Lake Hemet Municipal Water District

Urban Water Management Plan

2010

June 2011

TABLE OF CONTENTS

SECTION 1: PLAN PREPARATION 1

1.1 Coordination.....2
1.2 Plan Adoption, Submittal, and Implementation 3

SECTION 2: SYSTEM DESCRIPTION 5

2.1 Service Area Physical Description 6
2.2 Service Area Population.....8

SECTION 3: SYSTEM DEMANDS.....10

3.1 Baselines and Targets 11
3.2 Water Demands 15
3.3 Water Demand Projections 24
3.4 Water Use Reduction Plan.....25

SECTION 4: SYSTEM SUPPLIES 27

4.1 Water Sources 28
4.2 Groundwater 29
Surface Water 33
Purchased Water 34
4.3 Transfer Opportunities 35
4.4 Desalinated Water Opportunities 36
4.5 Recycled Water Opportunities 36
4.6 Future Water Projects 39

SECTION 5: WATER SUPPLY RELIABILITY AND WATER SHORTAGE CONTINGENCY PLANNING 41

5.1 Water Supply Reliability 42
5.2 Water Shortage Contingency Planning 42
5.3 Water Quality 48
5.4 Drought Planning 48

SECTION 6: DEMAND MANAGEMENT MEASURES 58

6.1 DMMs.....59

APPENDIX A: 60 Day Review Notice to Cities and County 68

City of Hemet
City of San Jacinto
County of Riverside

APPENDIX B: Preliminary UWMP Transmittal Letter

State of California Department of Water Resources
California State Library
City of Hemet
City of San Jacinto
County of Riverside

APPENDIX C: Legal Ad in Press Enterprise Newspaper

APPENDIX D: Resolution Adopting 2010 UWMP Update

APPENDIX E: Public Water System Statistics Annual Reports, 1999-2010

APPENDIX F: Drought Management Plan

APPENDIX G: Resolution No. 598- Voluntary Water Conservation

APPENDIX H: 2010 Consumer Confidence Report

Enclosure via CD: Draft Water Management Plan and Related Agreements

LIST OF TABLES

TABLE 1: Climate Statistics 8
TABLE 2: Population Estimate and Projections 9
TABLE 3: Population Estimates- Baseline Years 12
TABLE 4: Base Daily Per Capita Water Use- 10 Year Range 12
TABLE 5: Base Daily Per Capita Water Use- 5 Year Range 14
TABLE 6: Water Deliveries Actual- 2005 16
TABLE 7: Water Deliveries Actual- 2010 16
TABLE 8: Water Deliveries Actual- 2015 17
TABLE 9: Water Deliveries Actual- 2020 17

LIST OF TABLES, CONTINUED

TABLE 10: Water Deliveries Actual 2025 and 2030 17
TABLE 11: Groundwater Recharge 20
TABLE 12: Water Losses 20
TABLE 13: Total Water Use 22
TABLE 14: Demand Projections Provided to Wholesale Suppliers 24
TABLE 15: Wholesaler Sources of Available Supply 25
TABLE 16: Wholesale Supply Reliability 25
TABLE 17: Current and Planned Water Supply 28
TABLE 18: Range of Operational Yield for each Sub-basin 31
TABLE 19: Amount of Groundwater Pumped 32
TABLE 20: Current and Planned Groundwater Pumping by LHMWD 33
TABLE 21: Recycled Water Uses 38
TABLE 22: Future Water Supply Projects 40
TABLE 23: Supply Inconsistency Factors 42
TABLE 24: Preparation Actions for a Catastrophe 43
TABLE 25: Mandatory Prohibitions 43
TABLE 26: Consumption Reduction Methods 44
TABLE 27: Penalties and Charges 45
TABLE 28: Actions and Conditions that Impact Revenues 46
TABLE 29: Actions and Conditions that Impact Expenditures 46
TABLE 30: Proposed Measures to Overcome Revenue Impacts 46
TABLE 31: Comparison of Revenue Loss and Recovery 47
TABLE 32: Water Use Monitoring Mechanisms 47
TABLE 33: Supply Reliability 49
TABLE 34: Basis of Water Year Data 49
TABLE 35: Water Supply Shortage Stages and Conditions 50
TABLE 36: Three Year Minimum Water Supply 50
TABLE 37: Projected Average Water Year Supply 52
TABLE 38: Projected Average Water Year Demand 52
TABLE 39: Projected Average Year Supply and Demand Comparison 52
TABLE 40: Projected Single Dry Year Supply 53
TABLE 41: Projected Single Dry Year Demand 53
TABLE 42: Projected Single Dry Year Supply and Demand Comparison 53
TABLE 43: Projected Multiple Dry Year Supply for 2011-2015 54
TABLE 44: Projected Multiple Dry Year Demand for 2011-2015 54
TABLE 45: Projected Multiple Dry Year Comparison for 2011-2015 54

LIST OF TABLES, CONTINUED

TABLE 46: Projected Multiple Dry Year Supply for 2016-2020 55
TABLE 47: Projected Multiple Dry Year Demand for 2016-2020 55
TABLE 48: Projected Multiple Dry Year Comparison for 2016-2020 55
TABLE 49: Projected Multiple Dry Year Supply for 2021-2025 56
TABLE 50: Projected Multiple Dry Year Demand for 2021-2025 56
TABLE 51: Projected Multiple Dry Year Comparison for 2021-2025 56
TABLE 52: Projected Multiple Dry Year Supply for 2026-2030 57
TABLE 53: Projected Multiple Dry Year Demand for 2026-2030 57
TABLE 54: Projected Multiple Dry Year Comparison for 2026-2030 57
TABLE 55: Demand Management Measures 60
TABLE 56: DMM 2 62
TABLE 57: DMM 3 62
TABLE 58: DMM 6 63
TABLE 59: DMM 7 64
TABLE 60: DMM 11 66

LIST OF FIGURES

FIGURE 1: Existing Service Area and Wells 7
FIGURE 2: Per Capita Water Use 15
FIGURE 3: Surface Water Diversion Facilities 34

SECTION 1

PLAN PREPARATION

SECTION 1: PLAN PREPARATION

The Urban Water Management Plan for Lake Hemet Municipal Water District is organized in the same order as the Guidebook to Assist Urban Water Suppliers to Prepare a 2010 Urban Water Management Plan published by the California Department of Water Resources. Each of the legislative requirements from the Urban Water Management Planning Act and the Water Conservation Act of 2009 is *italicized* with the applicable Water Code Section and the Checklist number immediately following.

COORDINATION

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 (10620(d)(2)). #4

Lake Hemet Municipal Water District (LHMWD) will coordinate the preparation of its plan with other appropriate agencies in the area, including the City of Hemet, City of San Jacinto, County of Riverside, and Eastern Municipal Water District. LHMWD staff met with EMWD on April 13, 2011 to coordinate information about population estimates, demands, and available supplies.

Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, 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 (10621(b)). #6

Notices were sent and dated March 4, 2011, to the City of Hemet, City of San Jacinto, and the County of Riverside, prior to 60 days of the public hearing when the UWMP was reviewed by the LHMWD Board of Directors. Copies of the notices are in Appendix A.

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 (10635(b)). #54

LHMWD will provide a copy of its UWMP to the City of Hemet, City of San Jacinto, and the County of Riverside within 60 days after submitting its approved UWMP to the State DWR. Copies will actually be submitted within 30 days after adoption as required by California Water Code Section 10644.a. A preliminary copy of the transmittal letter is included in Appendix B.

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 (10642). #55

LHMWD published a notice of the public hearing regarding the consideration of the UWMP in the Press Enterprise newspaper and on its website soliciting input and comments.

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 (10642). #56

The public hearing is scheduled for 3:00 pm on June 16, 2011 at LHMWD offices at 26385 Fairview Avenue, Hemet, Ca. The UWMP will be available for public review. Two notices will be publicized in the Press Enterprise on or near May 29 and June 5, 2011 which are separated by at least 5 intervening days, not including the publication dates, and at least 14 days before the public hearing. A copy of the legal ad is in Appendix C. The time and place of the hearing were included in the 60-day review notice to the City of Hemet, City of San Jacinto, and County or Riverside in Appendix A.

1.2 PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

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) (10621I). #7

Any changes to the UWMP after the plan was adopted the LHMWD Board of Directors, require another public hearing and be reconsidered and reapproved by the LHMWD.

After the hearing, the plan shall be adopted as prepared or as modified after the hearing (10642). #57

A copy of the resolution in Appendix D was considered for approval by the LHMWD Board of Directors.

An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan (10643). #58

LHMWD will implement its UWMP by continually referencing its objectives and conservation methods outlined in the plan. In addition to mandated timelines, target per capita water usage will be preliminarily gauged annually and compared to a prorated schedule. Conservation methods and DMMs can be adjusted or accelerated if the pace of reduction is not on track. Other measures such as Water Supply Assessments, development of a basin Water Master, supply monitoring, project development, pipeline replacement, and metering upgrades provide milestone checkpoints to continuously implement the UWMP.

An urban water supplier shall submit to 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 submitted to the department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption (10644(a)). #59

Within 30 days of adoption, LHMWD will submit copies of the UWMP to DWR, the California State Library, the City of Hemet, City of San Jacinto, and the County of Riverside. A preliminary version of the transmittal letters are attached in Appendix B. A similar 60-day requirement is described in California Water Code Section 10635.b. Compliance with the 30-day requirement will satisfy both sections.

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. (10645). #60

A copy of the approved UWMP will be made available for review within 30 days of submitting it to DWR. A copy of the adopted UWMP will also be available for public review during normal business hours and posted on the LHMWD website to replace the 2005 UWMP Update already posted at https://www.lhmwd.org/files/UWMP.pdf.

SECTION 2

SYSTEM DESCRIPTION

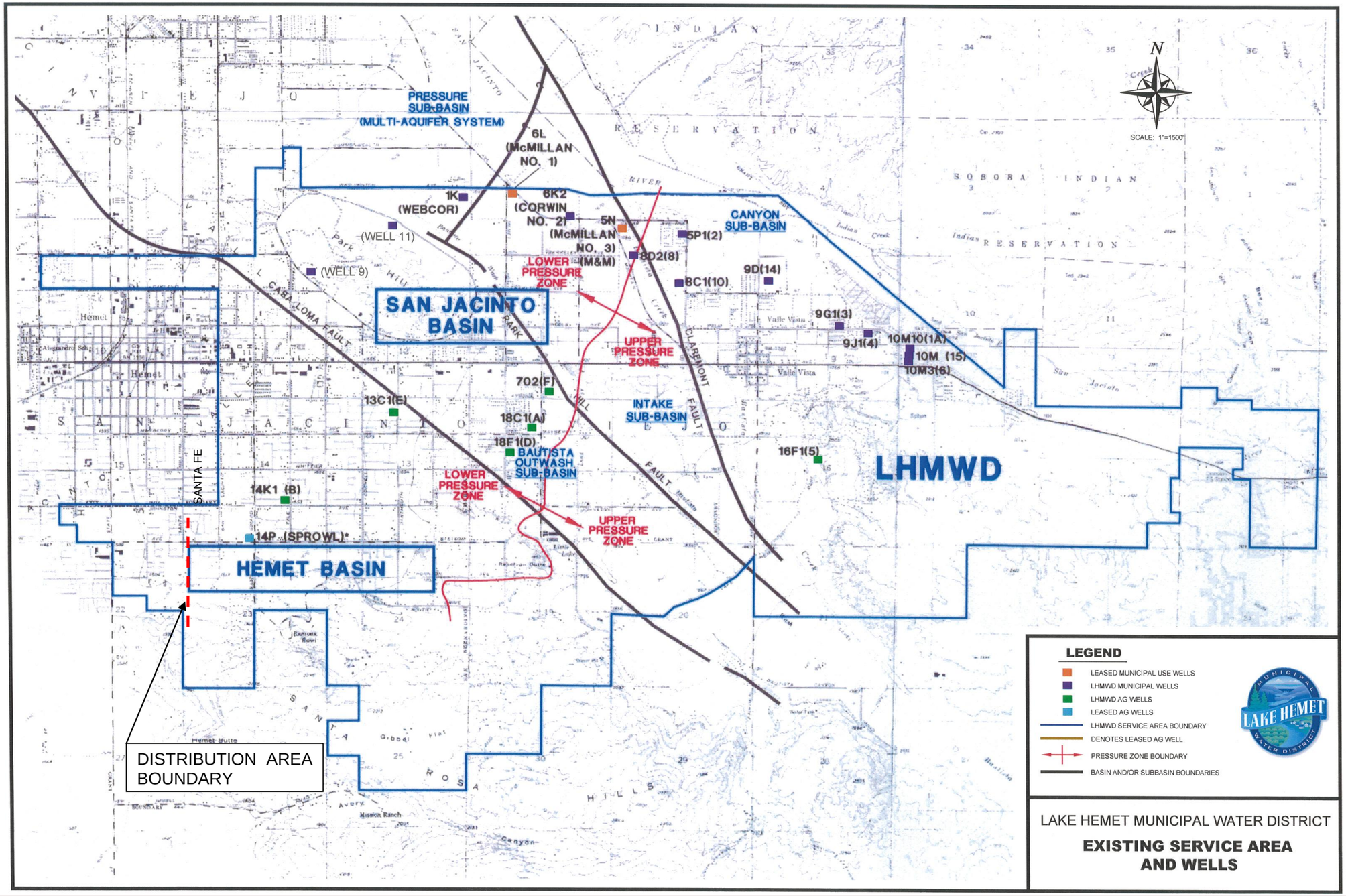
SECTION 2: SYSTEM DESCRIPTION

2.1 SERVICE AREA PHYSICAL DESCRIPTION

Describe the service area of the supplier (10631(a)). #8.

