, 2006 City Council Meeting

SAN JACINTO

MINUTE ORDER

State of California)
County of Riverside)SS
City of San Jacinto)

I, Dorothy L. Chouinard, duly appointed City Clerk of the City of San Jacinto, do hereby certify that the City Council of the City of San Jacinto, at a Regular Meeting held on April 6, 2006, approved the following action:

CONSENT CALENDAR

5.2 Urban Water Management Plan Update / Approve the updated draft of the *City of San Jacinto Urban Water Management Plan* (UWMP); and direct staff to compile and submit the final UWMP document to the State of California Department of Water Resources within 30 days

M/S/C (Ayres / Ritchie) moved to approve as presented. Motion carried 4/0.

Ayes:	Ayres, Buydos, Ritchie, Shaw
Nays:	None
Absent:	Stubblefield
Abstain:	None

(motion by Council Member Ayres, seconded by Councilmember Ritchie)

WITNESS my hand and seal this 7th day of April, 2006.

Dorothy L. Chouinard

Dorothy L. Chouinard, City Clerk

Please find attached Page 9 of 11 of the Action Minutes Approved on April 6, 2006.

City Clerk
201 East Main Street | San Jacinto, CA 92583 | Ph (951) 487-7339 | Fax (951) 654-3728 | www.ci.san-jacinto.ca.us

John Shumay, 130 Newport Drive, Newport Beach, CA, representing Steve Holgate, spoke.

City Manager McClellan noted that staff anticipates having this item back to Council for adoption February 2, 2006.

5.2 Urban Water Management Plan Update / Approve the updated draft of the *City of San Jacinto Urban Water Management Plan* (UWMP); and direct staff to compile and submit the final UWMP document to the State of California Department of Water Resources within 30 days

M/S/C (Ayres / Ritchie) moved to approve as presented. Motion carried 4/0.

Ayes:	Ayres, Buydos, Ritchie, Shaw
Nays:	None
Absent:	Stubblefield
Abstain:	None

5.3 Public Works Department Update / Receive and File / Public Works Director

No action taken.

Vice Mayor Shaw recessed the Regular Meeting at 9:30 p.m. to hear the Redevelopment Agency Agenda. Vice Mayor Shaw reconvened the Regular Meeting at 9:32 p.m.

6. MAYOR / COUNCIL MEMBER REPORTS / DISCUSSIONS

Council Members gave their reports.

Vice Mayor Shaw recessed the Regular Meeting at 9:35 p.m. Following a ten minute recess, he reopened the meeting in Closed Session at 10:45 p.m.

7. CLOSED SESSION

7.1 CONFERENCE WITH REAL PROPERTY NEGOTIATORS
Pursuant to Government Code section 54956.8
Property: APN 437-045-011

2005 UWMP Log form

Water Supplier: SAN JACINTO, CITY OF

Address: 248 EAST MAIN ST. SAN JACINTO CA 92583

Contact: MIKE EMBERTON Title: PUB WKS DIR Phone: (951) 654-4041

Fax: e-mail: Web: WWW.CI.SAN-JACINTO.CA.US

Consultant Contact Name: KEVIN SMEAD Phone: (626) 967-6202

Fax: e-mail: Web:

Originally Received at (Circle) (HQ) District Date & Time Rec'd: 4/26/06

Number of copies received: Hard Copies 2 Electronic Copies 0

If not required #, date of request for addt'l copies: / / by (initials)

Date additional copies received: / / by (initials)

Adoption Resolution included? (circle) (YES) NO Date Adopted: 4/7/06

If not, date Supplier contacted to send: / / by

Date Adoption Resolution received: / / by

District responsible for review (circle) NORTHERN CENTRAL SAN JOAQUIN (SOUTHERN)

Date one copy of Plan sent to District for Review: 5/5/06 by DM

Date to check status of review (+ ten days) / / by

DPLA "Contacts" website info updated: / / by

Logged into UWMP Database Log: 5/5/06 by DM

UWMP receipt confirmation e-mail sent: 5/24/06 by DM

Date addt'l info rec'd Entitled: Logged: Confirming e-mail:

Date addt'l info rec'd: Entitled: Logged: Confirming e-mail:

INITIALS OF THE REVIEWER:

Date two copies of plan sent to HQ / /

Date review of plan began / /

CUWCC signatory: Yes No

CUWCC signatory submitted BMP report: Yes No

Date review of plan completed: / /

Date review of plan e-mailed to HQ: / /

Date review entered into database: / /

Date DRAFT Review Letter sent to District for review: / /

Date comments or Approval of Draft received: / /

Date Review/Letter sent to Water Supplier: / / Logged in DB:

Date DRAFT Review Letter sent to District for review: / /

Date comments or Approval of Draft received: / /

Date Review/Letter sent to Water Supplier: / / Logged in DB:

Date FINAL Review Letter sent to District for review: / /

Date comments or Approval of Draft received: / /

Date FINAL Review Letter sent to Water Supplier: / / Logged in DB:

Upon completion of this form, a copy should be kept in the District and one mailed to HQ

STETSON
ENGINEERS INC.

861 Village Oaks Drive, Suite 100 · Covina, California 91724 · (626) 967-6202
FAX: (626) 331-7065 · email: wc@stetsonengineers.com

2171 E. Francisco Blvd., Suite K · San Rafael, California 94901 · (415) 457-0701
FAX: (415) 457-1638 · email: sr@stetsonengineers.com

2659 W. Guadalupe Rd., Suite D213 · Mesa, Arizona 85202 · (480) 839-5910
FAX: (480) 839-6560

SERVING CLIENTS · SINCE 1957

1935-06

Reply to: Covina

April 24, 2006

Mr. David Todd
Office of Water Use Efficiency and Transfers
Department of Water Resources
P.O. Box 942836
Sacramento, California 94236-0001

Subject: City of San Jacinto
2005 Urban Water Management Plan

Dear Mr. Todd:

We are pleased to provide you with a copy of the City of San Jacinto's (City) 2005 Urban Water Management Plan in accordance with Section 10644 of the California Water Code. As part of the Urban Water Management Plan process, the District took the following actions:

- Notified the City staff of the preparation of its 2005 Urban Water Management Plan Update and encouraged participation and the submittal of comments
- Gave notice of its public hearing according to Section 6066 of the Government Code and made the plan available to the public for review prior to holding a public hearing on February 2, 2006
- Adopted the draft Urban Water Management Plan as its 2005 Urban Water Management Plan at its February 2, 2006 meeting
- Submitted its Urban Water Management Plan to the City within its service area.

WATER RESOURCE PROFESSIONALS
LICENSED BY THE STATE OF CALIFORNIA

Please, feel free to contact Mr. Mike Emberton of the City of San Jacinto at (951) 654-4041 or me at (626) 967-6202 should you have any questions.

Sincerely,

Kevin R. Smead, P.E.
Stetson Engineers Inc.

cc: Mr. Mike Emberton, City of San Jacinto w/enclosures (10)

J:\Jobs\1935\06\2005 UWMP\Transmittal to DWR.doc

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