

EL DORADO IRRIGATION DISTRICT

FINAL

**URBAN WATER MANAGEMENT PLAN
2005 UPDATE**

January 2006

Prepared by:

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January 25, 2006

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El Dorado Irrigation District
2890 Mosquito Road
Placerville, California 95667

017/128748-10

Subject: Submittal of Final Urban Water Management Plan 2005 Update

Dear Mr. Witter:

I am pleased to submit to you this Final Urban Water Management Plan 2005 Update (Plan). This Plan is written according to the requirements of the Urban Water Management Planning Act and the guidelines as provided by the California Department of Water Resources.

If you have any questions, please do not hesitate to contact me at (916) 853-5348.

Sincerely,

BROWN AND CALDWELL



Robert Vince, P.G.
Project Manager

Enclosures
TK:mp

cc: Tess Kretschmann, Brown and Caldwell
Paul Selsky, Brown and Caldwell

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CHAPTER 1 INTRODUCTION

This 2005 Urban Water Management Plan (Plan) addresses the El Dorado Irrigation District (District), which was formed on October 5, 1925. This Plan is required by the Urban Water Management Planning Act (Act) (California Water Code Division 6, Part 2.6, Sections 10610 through 10657). The 2005 Plan provides an update to the previous Plan that was adopted by the District Board in January 2001.

This chapter provides an overview of the Act, public participation, agency coordination, and resource maximization and import minimization efforts.

1.1 Urban Water Management Planning Act

The District Plan has been prepared in accordance with the Urban Water Management Act (Act). The Act is defined by the California Water Code, Division 6, Part 2.6, and Sections 10610 through 10657. The Act became part of the California Water Code with the passage of Assembly Bill 797 during the 1983-1984 regular session of the California legislature. The Act requires urban water suppliers providing municipal water to more than 3,000 connections, or supplying more than 3,000 ac-ft (acre-feet) of water annually, to adopt and submit a plan every five years to the California Department of Water Resources (DWR). Subsequent assembly bills have amended the Act. This Plan serves as a long-range planning document for water supply. In complying with the Act, the District has followed DWR specified guidelines, as shown in a comprehensive checklist found in Appendix G.

1.2 Public Participation

The Act requires the encouragement of public participation and a public hearing as part of the Urban Water Management Plan approval process. As required by the Act, prior to adopting this Plan, the District made the Plan available for public review and held a public hearing to solicit comment. The hearing provided an opportunity for District's customers and all residents and employees in the service area to learn about existing water supply and District plans for providing a reliable, safe, high-quality water supply for the future. The hearing provided an opportunity for interested parties to ask questions and provide comment.

A Notice of Public Hearing was published in the Mountain Democrat. Copies of the draft Plan were made available for public inspection at the District's Administration Building. A copy of the published Notice of Public Hearing is included in Appendix A. This Plan was adopted by the District's Board of Directors on January 23, 2006. A copy of the adopted resolution is provided in Appendix B.

1.3 Agency Coordination

The Act requires the District to 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. The District coordinated the preparation of its Plan with the El Dorado County Water Agency (EDCWA) and the City of Placerville. The District sent a copy of this Plan to the EDCWA, the City of Placerville, the El Dorado County Local Agency Formation Commission (LAFCO), the El Dorado County Planning Department, and the City of Folsom. Table 1-1 provides a summary of the Plan coordination efforts with the appropriate agencies.

Table 1-1. (DWR Table 1) Coordination with Appropriate Agencies

	EDCWA	City of Placerville	El Dorado County LAFCO	El Dorado County Planning Department	City of Folsom
Participated in developing the plan	✓				
Commented on the draft					
Attended public meetings					
Was contacted for assistance	✓	✓			
Was sent a copy of the draft plan	✓	✓	✓	✓	✓
Was sent a notice of intention to adopt					
Not Involved / No Information					

1.4 Resource Maximization and Import Minimization

Water management tools have been used by the District to maximize water resources. Programs in which the District participates to maximize water resources are described as follows.

- Regional Water Authority (RWA) - The District is a participant in the RWA integrated regional water management plan. The District also participates in the RWA water efficiency program.
- Water Forum Agreement - The District is a procedural agreement member and signatory to the Water Forum Agreement, which was developed in an attempt to preserve the fishery, wildlife, recreational, and aesthetic values of the lower American River and in an effort to provide a reliable and safe water supply for the region. The Water Forum finalized the Water Forum Agreement, which contains seven major elements to meet its objectives including purveyor specific conservation agreements.

- California Urban Water Conservation Council (CUWCC) – The District is a member of the CUWCC and a signatory of its Memorandum of Understanding (MOU) which has the primary purposes of expediting implementation of reasonable water conservation measures in urban areas and establishing assumptions for use in calculating estimates of reliable future water conservation savings resulting from proven and reasonable conservation measures.

The benefits of the programs described above and the documents developed as a result of these programs are water management tools that the District uses to maximize their water resources and minimize the need to import water.