The District's service area encompasses a total of approximately 12,700 acres covering the northeasterly portion of the City of Hemet, a small southeast portion of the City of San Jacinto, and unincorporated parts in western Riverside County in Southern California. The LHMWD is within the San Jacinto Valley surrounded by the San Jacinto Mountains on the north and east, the Santa Rosa Hills on the south, and the Lakeview Mountains on the west. The San Jacinto Valley is crossed by SR 74 (Florida Avenue) and SR 79 (San Jacinto Avenue).

The service area consists of a mixture of residential, commercial, institutional, and agricultural uses. The agricultural uses consist mostly of citrus groves. Institutional uses are mostly public schools including Hemet High School, Dartmouth Middle School, Bautista Creek Elementary, Ramona Elementary, Val Vista Elementary, Alessandro Continuation School. The remaining institutional uses are private schools, churches, Valley-Wide Recreation and Park District, Riverside County Sheriff Station, and Val Vista Library. Commercial uses are almost exclusively along the SR74/Florida Avenue and SR79/San Jacinto Avenue corridors. The District's overall service area is shown on Figure 1. The area within LHMWD's boundary and west of Santa Fe Street are supplied water directly from the City of Hemet Water System.



S:\Lake Hemet Municipal Water District\96006.037-Master Plan\FINAL REPORT\AUG 11 2010\96006037-Figure 4-1.dwg, 10/26/2010 3:33:20 PM

Figure 1

(Describe the service area) climate (10631(a)). #9.

The climate within the District's service area is typical for Southern California inland valleys, consisting of mild winters and hot, dry summers. Average annual rainfall is about 11.5 inches. Climate data for the period 1948 – 2005 from the CIMIS website for Station No. 179 is shown in Table 1.

Table 1. Climate

	Jan	Feb	Mar	Apr	May	Jun
Standard Monthly Average Eto	2.81	2.76	3.78	5.31	6.10	6.97
Average Rainfall (inches)	2.41	2.24	1.91	0.92	0.35	0.06
Average Temperature (^{o}F)	53.9	52.7	57.6	59.4	68.1	72.2

Table 1. Climate

	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Standard Monthly Average Eto	7.08	6.83	5.67	4.15	3.31	2.56	57.33
Average Rainfall (inches)	0.14	0.23	0.44	0.50	1.01	1.34	11.56
Average Temperature (^{o}F)	78.3	79.6	76.0	67.3	57.7	52.4	64.4

2.2 SERVICE AREA POPULATION

(Describe the service area) current and projected population . . . 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 . . . (10631(a)). #10.

The District serves both residential and agricultural customers. The number of District-served residential connections has increased from approximately 12,322 in 1999 to 13,750 in 2010. The number of irrigation connections decreased from 61 in 2000 to 51 in 2005 due to a decrease of about 30 irrigated acres and changes in ownership and consolidation of some parcels.

The total number of service connections increased by 12.7 percent from 1999 to 2010, an average increase of 1.06 percent per year. By analyzing the number of service connections, the past increases of single-family, multi-family, and mobile home service

connections, comparing the ratio of capita/service connection type, population estimates were made from the 2000 Census. From the process, population grew at an estimated average rate of 1.035% per year from 1999 to 2010. Accordingly, future growth in the District is anticipated to continue at the same rate with build-out projected to occur by 2025. Agricultural uses are expected to decrease slightly as irrigated land converts to urban use. However, since a significant portion of the acreage in citrus today is comprised of new plantings and/or in agriculture preserves, it is expected that the demand for irrigation water will exist through 2025. Any conversion of agriculture is estimated to result in a net reduction of water usage for equivalent development densities of less than 8 dwelling units per acre using 4 afy/ac for citrus groves and 0.5 afy/du. A challenge would be posed by agricultural irrigation that is supplied with untreated, raw river runoff while residential would require a potable water supply.

. . . . (population projections) shall be in five-year increments to 20 years or as far as data is available (10631(a)). #11

Table 2 shows the expected population growth within the LHMWD's distribution area over the next 20 years. Census data was analyzed at the block level and manually aligned with LHMWD boundaries and a ratio of persons per service connection type was calculated from 2000 Census and correlated with service connection data. The ratio was then applied to known service connection counts for non-Census years being 1999-2010 except for 2000. The method of determining the population estimates was outlined by Methodology No. 2 of the Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use published by the California Department of Water Resources. Note that 2010 Census data has not been released as of the date of preparing this UWMP although the release is expected very soon and will be used to determine redistricting requirements within LHMWD. Population projections for 2015 through 2030 were based on a consistent growth rate equal to the 1.035% average annual growth rate experienced from 1999 through 2010.

Table 2
Population Estimate Projections

2010	2015	2020	2025	2030
52,914	55,710	58,654	61,754	65,017

SECTION 3

SYSTEM DEMANDS

SECTION 3: SYSTEM DEMANDS

3.1 BASELINES AND TARGETS

An urban retail water supplier shall include in its urban water management plan due in 2010 the baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data (10608.20(e)). #1.

Baseline and target demands required in the Water Conservation Bill of 2009 were determined in conformance with the Guidebook to Assist Urban Water Suppliers to Prepare a 2010 UWMP, Part II, Section D. Figure D-2 of Section D of Part II of the UWMP Guidebook is a process flow chart for the required four steps and are addressed accordingly below.

Step 1- Determine Base Daily Per Capita Water Use

Step 1A/1B: LHMWD did not supply any recycled water in 2008. Consequently, LHMWD delivery of recycled water in 2008 was less than 10% of its total water deliveries.

Step 1C1: With less than 10% of recycled water deliveries in 2008, a continuous 10-year period must be chosen for the baseline period ending no earlier than December 31, 2004 and no later than December 31, 2010. Accordingly, the baseline period is determined to be the continuous 10 years from January 1, 1999, through December 31, 2008.

Step 1D: The distribution system area is shown on Figure 1. The distribution area is smaller than the district boundary. Under a cooperative agreement, the City of Hemet serves the portion of the District south of Johnston Avenue and west of Santa Fe Street.

Step 1E: The population estimates of the LHMWD distribution system area for the baseline years are listed in Table 3. The population estimates were determined in conformance with Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use, Methodology No. 2 for a Category 3 water supplier including Appendix A of the Methodology. In summary, data from the 2000 Census was analyzed at the census block level. Census block boundaries were aligned with the LHMWD boundary. Census blocks in LHMWD were grouped and totaled. Additionally, the applicable census blocks were analyzed by structure type, e.g. single family, multi-family, and mobile homes. LHMWD data for service connections in 2000 were compiled and a population per service connection type was calculated for Year 2000. The population per service connection type was multiplied by the actual number of service connections in subsequent years as an estimate of the population in that year. The average population in the 10 baseline years was 50,853.

Table 3 Population Estimates — Baseline Years											
Water use sectors	**Population/ Connection**	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Single Family	**3.07**	36,180	36,563	37,118	38,519	39,288	39,643	40,456	40,995	40,719	40,771
Multi-Family	**11.76**	5,870	5,858	5,811	5,929	5,787	5,799	5,752	5,799	5,693	5,517
Mobile Home	**264.05**	5,017	5,281	5,281	5,281	6,073	6,073	6,865	6,865	6,865	6,865
Total		47,067	47,702	48,210	49,728	51,148	51,516	53,073	53,660	53,278	53,153

Step 1F: Table 4 lists the population and the gross water supplied for the baseline years. The water usage is directly from the Urban Retail Total in Section 4 of the annual Public Water System Statistics (Appendix E) report submitted to DWR and does not include agricultural irrigation water.

Step 1G: The annual daily per capita water use is calculated for each year as shown in Table 4 and ranges from 148 gpcd in 2005 to a high of 174 gpcd in 2002.

Step 1H: The average of the annual daily per capita water use is the Base Daily Per Capita Water Use equal to 162 gpcd also shown in Table 4.

Table 4 Base daily per capita water use — 10-year range				
Base period year		**Distribution System Population**	**Daily system gross water use (mgd)**	**Annual daily per capita water use (gpcd)**
Sequence Year	**Calendar Year**			
Year 1	1999	47,067	7.63	162
Year 2	2000	47,702	8.04	168
Year 3	2001	48,210	8.12	168
Year 4	2002	49,728	8.66	174
Year 5	2003	51,148	8.12	159
Year 6	2004	51,516	8.71	169
Year 7	2005	53,073	7.83	148
Year 8	2006	53,660	8.33	155
Year 9	2007	53,278	8.82	166
Year 10	2008	53,153	7.92	149
Base Daily Per Capita Water Use				**162**

Step 2- Determine Urban Water Use Target

Step 2A: Four methods for determining the Urban Water Use Target are available and include:

• Method 1: 80% of Base Daily Per Capita Water Use
• Method 2: Performance Standards
• Method 3: 95% of Regional Target
• Method 4: Water Savings

Of the methods, Alternate 1 of Method 4 is not feasible as it requires the number of restrooms, showers, and clothes washers per household. LHMWD does not track this information. Similarly, Method 2 is not available to LHMWD as it requires knowing the landscaped area for each service which also is not tracked by LHMWD. Of the remaining methods, Target Method 3 was selected to determine the Urban Water Use Target for LHMWD.

Step 2B3a: Target Method 3 was used to determine the Urban Water Use Target for LHMWD. LHMWD is in the South Coast hydrologic region. The South Coast hydrologic region has a previously established baseline in the Water Conservation Bill of 2009 (20x2020 Plan) of 180 gpcd, an interim 2015 target of 165 gpcd, and a 2020 target of 149 gpcd. Method 3 sets an urban water retailers' 2020 target at 95% of the targets set in the Water Conservation Bill of 2009.

Step 2B3b: For the South Coast Region and referring to Figure D-3 of the UWMP Guidebook, the 2020 target is 142 gpcd (95% of 149 gpcd).

Step 2C: Subsequently, the 2020 Urban Water Use Target for LHMWD is 142 gpcd.

Step 3- Confirm Urban Water Use Target

Step 3A: A continuous 5-year period must be chosen for the baseline period ending no earlier than December 31, 2007 and no later than December 31, 2010. Accordingly, the baseline period is determined to be the continuous 5 years from January 1, 2004, through December 31, 2008.

Step 3B: The distribution area for the 5-year base period is the same as the 10-year base period as shown in Figure 1.

Step 3C: The population estimate for each of the years in the 5-year base period is listed in Table 4 and again in Table 5.

Step 3D: The gross water use for each of the years in the 5-year base period is listed in Table 4 and again in Table 5.

Step 3E: The annual daily per capita water use is calculated for each year as shown in Table 4 and Table 5 and ranges from 148 gpcd in 2005 to a high of 169 gpcd in 2004.

Table 5
Base daily per capita water use — 5-year range

Base period year		Distribution System Population	Daily system gross water use (mgd)	Annual daily per capita water use (gpcd)
Sequence Year	Calendar Year			
Year 1	2004	51,516	8.71	169
Year 2	2005	53,073	7.83	148
Year 3	2006	53,660	8.33	155
Year 4	2007	53,278	8.82	166
Year 5	2008	53,153	7.92	149
			Base Daily Per Capita Water Use	**157**

Step 3F/G: The average of the annual daily per capita water use is the Base Daily Per Capita Water Use equal to 157 gpcd also shown in Table 5.

Step 3H: The 5-year Base Daily Per Capita Water Use is greater than 100 gpcd implying further adjustment is necessary.

Step 3I: 95% of the 5-year Base Daily Per Capita Water Use is 149 gpcd (95% of 157 gpcd).

Step 3J: The LHWMD Urban Water Use Target of 142 gpcd is less than 149 gpcd (95% of the 5-year Base Daily Per Capita Water Use) implying no additional adjustment is necessary.

Step 3L: The 2020 Urban Water Use Target for LHMWD is confirmed at 142 gpcd.

Step 4- Determine Interim Urban Water Use Target

Step 4A: The Interim Urban Water Use Target is determined as the average of the Base Daily Per Capita Water Use and the Urban Water Use Target (Step 3L).

Interim Urban Water Use Target = (162 gpcd + 142 gpcd)/2 = 152 gpcd
Step 4B: The Interim Urban Water Use Target for LHMWD is 152 gpcd.

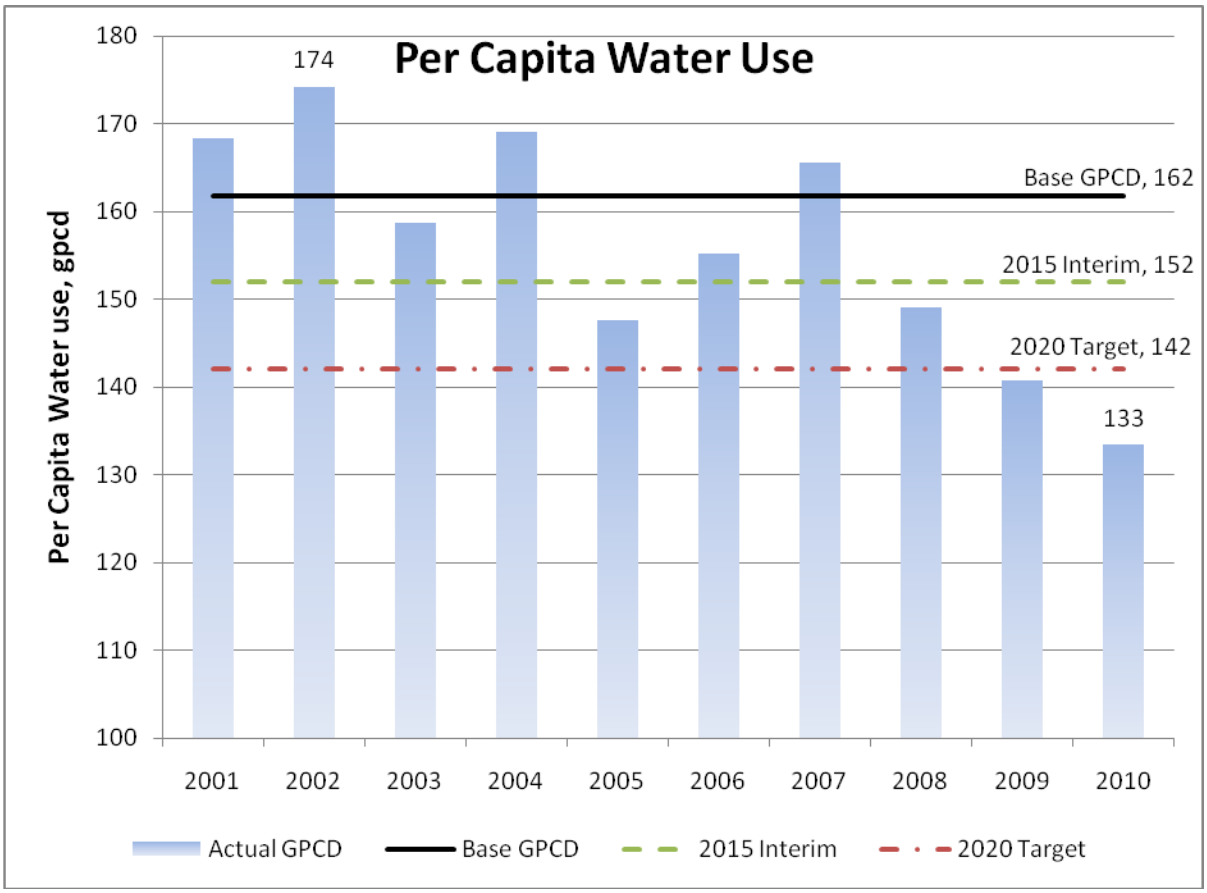


Figure 2

3.2 WATER DEMANDS

Quantify, to the extent records are available, past and current water use, and projected water use (over the same five-year increments described in subdivision (a)), 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 (10631(e)(1) and (2)). #25.

Past, current, and projected water accounts and demands are listed in Tables 6 through 10. The values for 2005 and 2010 are directly from the annual Public Water System Statistics report (Form 38) submitted by LHMWD to DWR. Projected water demands district-wide were estimated by applying the target per capita water use to the projected population estimates for 2015 and 2020. The target per capita water use for 2020 was used for 2025 and 2030 water demand projections based on the population estimate for each corresponding year. The district-wide water demand projection was itemized for each water use sector by determining the percentage of each sector's demand in 2010 and applying that same percentage to the district-wide demand in the future years. All accounts were metered in the 2010 year and will continue to be in future years.

Table 6 Water deliveries — actual, 2005					
	Metered		Not metered		Total
Water use sectors	# of accounts	Volume (AF)	# of accounts	Volume (AF)	Volume (AF)
Single family	13,199	7,222	0	0	7,222
Multi-family	489	829	0	0	829
Mobile Home	26	0	0	0	0
Commercial/Institutional	384	659	0	0	659
Industrial	3	1	0	0	1
Landscape	20	65	0	0	65
Agriculture	44	4,860	6	N/A	4,860
Other	0	0	0	0	0
Total	14,165	13,636	6	0	13,636

Table 7 Water deliveries — actual, 2010		
Water use sectors	# of accounts	Volume (AF)
Single family	13,266	6,158
Multi-family	458	630
Mobile Homes	26	0
Commercial/Institutional	468	900
Industrial	0	0
Landscape	72	219
Agriculture	51	5,424
Other	0	0
Total	14,341	13,331

Table 8 Water deliveries — projected, 2015		
Water use sectors	# of accounts	Volume (AF)
Single family	13,984	7,388
Multi-family	483	756
Mobile Homes	27	0
Commercial/Institutional	493	1,080
Industrial	0	0
Landscape	76	262
Agriculture	51	5,424
Other	0	0
Total	15,115	14,910

Table 9 Water deliveries — projected, 2020		
Water use sectors	# of accounts	Volume (AF)
Single family	14,741	7,266
Multi-family	509	744
Mobile Homes	29	0
Commercial/Institutional	520	1,062
Industrial	0	0
Landscape	80	258
Agriculture	51	5,424
Total	15,930	14,754

Table 10 Water deliveries — projected 2025 and 2030				
	2025		**2030**	
Water use sectors	# of accounts	Volume (AF)	# of accounts	Volume (AF)
Single family	15,539	7,650	16,380	8,480
Multi-family	536	783	566	868
Mobile Homes	30	0	32	0
Commercial/Industrial	548	1,118	578	1,240
Industrial	0	0	0	0
Landscape	84	272	89	301
Agriculture	51	5,424	51	5,424
Other	0	0	0	0
Total	16,790	15,247	17,696	16,313

Single Family

From 2005 to 2010, the number of total accounts grew by only 176 accounts, or 0.25 percent per year. Single-family residential accounts grew by 67 accounts, or 0.10 percent per year, over the same period. Water use per domestic service connection in 2010 was 0.46 acre-feet per connection compared to 0.55 acre-feet per connection in 2005. The number of service connections is projected to grow at an annual rate of 1.06% through 2025 based on and equal to the actual average annual rate from 1999 to 2010.

Multi-Family

The multi-family sector includes mobile home parks, apartments, retirement homes, and other housing that has more than one family using water from a single service connection. This sector has the second highest domestic water demand behind the single family residential sector, however its per capita water use is lower due to a minimal need for outside watering. Savings can still occur with installation of low-flow shower heads, water efficient toilets and household appliances, and through drought tolerant landscaping and efficient irrigation by the apartment owner.

Commercial

The commercial sector is comprised of supermarkets, car washes, retail stores and businesses. This sector is not a large water user, however LHMWD will continue its audits of establishments to ensure water fixtures are efficient and in good repair.

Industrial

Since 1999, no more than three active industrial accounts have been in LHMWD's service area, none of which were large users of water. Presently, there are no active industrial water users within LHMWD. Consequently, no significant demand impacts are projected from this sector.

Institutional/Government

Schools, churches, special districts, fire stations, governmental offices and other public buildings are included in this sector. Water use per service connection in this sector is the highest of all domestic categories due to extensive landscaping, particularly at the schools. More efficient irrigation practices could save at least 75 acre-feet (25 million gallons) per year. Efforts will be concentrated on educating public administrators in sound water management practices.

Landscape

Shopping centers and other large commercial and retail developments have service connections dedicated to landscape irrigation, with each retail building space metered separately. Although the amount of water used in this sector is less than 50 acre-feet per year, savings can still be realized by adjusting sprinklers to prevent overspray onto hardscaped areas, fine-tuning timer cycles to prevent runoff, and using controllers with weather/soil measurements that automatically adjust to watering schedules.

Sales to Other Agencies

Except in rare emergency situations, LHMWD does not supply water to other water agencies. Only one interagency connection exists where LHMWD can physically supply water to another agency. That connection is at Well No. 9 on Park Hill with the City of Hemet. No connections exist between EMWD or the City of San Jacinto where water from LHMWD can be conveyed to the other agency without some means of pumping.

Agricultural

Irrigation of citrus groves places the greatest demand on district agricultural supplies. The main supply is untreated runoff from local streams and water that has been stored in Lake Hemet Reservoir, both of which are delivered via gravity through a canal network to farmers. When stream water disappears in the summer, water from wells that cannot meet domestic water quality standards is delivered to the canal for distribution. Imported water from the State Water Project is also purchased from EMWD to stretch the district's local supplies in times of drought. Delivered canal water from all sources amounts to about 5,400 acre-feet per year.

Several farmers, due to location, are not able to take delivery of water from the canal system and must be served from the domestic distribution system. This demand totals about 500 acre-feet per year and is charged at a higher rate due to the cost of obtaining and treating high quality domestic water.

Local farmers are already using the latest irrigation technology to minimize their costs. Consequently, future water savings from this sector are expected to be minimal. A decrease in water use will only occur when agricultural land is taken out of production. However, when this occurs, the same land will most likely be developed into housing units, creating new demand in the domestic water sectors. For the projections, agriculture was estimated to remain at a constant rate equal to the 2010 demands.

Groundwater Recharge

Groundwater is recharged from excess stream flows that exceed LHMWD's irrigation demand from the flume system. This water currently is recharged in the Intake Sub-basin. Excess stream water from the flume is discharged in the Bautista Creek Channel and conveyed to the Bautista Recharge ponds at the northwest corner of the intersection of the Bautista Creek Channel and Florida Avenue. The recharge pond property is owned by the Riverside County Flood Control and Water Conservation District (RCFCD). Under a cooperative arrangement, LHMWD operates and maintains the recharge ponds for RCFCD. An expansion of the recharge ponds is proposed and is awaiting funding approval. The past and projected water recharge amounts are shown in Table 11.

Table 11
Groundwater Recharge

	2005	2010	2015	2020	2025	2030
Recharge	50	318	500	700	800	1,000

Water Losses

Water losses from system leaks and unaccounted for differences between production meters and retail meters are listed estimated in Table 12. Losses occur in pipeline leaks, evaporation from open canals, streams, lakes, and ponds. Projected water losses were estimated by calculating the actual losses in 2010 and applying that same amount to projected demands in future years. LHMWD is undertaking an extensive program to replace older leaking pipelines that will help reduce or hold the amount of lost water that will be discussed in more detail later. Also, new automated meters are being installed throughout the District.
The new meters should provide more accurate and consistently timed water usage reads that will help account for some of the discrepancy in production and retail meters.

Table 12
Water Losses- AF

	2005	2010	2015	2020	2025	2030
Water losses	1,152	2,498*	1,800	1,800	1,800	1,800

*Losses are larger than actual due to discovered discrepancies in meter read reporting and accounting. Actual numbers will be closer to those in 2005 if not less due to pipeline replacement efforts.

Recycled Water

Recycled water is not available within LHMWD service boundary. Consequently, LHMWD has no recycled water demands. The nearest recycled water pipeline is 2.5 miles from the southerly LHMWD boundary. Another pipeline is 3 miles away from the northerly LHMWD boundary. Wastewater is conveyed and treated by EMWD. EMWD also owns and operates the recycled water distribution system. EMWD is planning several recycled water projects that would extend the system closer to LHMWD. More discussion about recycled water availability is in the supply section of this UWMP.

Saline Water Intrusion Barriers, Groundwater Recharge, or Conjunctive Use

LHMWD does not have water demands associated with saline water intrusion barriers. Natural river flows above those needed for agricultural irrigation are recharged as groundwater as much as possible but do not impose a demand on LHMWD supplies. LHMWD is an active party of the development Hemet/San Jacinto Water Management Plan to import water for groundwater recharge. Those recharge demands will be managed and supplied by the future Water Master ultimately from the Metropolitan Water District and from the LHMWD systems.

Total Water Use

Total water use within LHMWD distribution area is summarized in Table 13 based on the above tables. The total water use reflects achieving the per capita water use reductions from the Base of 162 gpcd to a maximum of the 2020 Target 142 gpcd. An unchanging agricultural demand is also assumed. In addition, growth rates are based on the rates experienced over the last decade. An important distinction is the difference in domestic projections based on current demands and those based on target per capita water use. In 2010, actual per capita water use of 133 gpcd is already below the 2020 target per capita water use of 142 gpcd. Keep in mind the base per capita use of 162 gpcd was determined from water use from 1999 to 2008. The relatively low usage in 2010 was likely due to continued conservation efforts, a cooler summer, and substantial rain fall in the fall. Nonetheless, projected water use is based on the projected population estimate and the 2015 interim and 2020 target per capita water uses.

Water projections in the years beyond 2020 were determined the same way except using the 2020 per capita use throughout.

Table 13 Total Water Use (AF)						
Water Use	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**
Total water deliveries (from Tables 6 to 10)	13,636	13,331	14,910	14,754	15,247	16,313
Sales to other water agencies	0	0	0	0	0	0
Additional water uses and losses (from Table 11)	1,152	2,816	2,300	2,500	2,600	2,800
Total	14,788	16,147	17,210	17,254	17,847	19,113

Lower Income Housing

The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier (10631.1(a)). #34.

LHMWD supplies retail domestic water to parts of the County of Riverside, the City of San Jacinto, and the City of Hemet. The Housing Element of the General Plan for each jurisdiction was reviewed. All three jurisdictions analyzed their Regional Housing Need Assessment which outlines the number of housing units needed for various income levels. The lower income housing units proposed in each jurisdiction are discussed below.

County of Riverside

The County of Riverside originally adopted its current version of its General Plan in October 2003. The Housing Element of the General Plan Chapter 8, page H-141, discusses water service from LHMWD and can be found at http://www.rctlma.org/genplan/content/gp/chapter08_housingElement.pdf.

Specifically, LHMWD is described as having adequate capacity and infrastructure to supply current and future needs. Exhibit H-2 of the Housing Element shows vacant lands in WRCOG's jurisdiction that are available for housing. Table 43 lists future lower income housing to be in high density and very high density residential designated areas. Figure 3 of the San Jacinto Valley Area Land Use Plan shows limited opportunities for high or very high residential development. In any case, the vacant parcels in the unincorporated portions of Riverside County and within LHMWD's service area are included in the water demand estimates and projections.