CHAPTER 2 DESCRIPTION OF EXISTING WATER SYSTEM

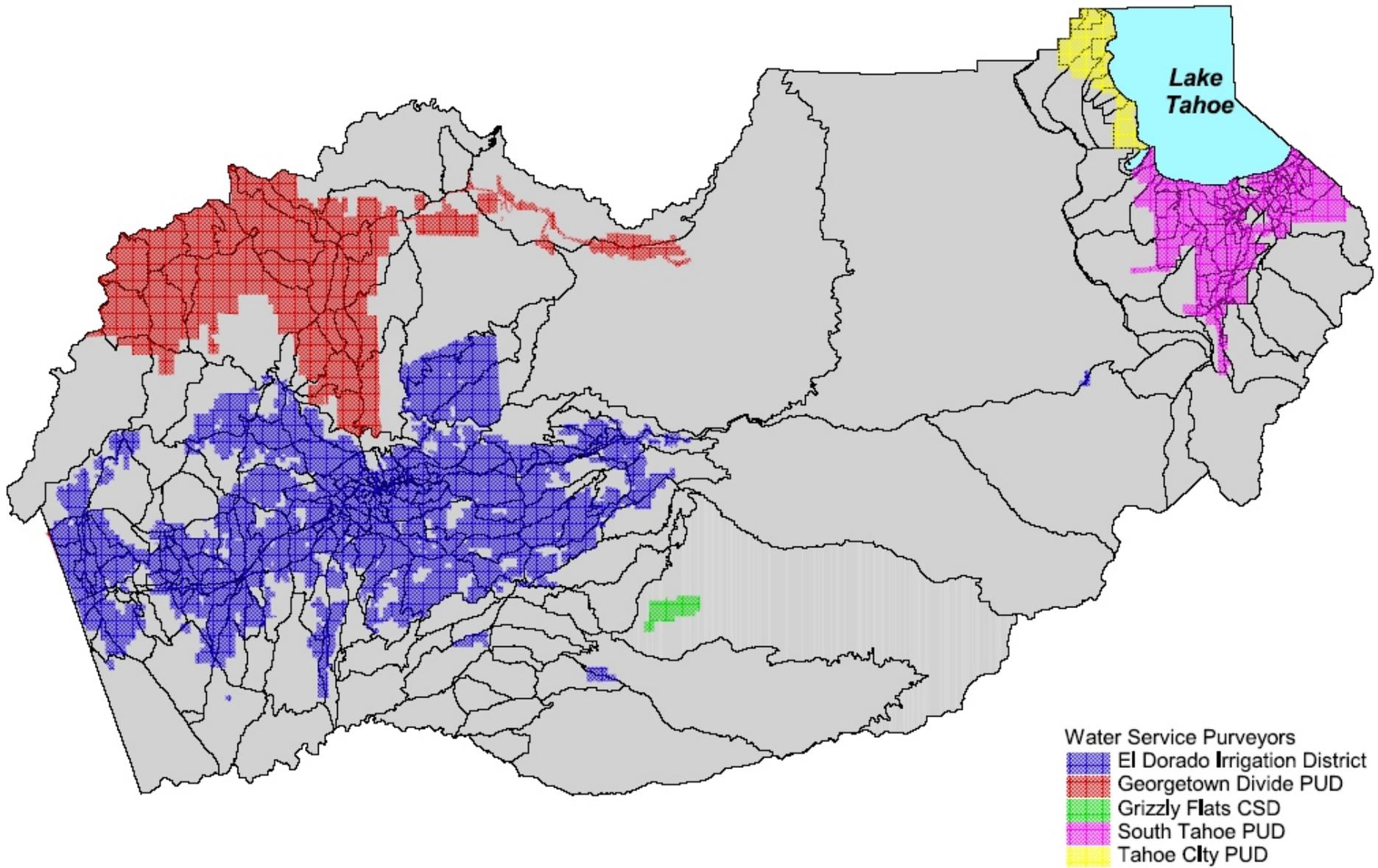
This chapter describes the District's system. It contains a description of the service area and its climate, and the water supply facilities, including surface water supply facilities, booster pumping stations, reservoirs, and the piping system. Chapter 4 of this Plan describes the quantities of water available to the District.

2.1 Description of Service Area

The District currently serves a population of approximately 92,400 people through 38,000 active service connections. The current boundary of the District encompasses approximately 220 square miles on the western slope of the Sierra Nevada Mountains in El Dorado County. It is primarily located in two major watersheds, the South Fork of the American River in the north and the North Fork of the Cosumnes River in the south. The District is hydrologically split by the Placerville Ridge and Highway 50 between these two drainage systems. Although the rivers drain east to west, the minor streams trend northwest toward the American River and southwest toward the Cosumnes River. The ridges generally trend in a west to east direction. Figure 2-1 illustrates the location of the District's service area and the neighboring El Dorado County water systems. The service zones within the District are shown on Figure 2-2.