City of San Jacinto

The City of San Jacinto approved their Housing Element of the General Plan in May 2006 and can be found at:

http://www.ci.san-jacinto.ca.us/city-govt/development/general-plan-11/006_HousingElement.pdf

http://www.ci.san-jacinto.ca.us/city-govt/development/general-plan-11/010_AppendixA.pdf

Figure 3 of the Housing Element Technical Report (Appendix A of the Housing Element) depicts vacant lands and the associated zoning remaining in the City of San Jacinto. The only vacant parcels in the City of San Jacinto and LHMWD's service area are on Park Hill in the southeast portion of the City. The ridge area of Park Hill is zoned for rural residential development at 0 to 2.0 dwelling units per acre. The lower portions of Park Hill are zoned for low density residential at 2.1 to 5.0 dwelling units per acre.

On Page A-43, lower income housing is discussed as being feasible at densities near or above 20 units per acre associated with the very high density residential zoning. As very high density residential zoning is not within the remaining vacant lands within LHMWD's service area, future lower income housing within the City of San Jacinto is not planned within LHMWD's service area.

City of Hemet

The City of Hemet is nearly complete with an update of its General Plan including the Housing Element. Table H-44 of the draft Housing Element lists affordable housing projects that are completed or in progress. Table H-46 lists RHNA, units built or in progress, and available units based on vacant properties listed.

Figure H-10 of the proposed update shows 3 areas totaling over 29 acres of potential lower income housing sites available for development that are within the City of Hemet and LHMWD's service area. The 3 sites are located at:

1) Southeast corner of Johnston Avenue and Gilbert Street, about 12 acres;
2) Northwest corner of Stetson Avenue Buena Vista Street, about 12 acres;
3) West side of State Street midway between Oakland Avenue and Menlo Avenue, about 5 acres;

Table H-45 lists a realistic density of 18.1 lower income units per acre. Using that density, an estimated 525 lower income units are planned in the City of Hemet and within LHMWD's service area. Using 2.5 people per lower income housing unit, 120 gpcd of water use, the estimated water demand is 176 af/yr. This demand is only 6% of and is included in the increased demand projections estimated above between 2010 and 2030.

3.3 WATER DEMANDS

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) (10631(k)). #33.

LHMWD can only receive water directly from EMWD at the Washington Booster site and the Fairview and Acacia site for potable water and at the Marshall Tank site for raw surface water or recycled water through the Reach 5 pipeline. No other physical connections exist where LHWMD can directly take water from another agency. Table 14 shows the amount of water projected in acre-feet LHMWD will need to purchase to augment its own supplies. The sources would potentially be recycled water, groundwater, and raw water from EMWD. Table 15 shows the available supplies of each source as provided by EMWD. The Water Master is not officially formed but is expected to be soon and certainly before 2015 considering recent progress related to the regulatory permits needed for construction of the recharge ponds.

In a typical year with adequate groundwater and lake levels, LHMWD will not need any outside wholesale water supplies either from EMWD or the future Water Master. LHMWD may choose to purchase wholesale water based on economic or other considerations such as maintaining minimum lake levels. In multiple dry years or in cases of equipment failure, wholesale water may be needed to supplement existing supplies. The most vulnerable demands would be agriculture irrigation during the later summer months after river flows ceased and multiple dry years causing low water levels in Lake Hemet. Even then, agricultural wells and even domestic wells may be more capable of meeting the demands and also be more cost effective.

Table 14. LHMWD demand projections provided to wholesale suppliers – AF/Y

Wholesaler	Source	2010	2015	2020	2025	2030
EMWD	Groundwater	15	300	300	300	300
	Recycled/Raw	1,125	800	800	800	800
Water Master	Groundwater	0	1,000	1,000	1,000	1,000
TOTAL		1,140	2,100	2,100	2,100	2,100

Table 15. Wholesaler identified & quantified the existing and planned sources of water available to LHMWD in AF/Y					
EMWD	2010	2015	2020	2025	2030
Sources	Existing	Planned	Planned	Planned	Planned
Groundwater	19,000	13,200	13,200	13,200	13,200
Recycled Water	4,000	32,900	37,800	42,100	43,700
Raw Surface Water	99,000	160,400	168,900	185,900	203,800
Desalination	1,000	12,000	12,000	12,000	12,000
TOTAL	123,000	218,500	244,200	257,700	276,400

Table 16. Wholesale Supply Reliability - % of Average supply for various year types					
	Single-dry	Multiple-dry years AF to Agency			
EMWD	Year	Year 1	Year 2	Year 3	Year 4
Groundwater	100	100	100	100	100
Recycled Water	100	100	100	100	100
Raw Surface Water	100	100	100	100	100

3.4 Water Use Reduction Plan

Urban wholesale water suppliers shall include in the urban water management plans . . . an assessment of their present and proposed future measures, programs, and policies to help achieve the water use reductions required by this part (10608.36). Urban retail water suppliers are to prepare a plan for implementing the Water Conservation Bill of 2009 requirements and conduct a public meeting which includes consideration of economic impacts (CWC §10608.26). #2.

Consumption Reduction Methods

Based on 2009 and 2010 demand and population estimates, LHMWD's previous and current water reduction efforts resulted in a per capita water use of 141 gpcd and 133 gpcd, respectively. These per capita water demands for the last two years are already

lower than the 2020 target of 142 gpcd determined in Section 3 of this UWMP. Weather conditions in 2010 such as the relatively cool summer and above normal rainfall likely had a reducing impact on water use. Consequently, those conservation efforts need to be continually reinforced to ensure compliance with the 2015 interim and 2020 target requirements in the Water Conservation Act of 2009.

The conservation efforts are described in the Demand Management Measures (DMMs) in Section 6. An implementation plan for the DMMs is also discussed in Section 6 including implementing steps, schedule, effectiveness evaluation, advertising, a description, and quantification as required in Section 10631.f and 10631.g.

Economic Impacts

Reduced water consumption will result in lower water sales and revenue. Also, costs tend to be lower such as pumping power costs, water purchase costs, and chlorine disinfection costs. However, a portion of costs are fixed and not dependent on water volume such as billing, meter reading, water quality testing, administration, pipeline maintenance, standby utility costs, and facility maintenance. As with many agencies, LHMWD rates include a fixed portion that is not dependent on water consumption. The fixed portion of the rate structure provides a more stable and consistent revenue source and protects LHMWD from fluctuations associated with water consumption. Increases of 12.5% in the fixed portion of LHMWD water rates were already approved for each of the next 4 years. These increases should provide steady levels of adequate revenue for vital LHMWD functions to offset anticipated revenue losses associated with desired reduced consumption. LHMWD also maintains a rate stabilization fund to offset volatile fluctuations in revenue such as those from short term changes in water consumption.

Note for the last two years, LHMWD is already experiencing per capita water consumption that meets the 2020 target and the anticipated impacts on revenue. The rate increases and rate stabilization are having positive impacts toward LHMWD maintaining adequate fund balances. A similar and more detailed discussion related to reduced water consumption from water shortage contingency plans is in Section 5 for up to a 50% reduction.

SECTION 4

WATER SYSTEM SUPPLIES

SECTION 4: Water System Supplies

4.1 Water Sources

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) (10631(b)). #13.

The District currently serves its customers from three main sources of supply.

1. Locally pumped groundwater;
2. Surface water diversions from the San Jacinto River system; and
3. Water purchases from Eastern Municipal Water District (EMWD).

Table 17 summarizes the District's existing and planned water supply sources and quantities that will be available.

Table 17. Current and Planned Water Supplies – AF/Y

Water Supply Sources	2010	2015	2020	2025	2030
Wholesale purchases EMWD-Raw Surface Water	1,125	1,000	1,000	1,000	1,000
Wholesale purchases EMWD-Domestic	15	300	300	300	300
Recycled Water from EMWD	0	800	800	800	800
Water Master	0	1,000	1,000	1,000	1,000
LHMWD produced groundwater-Domestic	9,181	9,611	9,446	9,968	11,092
LHMWD produced groundwater-Ag. Irrigation	863	750	750	750	750
LHMWD surface diversions	4,963	4,283	4,493	4,563	4,705
Total	**16,147**	**17,210**	**17,254**	**17,847**	**19,113**

4.2 Groundwater

(Is) groundwater . . . identified as an existing or planned source of water available to the supplier . . . (10631(b))? #14.

Groundwater is identified in Table 17 as an existing and planned source available to LHMWD to meet its existing and projected demands. LHMWD owns or leases 13 active domestic wells and 7 active agricultural irrigation wells. In 2010, LHMWD pumped 10,444 af of domestic and agricultural irrigation water from the underlying aquifers. LHMWD does not plan to develop additional groundwater resources except to replace existing wells as they age and deteriorate. However, the proposed Water Master will use recently built wells to convey recharged water to the four participating water agencies, including LHMWD. A small amount of groundwater to be purchased from EMWD to maintain and operate existing connections or for emergency purposes.

Groundwater Management Plan

(Provide 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 (10631(b)(1)). #15.

A Water Management Plan (WMP) has been prepared for the agencies of Eastern Municipal Water District, City of Hemet, City of San Jacinto, and LHMWD. The Department of Water Resources has facilitated the cooperative process for the last 10 years. However, the WMP has not been formally adopted by the agencies mostly due to the need to finalize environmental permits for the recharge ponds. The approval is nearing and is anticipated for final consideration in the next year. Until the approval of the WMP, the four water agencies approved the "Principles for Water Management" in 2003. A copy of the WMP is available at:

http://project.wrime.com/Hemet/Documents/HSJ_WMP_final.pdf.

Other agreements approved by the four agencies related to water management include:

> Memorandum of Understanding for the Preparation of Water Management Plan, 2004
> Agreement for Principles for Water Management, 2004
> Agreement to Develop a Groundwater Monitoring Program
> Memorandum of Understanding for the Interim Water Supply Plan for the Upper San Jacinto Sub-Basins, 2004
> In Lieu Agreement for Scott Brothers Dairy and Rancho Casa Loma, 2007
> Soboba Band of Luiseño Indians Settlement Agreement, 2008

Proposed agreements or documents related to water management available in draft form are:

-Phase I Facilities Construction Cost and Use; Cost and Use of Unused Tribal Water
-Stipulated Judgment

An electronic copy of the WMP and other documents are included on the enclosed CD.

(Provide a) description of any groundwater basin or basins from which the urban water supplier pumps groundwater (10631(b)(2)). #16.

The District extracts groundwater from both the San Jacinto Groundwater Basin No. 8-5 of the South Coast Hydrologic Region as identified in the DWR inventory system. The San Jacinto Groundwater Basin is divided of two small basins, the San Jacinto and Hemet Basins. Neither groundwater basin is currently under the jurisdiction of a Groundwater Management Act (Assembly Bill 3030), or adjudicated; therefore any overlying basin user can pump groundwater to meet their water demands. It has generally been acknowledged by the District, EMWD, the Cities of Hemet and San Jacinto and by the local agricultural community that the San Jacinto and Hemet Groundwater Basins are currently in a state of overdraft, with total groundwater extractions by local agencies and private groundwater users exceeding the natural long-term recharge capability of the groundwater basins.

The San Jacinto Groundwater Basin is divided into several sub-basins, namely the Upper Pressure, Canyon, Intake, and Bautista Outwash. The Hemet Basin is divided into the Hemet North and Hemet South Sub-basins. The location of the sub-basins and the general location of the District's wells are shown on Figure 1. Wells used for domestic supply are typically located in the Intake, Canyon and Upper Pressure Sub-basins, while wells used to meet agricultural demands are generally located in the Bautista Outwash Sub-basin and the Hemet South Sub-basin and the Intake portion of the Upper Pressure Sub-basin. LHMWD does not own or operate any wells in the Hemet North Sub-basin.

Currently, the District is involved in a basin-wide water management effort with EMWD and the cities of Hemet and San Jacinto, in collaboration with the Department of Water Resources. The District is committed to the on-going effort of developing and implementing the WMP, which includes the operation of the San Jacinto and Hemet Groundwater Basins on a "safe-yield" or "perennial yield" basis. This means operating the groundwater basins so that long-term total groundwater extractions would not result in overdraft of the groundwater basins. As an acknowledgement of the current state of overdraft in the San Jacinto and Hemet Basins, the WMP principles propose to limit basin users to some mutually agreed upon historic extraction quantity, consistent with the estimated perennial yield of the basins.

The mutually agreed upon available water would be subject to a nominal extraction fee to help pay for the importation and groundwater storage of supplemental water supplies (as part of an aggressive conjunctive use strategy), to artificially recharge the basins and help alleviate the existing overdraft condition. Pumping in excess of the mutually agreed upon quantity would be subject to increased replenishment fees, however would not be limited in quantity. The replenishment fees would fund imported water that would recharge the aquifer.

Since all four entities pump from the same basins, and considering the basins are in overdraft, it is imperative that a Water Management Plan (WMP) be implemented. This process is in the final stages of development and the WMP through a Water Master will probably be implemented in the next year. When that occurs, it is anticipated the District be able to purchase supplemental groundwater from the Water Master and/or EMWD.

An operational yield study completed by WRIME, Inc., as part of the WMP effort, determined that all three sub-basins are in overdraft. The WMP is designed to bring the basins into safe yield by reducing pumping, maximizing the use of recycled water, and most importantly, importing water for recharge. Table 18 contains data from the WRIME report.

Table 18. Range of Operational Yield for Each Sub-basin

	Long Term Operational Yield Estimate (AF/Yr)		
Sub-basin	**Average Long Term GW**	**Production**	**Overdraft**
Canyon	7,800	8,300	600
Upper Pressure/Intake	21,800	32,200	10,400
Hemet South	8,100	11,000	2,900

For those basins for which a court or the board has adjudicated the rights to pump groundwater, (provide) a copy of the order or decree adopted by the court or the board (10631(b)(2)). #17.

The Hemet and San Jacinto basins are not adjudicated by a court or board. However, the basins are the subject of the Water Management Plan, Settlement with Soboba Band Luiseno Indians, and the proposed Stipulated Judgment that is nearing an order and decree by the Superior Court of California. The Settlement with the Soboba Band of Luiseno Indians was approved in 2008 by EMWD, LHMWD and the United States.

(Provide) a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree (10631(b)(2)). #18.

The Water Management Plan identifies the District's base production right as 11,063 afy. The total base production right for the four agencies is 32,283 afy. The District's share represents 34.2% of the total. The base production right will reduce systematically each year after the formation of the Water Master. The intent is to limit the amount of groundwater pumped or more realistically to establish a pumping limit above which a replenishment fee will be charged to fund the import of an equivalent volume of water. Consequently, an absolute pumping limit will not be in effect.

For basins that have not been adjudicated, (provide) 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 (10631(b)(2)). #19.

The Hemet and San Jacinto Basins are considered to be in overdraft as described in the WRIME report. The WMP is specifically targeted to reduce the overdraft and provide a funding mechanism for surplus surface water to be recharged.

(Provide 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 (10631(b)(3)). #20.

The District owns or leases thirteen active wells that provide water to the domestic water system, and six active wells that supply water to the irrigation system as shown on Figure 1. Table 19 details the District's pumping history from the two basins.

Table 19. Amount of Groundwater pumped – AF/Y

Basin Name	2006	2007	2008	2009	2010
San Jacinto Basin					
Canyon Sub-basin	6,045	4,829	4,489	4,027	3,266
Intake Pressure Sub-basin	3,904	5,241	4,355	4,413	4,275
Pressure	539	301	511	686	507
Bautista Outwash	1,310	2,046	1,914	1,863	1,789
Sub-Total	11,798	12,417	11,270	10,989	9,798
Hemet Basin					
Hemet South Sub-basin	404	310	187	279	246
TOTAL	12,202	12,727	11,457	11,268	10,044

(Provide 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 (10631(b)(4)). #21.

Table 20 shows the current and projected groundwater to be pumped. The projections are relatively steady over the next 15 years based on developing additional supplies closely matching the population projections. Additional groundwater will likely not be developed significantly due to the need to reduce current basin overdraft and the formation of the Water Master and its associated source of imported recharge water. Agricultural demands are also expected to remain constant.

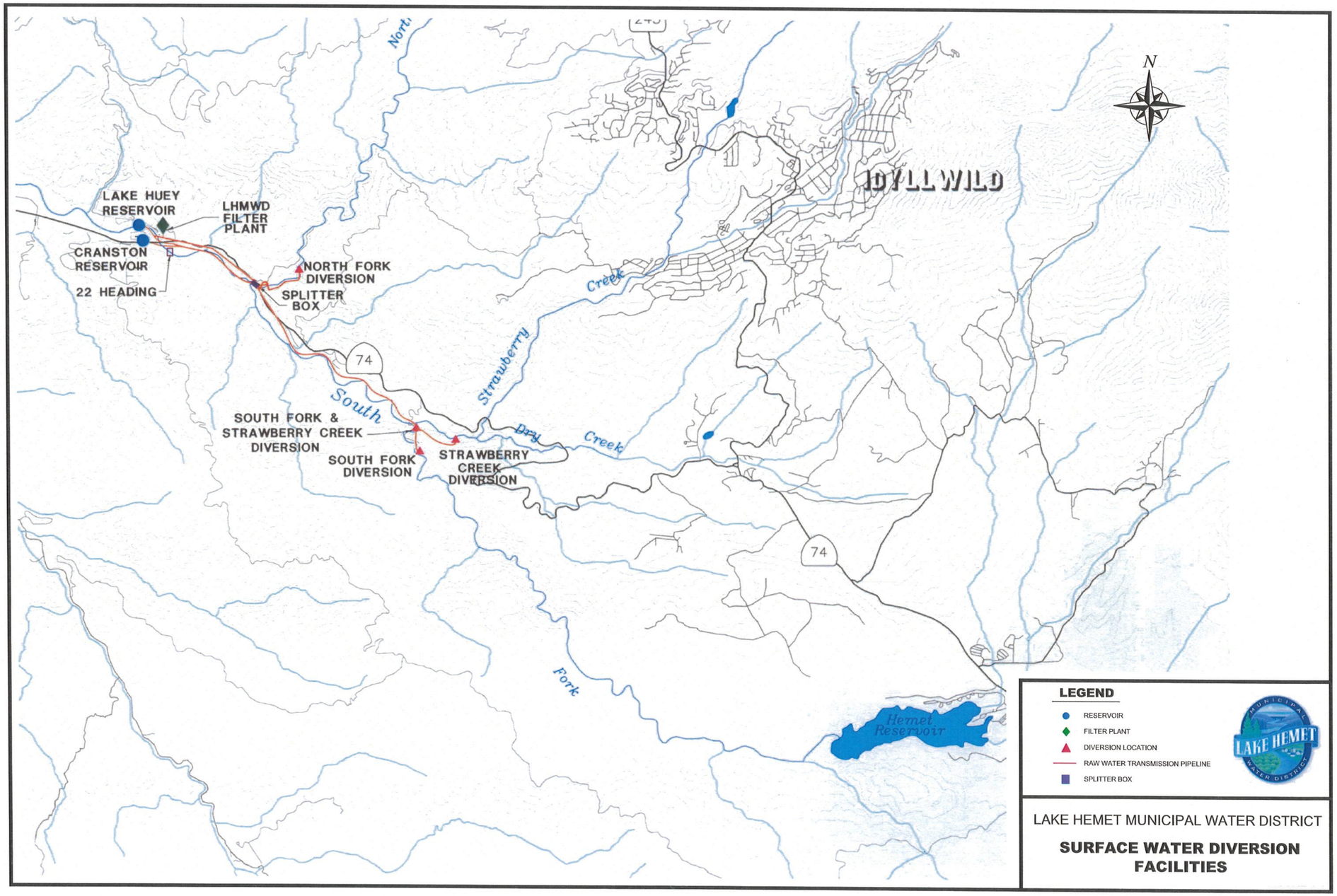
Table 20. Current and Planned Groundwater Pumping by LHMWD – AF/Y

Water Supply Sources	2010	2015	2020	2025	2030
Groundwater- Domestic	9,181	9,611	9,446	9,968	11,092
Groundwater- Ag. Irrigation	863	750	750	750	750
Total	**10,044**	**10,361**	**10,196**	**10,718**	**11,849**

Surface Water

Flow in the upper San Jacinto River is partially controlled by releases from Lake Hemet Reservoir, a 12,750 acre-foot lake located in the San Jacinto Mountains. The District owns and operates Lake Hemet Reservoir, releasing water from Lake Hemet to the South Fork of the San Jacinto River, and then diverting the water for agricultural use or groundwater recharge through a diversion structure located approximately six miles downstream of the dam (on the South Fork of the San Jacinto River). Flows from two tributary creeks, North Fork and Strawberry Creek, which join the South Fork of the San Jacinto River further downstream, are also diverted by the District for agricultural use and groundwater recharge as shown on Figure 3.

The District has pre-1914 appropriative rights dating back as far as 1884 to the water captured, stored and released from Lake Hemet Reservoir, diversions from the Strawberry, South Fork and North Fork Creeks, and from several historic and current locations on the San Jacinto River including Hamner's Ditch and 22 Heading among others. The District has historically diverted water from the South Fork, North Fork, Strawberry Creek and San Jacinto River and delivered it through pipelines, flumes or ditches, untreated, to agricultural water users. From 1982 to 1998, some of this water was conveyed by pipeline to the Eggen Water Treatment Plant (EWTP) for treatment prior to domestic use. The EWTP was taken out of service in 1999 due to drought conditions. Due to lack of stream flow, the District was unable perform testing necessary to comply with the Interim Enhanced Surface Water Treatment Rule and the Stage 1 D/DBPR.



S:\Lake Hemet Municipal Water District\96006.037-Water Model\Report\96006037-Figure 4-4.dwg, 5/6/2010 2:29:53 PM, Adobe PDF (temporary).pc3

Figure 3

Consequently, the EWTP was decertified by the State Department of Health Services and is no longer a source for the District but may be placed in service again in the future.

The District's use of surface water for domestic purposes was approximately 1,500 af/yr based on the average of 1985 to 1998 filter plant production records. The District's use of surface water for agricultural purposes based on irrigation stream diversions from 1985 to 1998 averaged 2,200 af/yr for a total of 3,700 af/yr. From 1999 to 2004, with the EWTP offline and reduced surface flows due to drought, the District's use of surface water averaged only 1,900 af/yr. In 2010, the District conveyed 4,963 af of stream flows.

Purchased Water

Based on the 1972 Agreement between the District and the Fruitvale Mutual Water Company (FMWC, predecessor to EMWD), the District is entitled to a maximum of 336 af/yr of EMWD's Fruitvale System domestic water at a special water rate and can purchase additional groundwater as needed, provided that EMWD has adequate supplies to meet its own demands. These additional water supplies are purchased at EMWD's normal billing rate. As previously described, under the proposed WMP, participating water agencies must fund the acquisition of supplemental surface water which can be stored as part of an aggressive groundwater conjunctive use program, to increase existing supply reliability and provide for new growth. Therefore, it is assumed that in the future, if the District requests additional water supplies from EMWD beyond the 336 af/yr quantity available from the Fruitvale Agreement, the requested groundwater quantities will be available. The 1972 Agreement will expire upon the finalization of the WMP and its implementing agreements.

Since 1985, purchases from EMWD for domestic and agricultural use averaged about 2,000 af/yr. In the early 1990s, purchases from EMWD were significantly higher than average due to drought conditions, particularly in 1990 when over 8,000 acre-feet of water was purchased. Future purchases of domestic water from EMWD, and the Watermaster once the WMP is adopted, are anticipated to be approximately 1,300 af/yr or less during normal hydrologic periods as shown in Table 17.

The District also purchases untreated, raw surface water from EMWD to supplement its irrigation water demands, especially during the summer months when the stream flows are negligible and Lake Hemet water levels are low. In 2010, the District purchased 1,125 af of raw water from EMWD. Future purchases of raw surface water are projected at 1,000 afy as shown in Table 17.

4.3 Transfer Opportunities

Presently, there are no plans to transfer or exchange water. With the WMP's emphasis on conjunctive use and the near-future availability of recycled water, the District will have the supplies necessary to satisfy future demand.

4.4 Desalinated Water Opportunities

Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply (10631(i)). #31.

There are no significant quantities of saline or brackish water within the District's boundaries that can be developed into long-term supplies. LHMWD's service area is 40 horizontal miles from and 1,600 feet vertically above the nearest ocean shore making desalination of ocean water impractical. However, salt management of the basins is discussed in the WMP as a long term objective that only needs to be monitored for now. EMWD already has desalters in operation but not in the Hemet-San Jacinto basins. Westerly areas near Winchester and Nuevo are experiencing high salt/TDS levels so intrusion should be monitored. The Santa Ana Regional Water Quality Board has set relatively low water quality basin objectives that will help preserve the low TDS levels in the sub-basin in LHMWD's service area.

4.5 Recycled Water Opportunities

(Describe) 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 (10633(a)). #45.

Wastewater collection services are provided by LHMWD within its service area. Transmission and treatment services are provided by EMWD. Wastewater from LHMWD's service area is treated at either EMWD's Perris Valley or San Jacinto Valley Regional Water Reclamation Facility. EMWD presently operates four regional water reclamation facilities. All four water reclamation facilities are capable of producing tertiary treated water.

In 2010, LHMWD conveyed 7,688 af of potable water for residential or commercial uses. Assuming 35% of that water is discharged into the wastewater system, 2,690 af of wastewater from LHMWD customers was conveyed to EMWD's water reclamation facilities. It is estimated that EMWD will have up to approximately 5,000 af/yr of tertiary treated recycled water available to sell to willing buyers in the Hemet-San Jacinto basin.

(Describe) the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use (10633(c)). #47.

Recycled water is not currently available or used within LHMWD's service area. The nearest recycled water pipeline is 2½ miles from LHMWD's service area. However, LHMWD and EMWD staff have discussed potential pipeline options and demand estimates.

In addition, LHMWD along with the other water agencies participated in the In-Lieu Agreement for the Scott Brothers Dairy and Rancho Casa Loma.
That agreement supplies up to 8,000 afy of recycled water to the private agricultural groundwater pumpers in exchange for the pumpers to not use an equivalent amount of groundwater from their wells. The agreement funded 13,000 lf of 24" pipeline and subsidized the difference in the recycled water cost and the pumpers cost to pump their well. Additional agreements are currently in negotiations.

EMWD can convey recycled water throughout their service area. Demand for recycled water exceeds supply in the summer and is lower than supply in winter, mostly due to seasonal irrigation demand patterns. To help meet the higher summer demands, EMWD constructed several large storage pond complexes such as those at their treatment plants, in Winchester, and San Jacinto at Alessandro. EMWD is also reviewing a recycled water demonstration storage project near Diamond Valley Lake. EMWD is starting to upgrade their recycled water distribution system to resemble a typical potable water system with elevated storage tanks and booster stations.

The majority of the recycled water in EMWDs service area is used by agricultural users and sod farms. However, some golf courses and schools in the San Jacinto Valley such as West Valley and Tahquitz High Schools, Rancho Viejo Middle School, and Landmark and Diamond Valley Golf Courses are adjacent to transmission pipelines and use recycled water. All of these users are outside LHMWD's service area. The balance of the recycled water is disposed of through evaporation, incidental groundwater recharge, or pumped into the Temescal Wash and SARI brine line.

(Describe and quantify) the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses (10633(d)). #48.

Citrus farmers in the Valle Vista area of LHMWD's service area would be the primary beneficiaries of using recycled water. The citrus groves used about 6,800 af in 2010. Deliveries are projected to be as much as 800 af/yr as shown in Table 21 but could be more. In preliminary discussions with farmers, interest in the program is high and positive. Issues of water quality, relative cost/rates, and infrastructure need to be addressed. The water quality objective for the Intake Sub-basin prohibits the use of recycled water due to TDS levels. The Intake Sub-basin includes about 30% of the citrus groves in LHMWD's service area. Another issue is the conversion of existing irrigation systems to be compliant with identification requirements for recycled water use. A challenge that is all too common with recycled water use is that citrus grove demand is highest in the summer and practically zero in the winter season especially with stream flows being available. Demand for recycled water in the summer already exceeds EMWD's available supply.

Table 21. Recycled Water Uses - Potential AF/Y					
Type of Use	Teatment Level	2010	2015	2020	2025
Agriculture	Tertiary	0	800	800	800

(Describe) 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 (10633(e)). #49.

Any significant use of recycled water in LHMWD's service area depends almost entirely on citrus grove demand. No other single or group of potential recycled water users would likely justify the infrastructure. Several schools and two parks spread across the District's service area are not centralized and would each require a long distribution main measuring miles. Coupled with no extra supply in summer, the impetus for developing such an extensive wide-spread infrastructure system for relatively low volume users other than citrus is not practical.

Regardless or source, citrus grove demand is projected to be fixed in the future. If any changes occur, the tendency would be for existing groves to be developed into residential tracts or other land use. This tendency would reduce water demand as a whole and recycled water almost entirely.

Recycled water use was not projected in the District's 2000 Urban Water Management Plan update. In the 2005 UWMP, 800 af of recycled water use was projected for 2010. As mentioned above, recycled water still is not used within LHMWD's service area. The nearest recycled water pipeline is 2½ miles from the District's service boundary. Other challenges such as water quality, relative water rates, conversion, and seasonal availability hamper the efforts to extend recycled water use to the largest potential users, the citrus grove farmers.

(Describe the) 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 (10633(f)). #50.

LHMWD along with the 3 other water agencies agreed to the In Lieu Water Agreement for the Scott Brothers and the Rancho Casa Loma. Through the agreement, the two farms will use up to 8,000 afy of recycled water instead of pumping groundwater from their wells. The agreement also provides for the shared funding of $3.2M in pipeline costs and the subsidizing of the difference between the water user's lower cost of pumping their own wells and the higher cost of recycled water. Similar agreements are in negotiations with other farms in the vicinity. The agreements have the same benefit of directly not pumping from water agency wells and at a reasonable cost.

(Provide 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 (10633(g)). #51.

LHMWD does not own or operate a recycled water system. Consequently, LHMWD does not have a recycled water master plan. However, LHMWD participates with EMWD, the City of Hemet, and San Jacinto in reviewing, developing, and funding recycled water projects to increase the availability and use of recycled water. EMWD is the lead agency regarding recycled water usage as the owner of the regional wastewater treatment facilities and transmission systems.

4.6 Future Water Projects

(Describe) 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 (10631(h)). #30.

Planned Water Supply Projects and Programs

There are two major projects that will ensure the District's ability to meet future demand: (1) replace the Eggen Water Treatment Plant with a membrane filtration plant, and (2) invest with EMWD in a pipeline and pumping plant to get recycled water to the irrigation canal system.

New Water Treatment Plant

Historically, the District has primarily relied on groundwater supplies to meet its potable and non-potable water demands. Even after 1982, when the treated water filter plant (EWTP) went into operation, groundwater has continued to be used as the primary water supply source for both domestic and agricultural use. The District's surface water use is not necessarily reflective of actual surface water availability. Due to constraints in the ability to capture, store and treat surface water supplies, the District is unable to fully take advantage of local runoff when it is available. The ability to maximize its use of local surface water will require modification to the EWTP by using the existing pressure filters as pretreatment and providing final treatment with a microfiltration membrane plant.

The District received an offer from Westech Engineering to build a microfiltration plant at the EWTP location. The projected capital and construction cost for a 3 MGD plant is $4.5 million. Projected O&M costs would be approximately $35,000 annually. Onsite pilot plant work would cost about $100,000. Construction could begin as early as 2014 with completion within one year. Funding would come from the District's Capital Improvement Projects fund.

From 1985 to 1998, the EWTP treated on average about 1,500 acre-feet per year. Due to process constraints, the raw water feeding the plant had to be low in turbidity and color, limiting the operation of the plant to periods of non-turbulent stream flow. During periods of rainfall when raw water turbidity was high, the District was unable to exercise its diversion rights due to the limitations of the EWTP and a lack of demand for irrigation water. A more efficient treatment plant will allow the District to capture a portion of these flows resulting in an increased treated water production of 500 to 1,000 acre-feet annually.

Table 22. Future Water Supply Projects

			Multiple-dry years AF to Agency		
Project Name	Average-year AF to Agency	Single-dry year AF to Agency	Year 1	Year 2	Year 3
Water Treatment Plant	2,000	250	500	500	500
Recycled Water Facilities	3,000	2,000	3,000	2,500	2,000

SECTION 5

WATER SUPPLY RELIABILITY

AND

WATER SHORTAGE CONTINGENCY PLANNING

Section 5: Water Supply Reliability and Water Shortage Contingency Planning

5.1 Water Supply Reliability

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 (10620(f)). #5.

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 (10631(c)(2)). #23.

Table 23 identifies surface water as the only supply significantly affected by climatic conditions. During dry hydrologic periods, stream flows are not consistent and cannot be relied upon. Discharges from Lake Hemet will help offset in the first years of the dry period but would eventually run dry for extended droughts. During these periods groundwater from the District's wells will make up the supply shortfall. Purchases of groundwater or imported water from EMWD would be used as an alternative source. Given LHMWD's long standing water rights, the progressing development of the WMP, high groundwater quality, and the absence of foreseeable environmental challenges, only climatic variations are expected to influence LHMWD supply sources in available surface water.

Table 23. Describe the factors resulting in inconsistency of supply

Name of supply	Legal	Environmental	Water Quality	Climatic
Surface water				✔

5.2 Water Shortage Contingency Planning

Catastrophic Supply Interruption Plan

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 (10632(c)). #37.

The two catastrophic events that would most likely affect water supply and delivery would be a regional power outage and an earthquake. A power outage would cause the District's well and booster pumps to shut down, interrupting the supply of water to customers. In anticipation of such an event occurring, the District has bought generators that will supply power to several well sites and hillside booster stations. These backup power sources would help to maintain water levels in the storage tanks until the power company got its distribution grid re-energized. If necessary, customers would be notified of the problem and asked to refrain from unnecessary watering.

A major earthquake that destroyed portions of the District's infrastructure would pose more of a problem. The ability of the District to regain full functionality of its system would depend on the severity of the earthquake and the extent of the subsequent damage. The District is in the process of upgrading its storage facilities to prevent pipelines from rupturing at the connections to the tanks and anchoring the tanks to their bases. These are preventative measures design to minimize damage during an earthquake. After an event occurs, district personnel will respond to storage tanks, well sites and other critical facilities to assess and report any damage. The District's emergency response plan which includes coordination with other agencies through SEMS will be implemented.

Table 24. Preparation Actions for a Catastrophe

Possible Catastrophe	Summary of Action
Regional Power Outage	On-site generators at 7 major well sites will be utilized; notify public of emergency and ask to eliminate unnecessary use of water; Implement Emergency Response Plan; SEMS
Earthquake	Implement Emergency Response Plan; SEMS

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 (10632(d)). #38.

In a continuing drought, a Stage 3 water supply shortage would trigger certain prohibitions to water use:

Table 25. Mandatory Prohibitions

Samples of Prohibitions	Stage When Prohibition Becomes Mandatory
No person shall cause any water to flow away from property owned, occupied or controlled by such person, in any gutter, ditch, or in any other manner over the surface of the ground so as to constitute water waste runoff.	3
No water shall be used to wash down sidewalks, driveways or parking areas, except to alleviate immediate fire or sanitation hazard.	3
No person shall cause or allow any water to be wasted due to sub-standard, leaky or faulty water fixtures or water-using distribution devices.	3
Water from fire hydrants shall not be used for any purpose other than to fight fires or for other activities where such use is immediately necessary to maintain the health, safety and welfare of the residents of the District.	3

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 (10632(e)). #39.

If the above prohibitions do not reduce consumption as anticipated, further consumption reduction measures will be implemented:

Table 26. Consumption Reduction Methods

Consumption Reduction Methods	Stage When Method Takes Effect	Projected Reduction (%)
Landscape irrigation will only be allowed on odd or even days according to the last digit of the property location address. Landscape irrigation will only be allowed during the hours of 5 p.m. to 9 a.m. (restricted between 9 a.m. and 5 p.m.)	3	30
The washing of autos, boats, trailers or buildings only from a hand bucket, or hose equipped with a positive shutoff device, and then only for quick rinses.	3	30
No water shall be used to clean, fill or maintain levels in decorative fountains, ponds, lakes or other similar aesthetic structures unless such water is part of a recycling system or with the use of reclaimed wastewater.	3	30
Water will not be used for the flushing of sewer lines and the flushing of water mains will not be allowed, except for immediate health and safety reasons or by special written permission by the General Manager.	3	30
Restrict landscape irrigation to drip system or bucket	4	50
Prohibit street washing	4	50
Prohibit construction water use	4	50
Prohibit new water service connections	4	50
Prohibit filling of pools and spas or wading pools	4	50
Restrict turf irrigation	4	50
Restrict serving of drinking water in restaurants except by request	4	50
Restrict new landscape unless xeriscape	4	50

Penalties or charges for excessive use, where applicable (10632(f)). #40.

When it is determined that the above prohibitions and restrictions are being ignored, penalties and fines, or charges, will be defined and assessed. At a minimum, one charge that will be implemented at Stage 2 will be a tiered water rate. A tiered rate will not affect small water users, but will punish consumers on the high end of the water consumption spectrum. As the District progresses into the later stages of the drought contingency plan, fines and penalties will be used to encourage cooperation. These will be determined at the time of the occurrence of the water shortage, based upon existing conditions.

Table 27. Penalties and Charges

Penalty or Charge	Stage When Penalty Takes Effect
Increase water rates to encourage conservation - implement tier structure	2
Penalties and Charges to be determined and implemented	3
Penalties and Charges to be determined and implemented	4

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 (10632(g)). #41.

Analysis of Revenue Impacts of Reduced Sales During Shortages

Most, if not all, of the above demand reduction measures will impact the District financially through reduced water sales. These measures primarily target the domestic system customer sectors more so than the agricultural sector as farmers have already invested heavily in water saving equipment and practices to maintain their market viability. If anything, irrigation sales will increase during a drought due to lack of rainfall and lower production from farmers' wells.

The anticipated revenue losses delineated in Table 28 are based on 10%, 20%, 30% and 50% reductions in water use from 2010 projected domestic system average year demand.

Table 28. Actions and Conditions that Impact Revenues				
Type	Anticipated Revenue Reduction			
	Stage 1	Stage 2	Stage 3	Stage 4
Reduced Domestic Sales	$745,630	$1,491,260	$2,236,890	$3,728,150
Reduced Irrigation Sales	0	0	0	0

Based on retail price of domestic water @ $943 per acre-foot and 2010 average domestic demand of 7,907 acre-feet

During a drought, the costs of acquiring water increase. As groundwater levels drop, more electricity would be required to lift the water to the surface. Pumps designed to operate at shallower groundwater levels would need to be replaced with deep water designs. Higher horsepower motors would need to be installed. Consequently, higher operation and maintenance costs would be incurred. Surface supplies would be limited, or non-existent, and if well production did not keep up with demand, supplemental water would need to be purchased, increasing supply costs.

Table 29. Actions and Conditions that Impact Expenditures				
Category	Anticipated Cost			
	Stage 1	Stage 2	Stage 3	Stage 4
Increased O&M cost	$120,000	$160,000	$200,000	$200,000
Increased cost of supply	0	0	$300,000	$300,000

To recover lost revenue, and to encourage conservation, rate increases will be implemented in Stages 2, 3 and 4. In addition, effects of lost revenue will be partially mitigated by the utilization of funds restricted for rate stabilization.

Table 30. Proposed measures to overcome revenue impacts				
Names of measures	Stage 1	Stage 2	Stage 3	Stage 4
Rate adjustment (per ccf)	None	$0.25	$0.60	$1.70
Development of reserves	Rate Stabilization Fund ($800,000)	Rate Stabilization Fund ($800,000)	Rate Stabilization Fund ($800,000)	Rate Stabilization Fund ($800,000)

Table 31. Comparison of Revenue Loss and Recovery				
	Summary of Effects			
Names of Measures	Stage 1	Stage 2	Stage 3	Stage 4
Rate adjustment (per ccf)	$ -	$691,300	$1,436,900	$2,928,100
Development of Reserves	$800,000	$800,000	$800,000	$800,000
Revenue Gain	$800,000	$1,491,300	$2,236,900	$3,728,100
Difference between Revenue Loss & Gain	$54,370	$0	$0	$0

The District uses the highest efficiency motors and pumps for each application. Increased operation and maintenance expenses due to lower water levels would be minimized by continuing to upgrade to the highest efficiency equipment available.

A draft water shortage contingency resolution or ordinance (10632(h)). #42.

Ordinance and Use Monitoring Procedure

The District has an approved Drought Management Plan in Appendix F. In addition, the District approved Resolution No. 598 in 2003 (a copy of which in provided in Appendix G) as a conservation measure of a voluntary 10 percent reduction in water consumption consistent with Stage I of the Drought Management Plan. The resolution describes the need for the reduction and outlines the water use restrictions to be imposed on both domestic and agricultural water customers.

The District will need to monitor each stage to determine if the anticipated water savings are occurring. Analysis of data received from the sources in Table 32 below, will determine if the District must proceed to the next stage and whether any fines or penalties need to be assessed.

Table 32. Water Use Monitoring Mechanisms	
Mechanism for determining actual reductions	Type and quality of data expected
Monitoring daily production records	Telemetry data will track overall system water use
Increased frequency of meter reads	Discover overuse of water – basis for penalties/fines

5.3 Water Quality

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 (10634). #52.

Water from the aquifers supplying District wells is generally of high quality. Total dissolved solids are in the range of 220 milligrams per liter (mg/l) to 370 mg/l. Some areas of the Intake and Hemet South sub-basins have elevated nitrate levels due to a history of intensive farming, and consequently, high levels of fertilizer application. Wells in these areas produce water for irrigation only, and are not part of the domestic supply. This particular scheme of groundwater management will continue into the foreseeable future. There has been no evidence of nitrate migration towards domestic production wells which are located miles away from these irrigation wells. Water quality is not projected to have an impact on water supply reliability. See Appendix H, "2010 Consumer Confidence Report", for additional water quality information.

5.4 Drought Planning

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: (A) an average water year, (B) a single dry water year, (C) multiple dry water years (10631(c)(1)). #22.

Reliability of Supply

In an average hydrologic year, the District can produce enough water from its sources to meet demand. In years when rainfall, and consequently, runoff from the San Jacinto Mountains is below normal, increased groundwater production from District wells, increased releases from Lake Hemet Reservoir and purchases from EMWD or the proposed Water Master will offset the loss of surface water.

Table 33 describes the District's current sources of supply and their reliability during a period of multiple dry years.

Table 33. Supply Reliability - AF Year

Water Source	Average Water Year	Single Dry Water Year	Multiple Dry Water Years		
			Year 1	Year 2	Year 3
Ground Water	11,000	13,300	13,500	13,500	13,500
	% of average	108	108	101	107
Surface Water	3,800	500	750	750	750
	% of average	17	33	33	33
Lake Hemet Reservoir	1,500	2,000	1,500	1,500	1,500
	% of average	133	100	100	100
Purchased Water	0	600	650	650	650
	% of average	n/a	0	0	n/a
TOTAL	16,300	16,400	16,400	16,400	16,400

Table 34 shows the years used for the supply estimates for the various hydrological periods.

Table 34. Basis of Water Year Data

Water Year Type	Base Year(s)	Historical Sequence
Average Water Year	1973	1958 – 2001
Single-Dry Water Year	1961	
Multiple-Dry Water Years	1984 - 1986	

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 (10632(a)). #35.

Stages of Action

Table 35 outlines the four stages of the District's Water Drought Management Plan (Appendix F).

Table 35. Water Supply Shortage Stages and Conditions

Stage No.	Water Supply Conditions	% Shortage
I	***Trigger:*** Drought conditions; General water shortage locally and/or statewide; Well production at 90-95% of normal capacity.	5-10
	Resolution: Ask for 10% voluntary conservation; Accelerate District leak detection and repair program. Increase public education.	
II	***Trigger:*** Supply is less than demand; Reserve supplies low; Well production at 80-90% of normal capacity; Surface supplies from local streams limited; Wholesale supplemental water limited.*	10-20
	Resolution: Implement emergency rate increase to force conservation.	
III	***Trigger:*** Drought continues; Reserve supplies extremely low; Well production at 70-80% of normal capacity; Surface supplies extremely limited and Lake Hemet Reservoir storage low; Supplemental water is further limited.	20-30
	Ordinance: Water use restrictions and bans with enforcement program; Increase emergency rates to higher level; Establish fines and penalties.	
IV	***Trigger:*** Reserve supplies critically low; Well production at 50-70% of normal capacity; Lake Hemet Reservoir and other surface supplies unavailable; Supplemental water is rationed or unavailable.	30-50
	Resolution: Increase emergency rates to higher level; Additional water use restrictions and bans as needed. Increase fines and penalties.	

* A Water Management Plan for the San Jacinto Valley is being developed by LHMWD, Eastern Municipal Water District and the cities of San Jacinto and Hemet to address overdraft of the San Jacinto and Hemet basins. A Water Master will be formed to implement the WMP and will be responsible for importing water into the valley for recharge and direct use. An Interim Water Supply Plan is attached as Appendix A.

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 (10632(b)). #36.

Estimate of Minimum Supply for Next Three Years

The historic period used to estimate supplies for this scenario was 1959-1961. Rainfall and San Jacinto River and tributary recharge were at or near historic lows. Assuming these conditions, during an extremely dry three-year period, stream flow would be minimal due to low rainfall, and consequently, low runoff. Wells would be pumped more initially to make up for the loss of surface water, but production would decrease slightly as groundwater elevations dropped and pumps became less efficient. More water would be released from Lake Hemet Reservoir until those stores became low.

Water would have to be purchased from EMWD to help satisfy demand. Table 36 lists the amounts of water that would be available from each source. If needed, the pumps and motors in the wells would be changed out for larger ones and lowered if needed to restore the original well capacity.

Table 36. Three Year Estimated Minimum Water Supply - AF/Yr

Source	Year 1	Year 2	Year 3	Average
Ground Water	13,300	13,500	13,500	11,000
Surface Water (Streams)	500	750	750	3,800
Surface Water (Lake Hemet Res.)	2,000	1,500	1,500	1,500
Purchased from EMWD	600	650	650	0
TOTAL	16,400	16,400	16,400	16,300

A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis 10632(i). #43.

LHMWD records well production data daily in terms of flow and volume. Tank levels are constantly recorded. Retail meter reads are recorded monthly. Evaluating the combined data and considering weather, District staff will be able to determine if the reduction targets are being met. The District's SCADA system automatically measures and records data at strategic locations that will readily reveal overall system demands.

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 (10635(a)). #53.

Projected Average Water Year Supply and Demand

Table 37 projects the amount of source water that will be available during an average hydrologic year through 2025. These supplies will be comprised of groundwater, surface water and recycled water.

Table 37. Projected Average Water Year Supply - AF/Y

	2015	2020	2025	2030
Supply	17,210	17,254	17,847	19,113
% of Average Year	106%	106%	109%	117%

Average hydrologic year demand increases due to population growth in the District's service area and is shown in Table 38.

Table 38. Projected Average Water Year Demand - AF/Y

	2015	2020	2025	2030
Demand	17,210	17,254	17,847	19,113
% of year 2010	106%	107%	111%	118%

Average year supplies will be adequate to meet demand due to increased utilization of surface water for domestic customers by treating water in a new water treatment plant and purchasing recycled water from EMWD for agricultural uses.

Table 39. Projected Average Water Year Supply and Demand Comparison - AF/Y

	2015	2020	2025	2030
Supply totals	17,210	17,254	17,847	19,113
Demand totals	17,210	17,254	17,847	19,113
Difference (supply minus demand)	0	0	0	0
Difference as % of Supply	0%	0%	0%	0%
Difference as % of Demand	0%	0%	0%	0%

Dry Hydrologic Year Supply and Demand

The source most impacted by a dry hydrologic year is stream flow. Even with this decrease in surface water availability, single dry year supplies will be adequate to satisfy the increased demand due to two factors: (1) the ability to pump more groundwater for domestic customers, and (2) an increase in the amount of water released from Lake Hemet Reservoir for agricultural needs. These factors allow the District to increase supplies for a single dry year.

Table 40. Projected Single Dry Water Year Supply - AF/Y

	2015	2020	2025	2030
Supply	18,070	18,120	18,740	20,070
% of Projected Average	105%	105%	105%	105%

Demand in a single dry year will increase due to increased irrigation in the residential and agricultural sectors. Table 41 displays the projected increase in demand.

Table 41. Projected Single Dry Water Year Demand - AF/Y

	2015	2020	2025	2030
Demand	18,070	18,120	18,740	20,070
% of Projected Average	105%	105%	105%	105%

Below, in Table 42, is the comparison between supply and demand in dry hydrologic years.

Table 42. Projected Single Dry Water Year Supply and Demand Comparison - AF/Y

	2015	2020	2025	2030
Supply totals	18,070	18,120	18,740	20,070
Demand totals	18,070	18,120	18,740	20,070
Difference (supply minus demand)	0	0	0	0
Difference as % of Supply	0%	0%	0%	0%
Difference as % of Demand	0%	0%	0%	0%

Projected Multiple-Dry-Year Supply and Demand Comparison

Multiple dry years create slightly higher demand the longer the drought continues as private wells and storage decrease. The District projects that supplies will be adequate during drought due to the ability to pump more groundwater, release extra water from Lake Hemet Reservoir, and to purchase supplemental groundwater from EMWD for domestic customers. Tables 43-54 compare projected supplies with projected demands if multiple dry years occur during any period from 2011 to 2030.

Multiple-Dry-Year Comparison for 2011-2015:

Table 43. Projected supply during multiple dry year period ending in 2015 - AF/Y

	2011	2012	2013	2014	2015
Supply	16,190	17,410	17,630	17,850	18,070
% of projected Average					105%

Table 44. Projected demand during multiple dry year period ending in 2015 - AF/Y

	2011	2012	2013	2014	2015
Demand	16,190	17,410	17,630	17,850	18,070
% of projected Average					105%

Table 45. Projected Supply & Demand Comparison - multiple dry year period ending in 2015 - AF/Y

	2011	2012	2013	2014	2015
Supply totals	16,190	17,410	17,630	17,850	18,070
Demand totals	16,190	17,410	17,630	17,850	18,070
Difference (supply minus demand)	0	0	0	0	0
Difference as % of Supply	0%	0%	0%	0%	0%
Difference as % of Demand	0%	0%	0%	0%	0%

Multiple-Dry-Year Comparison for 2016-2020:

Table 46. Projected supply during multiple dry year period ending in 2020 - AF/Y					
	2016	**2017**	**2018**	**2019**	**2020**
Supply	18,080	18,090	18,100	18,110	18,120
% of projected Average					105%

Table 47. Projected demand during multiple dry year period ending in 2020 - AF/Y					
	2016	**2017**	**2018**	**2019**	**2020**
Demand	18,080	18,090	18,100	18,110	18,120
% of projected Average					105.4%

Table 48. Projected Supply & Demand Comparison - multiple dry year period ending in 2020 - AF/Y					
	2016	**2017**	**2018**	**2019**	**2020**
Supply totals	18,080	18,090	18,100	18,110	18,120
Demand totals	18,080	18,090	18,100	18,110	18,120
Difference (supply minus demand)	0	0	0	0	0
Difference as % of Supply	0%	0%	0%	0%	0%
Difference as % of Demand	0%	0%	0%	0%	0%

Multiple-Dry-Year Comparison for 2021-2025:

Table 49. Projected supply during multiple dry year period ending in 2025 - AF/Y					
	2021	**2022**	**2023**	**2024**	**2025**
Supply	18,245	18,370	18,495	18,620	18,740
% of projected Average					105%

Table 50. Projected demand during multiple dry year period ending in 2025 - AF/Y					
	2021	**2022**	**2023**	**2024**	**2025**
Demand	18,245	18,370	18,495	18,620	18,740
% of projected Average					105%

Table 51. Projected Supply & Demand Comparison - multiple dry year period ending in 2025 - AF/Y					
	2021	**2022**	**2023**	**2024**	**2025**
Supply totals	18,245	18,370	18,495	18,620	18,740
Demand totals	18,245	18,370	18,495	18,620	18,740
Difference (supply minus demand)	0	0	0	0	0
Difference as % of Supply	0%	0%	0%	0%	0%
Difference as % of Demand	0%	0%	0%	0%	0%

Multiple-Dry-Year Comparison for 2026-2030:

Table 52. Projected supply during multiple dry year period ending in 2030 - AF/Y					
	2026	**2027**	**2028**	**2029**	**2030**
Supply	19,010	19,270	19,540	19,800	20,070
% of projected Average					105%

Table 53. Projected demand during multiple dry year period ending in 2030 - AF/Y					
	2026	**2027**	**2028**	**2029**	**2030**
Demand	19,010	19,270	19,540	19,800	17,196
% of projected Average					105.4%

Table 54. Projected Supply & Demand Comparison - multiple dry year period ending in 2030 - AF/Y					
	2026	**2027**	**2028**	**2029**	**2030**
Supply totals	19,010	19,270	19,540	19,800	20,070
Demand totals	19,010	19,270	19,540	19,800	20,070
Difference (supply minus demand)	0	0	0	0	0
Difference as % of Supply	0%	0%	0%	0%	0%
Difference as % of Demand	0%	0%	0%	0%	0%

SECTION 6

DEMAND MANAGEMENT MEASURES

Section 6: Demand Management Measures

6.1 DMMs

(Describe and provide a schedule of implementation for) 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-lowflush toilet replacement programs;
10631(f)(1) and (2). #26.

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 (10631(f)(3)). #27.

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 (10631(f)(4)). #28.

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 (10631(g)). #29.

Demand Management Measures

The District is committed to implementing water conservation programs. It should be noted that the degree of sophistication for a water conservation program suitable for a particular water agency is dependent on several factors that reflect the potential value

and magnitude of water savings available to the water purveyor. These factors include the type of water sources, geography and climate, water use characteristics, cost of water, location relative to other water systems, and number of customers. Because the District has already implemented several water conservation measures, it does not appear that the District would realize large additional benefits compared with the high costs of implementation of a more detailed water conservation program. However, the District's implementation of its broad-based water conservation program will be an important component in the District's ability to serve future water demands.

Table 55. Urban Water Management Planning Act Water Demand Management Measure	District Water Conservation Program Component		
	Currently Implemented	Scheduled for Implementation	Not Planned for Implementation
DMM 1: Water survey programs for single-family and multifamily residential customers	✔		
DMM 2: Residential plumbing retrofit		✔	
DMM 3: System water audits, leak detection and repair	✔		
DMM 4: Metering with commodity rates	✔		
DMM 5: Large landscape conservation programs and incentives	✔		
DMM 6: High-efficiency washing machine rebate program	✔		
DMM 7: Public information programs	✔		
DMM 8: School education programs		✔	
DMM 9: Conservation programs for commercial, industrial and institutional accounts		✔	
DMM 10: Wholesale agency programs			Not Applicable
DMM 11: Conservation pricing	✔		
DMM 12: Water conservation coordinator	✔		
DMM 13: Water waste prohibition	✔		
DMM 14: Residential ultra-low flush toilet replacement program	✔		

A description of each measure is provided below. The District has estimated that approximately 1,000 afa of water can be saved by continued implementation of the DMMs.

DMM 1: Water survey programs for single-family and multifamily residential customers

The majority of residential water audits are generated from billing clerk work orders. When the meter readers' hand-held computers are down-loaded and the current meter reading does not fall in line with the previous average use, a red flag is triggered. Clerks then write a work order to recheck the meter reading for correctness and to advise on the situation, e.g. new turf, new pool, vacant house, etc. In the past, as many as sixty work orders were generated that resulted in District staff contacting the customer to conduct a water audit. The District representative inspects indoor and outdoor fixtures and systems, such as, irrigation systems, leaking toilets, leaky faucets, etc., to determine the reason for excess water consumption. Subsequent water bills are checked to determine the effectiveness of the audit. This system has been in place for several years and will continue to be the District's primary method of addressing excessive consumption.

After already reaching the 2020 target objective of 142 gpcd, a District goal is to maintain or further reduce per capita consumption. The number of audits will need to be increased, concentrating on the largest consumers first. By reaching the 2020 target early, the District has saved over 15,500 acre-feet. Over this same period, increased audits of multi-family properties could save an additional 2,000 acre-feet.

DMM 2: Residential plumbing retrofit

The District has made available a water conservation package to existing customers. The package included the following items:

- One shower flow restrictor; and
- Two toilet tank leak detection dye tablets.

The package was available at the District office for customer pickup at no charge. No records were kept as to how many were distributed.

The District plans to restart this program after 2011 and track the distribution of devices.

The Gas Company and Southern California Edison offer current rebates for low-flow shower heads. More information is available at:

http://www.socalgas.com/for-your-home/rebates/

http://www.sce.com/residential/rebates-savings/rebates-savings.htm

Table 56- DMM 2: Plumbing retrofit					
Planned	2006	2007	2008	2009	2010
# of single-family devices	30	30	30	30	30
# of multifamily devices	30	30	30	30	30
projected expenditures - $	850	850	850	850	850

DMM 3: System water audits, leak detection and repair

Typically, leaks are detected either visually or from large differences in production and sales records. These leaks are then further investigated, located, and repaired. As part of a collaborative effort with the State, the District developed a "Leaky Pipe Program" to replace old, domestic distribution system lines throughout the District. Existing steel pipelines, the majority of which are in excess of 40 years old and have deteriorated due to age and corrosive soils, were identified on an application to the State for financial help to fund this program. In 1998, the District's application for a loan for approximately $4 million at an interest rate of 2.4 percent over a 20-year period was approved by the State. The District's Leaky Pipe Replacement Program ended in 2003 after the replacement of over nine miles of mainline. The estimated water savings associated with the replacement of the District's leaky pipes, routine leak repairs, and other pipeline replacement projects is 500 af/yr.

The District continued its aggressive pipeline replacement by authorizing $25M in bonds to fund the design and construction in 2010. Over $8M of pipeline replacements are either completed, in construction, or in final design stages.

District staff monitors, on a monthly and annual basis, the amount of water produced and the amount of water used by its customers to determine the amount of unaccounted for or lost water. Over the last five years, the District's unaccounted for water ranged from about 4 to 9 percent, averaging about 6.5 percent. Replacing pipelines is an ongoing business for the District due to the age of the system. In 2010, 15 miles of pipeline were replaced or are in final design for the capital replacement.

Table 57- DMM 3: System water audits, leaks & repair					
Table C1 - Actual	2006	2007	2008	2009	2010
% of unaccounted water	8.9	4.2	5.6	6.6	6.5
miles of lines repaired	3.2	2.4	2.5	0.9	0.7
actual expenditures - $	1,287,235	1,253,173	959,995	330,265	1,700,000

DMM 4: Metering with commodity rates for all new connections and retrofit of existing connections

All domestic and irrigation water services in the District's distribution system are metered. In addition, the District has a meter maintenance/replacement program for improperly operating meters. The District recently changed its rate structure, adopting a fixed monthly service charge and a tiered inclining block charge for its residential customers. With this new rate structure, the user is charged per unit of water for every unit consumed, providing incentive to conserve. The District monitors water consumption on a monthly basis. Water use per capita is evaluated every year, comparing current water use per capita with historic data.

DMM 5: Large landscape conservation programs and incentives

The District has several landscape watering restrictions included in its Water Shortage Contingency Plan, which will be imposed during a drought or other water supply shortage emergency. However, the only incentive for these accounts to conserve on an on-going basis is the commodity rate structure currently in affect as detailed in DMM4 and DMM11. Landscape accounts pay a monthly service charge based on meter size, plus a unit charge for all water used. These accounts are audited by the billing department and unusual consumption is investigated by field personnel as described in DMM1. Effectiveness of the audits is determined by tracking water consumption after the audits are completed. Rebates for irrigation system improvements are available through the SoCal Water Smart program. Rebates up to $3 for each rotating nozzle, and $80 for smart irrigation controllers are available. More information can be found at: http://socalwatersmart.com.

DMM 6: High-efficiency washing machine rebate programs

This program was implemented in May 2004 when the District entered into a “Residential Water Conservation Item Funding Agreement” with EMWD. This agreement was for the District’s high-efficiency washing machine and ultra-low flush toilet rebate programs. The Gas Company (http://www.socalgas.com/for-your-home/rebates/) and Southern California Edison offer rebates for washing machines with a current maximum of $1,000 per home (http://www.sce.com/residential/rebates-savings/rebates-savings.htm). The District’s program administration costs are shown in the Table 58 below.

Table 58- DMM 6: High-efficiency washing machine rebates

Table F1 – Actual	2005 (proj)	2010
$ per rebate	110	$35 +
# of rebates to be paid	60	100
Actual expenditures - $	$2000	$3,500

Current rebates are also available through the SoCal Water Smart program. Rebates up to $85 for each washing machine are available. More information can be found at: http://socalwatersmart.com.

DMM 7: Public information programs

The District's public information program is implemented by the Customer Service Officer. Bill stuffers, rebates, news releases, and recommended web sites offering information on proper landscape watering techniques and water-saving devices or appliances are distributed to customers. The District developed a brochure entitled, "Every Drop Counts" which describes relatively easy ways for the consumer to save water in the bathroom, in the kitchen and laundry, and outside. The brochure is available at the District office, and is used as a bill stuffer. A water conservation group comprised of representatives from EMWD, the City of Hemet, District staff and the District's media consultant meets monthly to coordinate conservation efforts. Below is a summary of the District's public information program.

Table 59- DMM 7: Public Information Programs

Table G1 - Actual	2010	2011	2012	2013	2014 (proj)
a. Paid Advertising	No	If needed	If needed	If needed	If needed
b. Public Service Announcement	Yes	Yes	Yes	Yes	Yes
c. Bill inserts / Newsletters / Brochures	Yes	Yes	Yes	Yes	Yes
d. Bill showing water usage in comparison to previous year's usage	Yes	Yes	Yes	Yes	Yes
e. Demonstration Gardens	Yes	Yes	Yes	Yes	Yes
f. Special events, media events	No	If needed	If needed	If needed	If needed
g. Speaker's Bureau	Yes	Yes	Yes	Yes	Yes
h. Program to coordinate with other government agencies, industry and public interest groups and media	Yes	Yes	Yes	Yes	Yes

DMM 8: School education programs

The District does not have a formal school education program in place at this time. In early 2005, the General Manager participated in a water forum at Hemet High School, speaking to the student body about water conservation. The District's Customer Service

Officer will implement a school education program in 2011 by developing presentation materials targeted for all grade levels. Each year, presentations will be made to assembled students at all elementary, middle and high schools in the District's service area. The estimated cost in the first year (2011) is $5,000. Future costs will increase due to construction of new schools within District boundaries.

The effectiveness of the program as far as water conservation is concerned will be difficult to measure. However, the effort will undoubtedly add to the conservation message emanating from other sources and will help drive home the point that water is a valuable resource and cannot be wasted. This is important because of the expected population growth in the District's service area, and the goal of reducing consumption to 142 gpcd by 2020.

DMM 9: Conservation programs for commercial, industrial, and institutional accounts

The District currently does not have any industrial accounts. In the past, as many as three industrial accounts have been active with a combined water use of one acre-foot annually (afa). No significant savings from conservation can be expected here.

The District has 395 commercial accounts that use 544 afa combined. These accounts consist of supermarkets, car washes, banks, retail stores, and other commercial establishments. Total water use is 3.5 percent of the District's total demand and the average water use per account is about 1.38 afa. The District's auditing of water use through billing, as described in DMM1, is used to detect excess consumption and triggers a survey of the customer's premises. Due to the low percentage of water use in this sector, the prospect for water savings in the future is not expected to be significant.

The institutional sector is comprised of schools, churches, special districts, and other government institutions. The 73 accounts in this sector used 356.5 af in 2010 and has a much higher average use per account than any other sector, except agriculture, at 4.9 afa. In 2005, this sector used 7.5 afa. Most of the water use is for the irrigation of turf and landscaping. Significant water savings can be realized by increasing the number of audits at these sites. A 35 percent reduction per account was achieved.

The District supports the MWD Save Water, Save A Buck program for commercial, institutional, and industrial water users. Qualified projects can receive up to a $25,000 rebate per program year. More information is available at: http://www.mwdsaveabuck.com.

DMM 10: Wholesale agency programs

The District is not a wholesaling agency.

DMM 11: Conservation pricing

As described in DMM 4, the District recently changed its rate structure to a fixed monthly service charge with a tiered inclining block rate quantity charge for its domestic customers. Each rate structure has a base (lifeline) rate. The customer is billed for each unit of water used, providing incentive to conserve. Areas in higher pressure zones where additional pumping is needed pay a lift charge.

Table 60- DMM 11: Conservation pricing

	Meter Size	Monthly Service Charge ($)	Commodity rate Tier 1 ($ per ccf)
Residential			
Water rate structure	5/8”-3/4”	13.03	2.165
Water rate structure	1”	15.79	2.165
Water rate structure	1 1/2”	22.68	2.165
Year rate effective	2011		
Commercial & Industrial			
Water rate structure	2”-4”	30.95-77.95	2.19
Year rate effective	2011		
Institutional/Government			
Water rate structure	Same as Commercial & Industrial		
Year rate effective	2011		
Agricultural			
Water rate structure	All	None	$150 – $584/AF
Year rate effective	2011		

Sewer rates are charged in all sectors except agriculture, however, the only sector that is charged on volume of water used is commercial. Depending on the improvement district, the charge to commercial customers is $2.19/ccf.

DMM 12: Water conservation coordinator

The District does not have a water conservation coordinator position, however, several positions provide water conservation services as part of their descriptions. The primary position responsible is the Customer Service Officer. This person is supported by billing and meter reading personnel. As discussed in DMM1, field personnel respond to work orders from the billing department to investigate incidents of unusual water consumption.

The Customer Service Officer is also responsible for the public and school information programs. Distribution system water operators are involved in conservation through contacts with customers while investigating water quality and supply complaints. In total, the District has ten staff members addressing water conservation issues as a significant part of their jobs.

DMM 13: Water Waste Prohibition

The District has several specific water waste restrictions included in its Drought Management Plan, which will be imposed by the District during a drought or other water supply shortage emergency. These restrictions include, but are not limited to, the following:

- Restricting the use of water to hose down driveways and other hard surfaces;
- Restricting over-watering and runoff;
- Requiring the use of a bucket and a hose with a shut valve while washing vehicles; and
- Requiring that identified leaks be repaired as soon as possible.

The Drought Management Plan also provides for penalties and fines for non-compliance with the imposed restrictions. Water use restrictions are imposed upon implementation of the District's Drought Management Plan during a drought or other water shortage emergency. The effectiveness of the restrictions in the Drought Management Plan will be assessed based on actual reductions in District demand. Water savings as a result of the restrictions in the Drought Management Plan will range from 10 percent at Stage I to 50 percent at Stage IV.

DMM 14: Residential ultra-low-flush toilet replacement programs

This program was first implemented in 2004 when the District entered into a "Residential Water Conservation Item Funding Agreement" with EMWD. This agreement is for the District's high-efficiency washing machine and ultra-low flush toilet rebate programs. The rebate offered to customers was $60 per toilet with a limit of three per household. EMWD reimbursed the District for the cost of the rebate.

APPENDIX A

60 DAY REVIEW NOTICES

APPENDIX B

PRELIMINARY TRANSMITTAL LETTER

APPENDIX C

LEGAL NEWSPAPER AD

APPENDIX D

PRELIMINARY
ADOPTING RESOLUTION
2010 UWMP

APPENDIX E

PUBLIC WATER SYSTEM STATISTICS ANNUAL REPORTS

1999-2010

APPENDIX F

DROUGHT MANAGEMENT PLAN

APPENDIX G

VOLUNTARY WATER CONSERVATION

RESOLUTION NO. 598

APPENDIX H

2010 CONSUMER CONFIDENCE REPORT