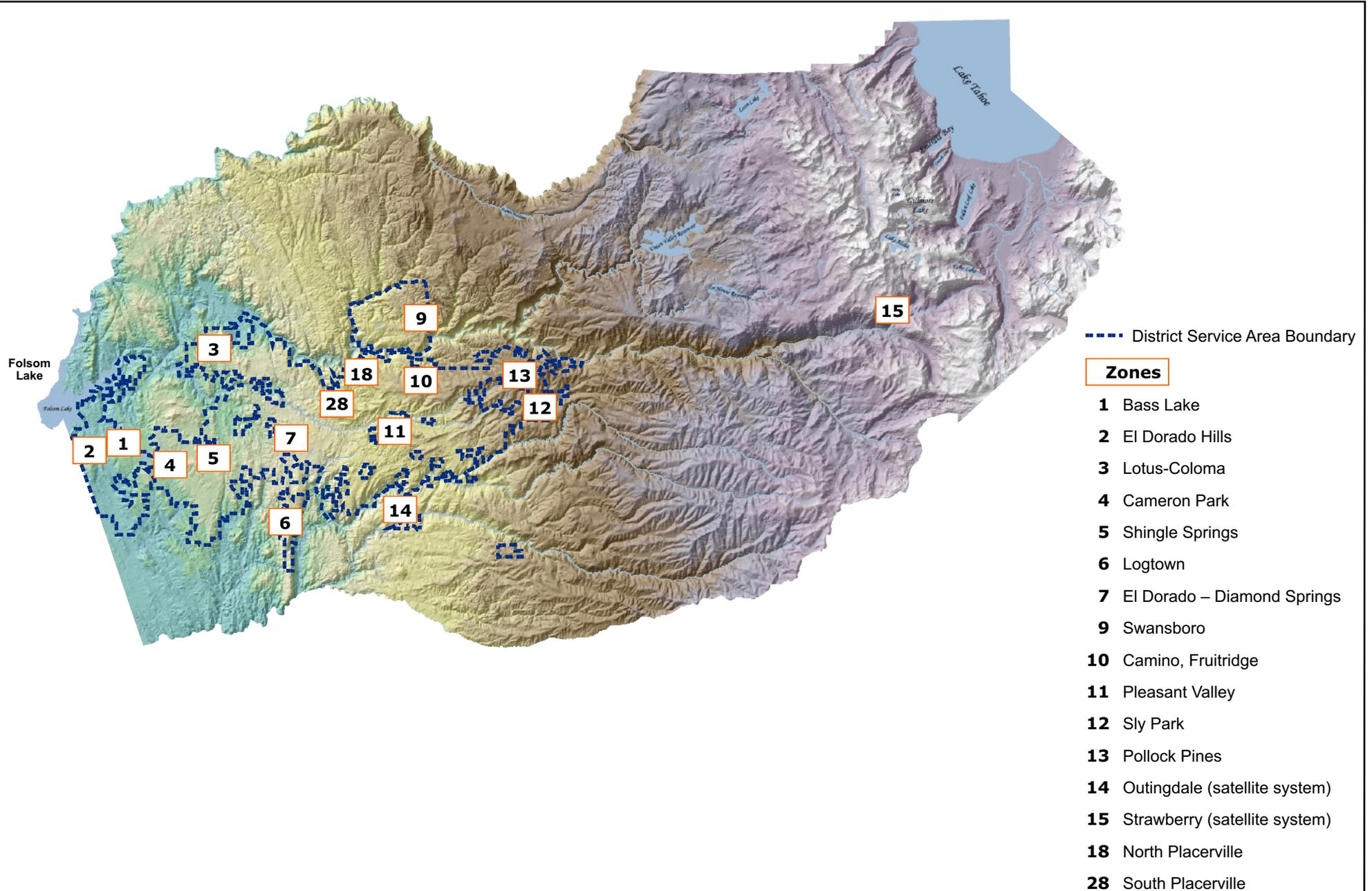
2.2 Local Climate

The District is located in a region of sunshine in the summer, moderate to heavy precipitation in the winter, and wide temperature ranges. Strong flows of marine air in the winter from the Pacific Ocean result in heavy precipitation. Precipitation in the summer is light, and generally limited to a few scattered thunderstorms. According to the Western Regional Climate Center's Placerville station, located centrally in the District, the historical annual average precipitation is approximately 38 inches, with an average monthly precipitation during winter months of about six inches. Temperatures throughout the service area range from warm in the summer to cold in the winter, with average monthly temperatures of 75 degrees Fahrenheit (°F) in July to 42°F in January.



Source: El Dorado County Water Agency, Water Resources Development and Management Plan, June 2003, Draft

BROWN AND CALDWELL	PROJECT	128748	SITE	2005 Urban Water Management Plan, El Dorado Irrigation District, California	Figure 2-1
	DATE	10-26-05	TITLE	El Dorado County Water Purveyors	



Source: EID 2001 Water Supply Master Plan, Figure 4-1

BROWN AND CALDWELL	PROJECT	128748	SITE	2005 Urban Water Management Plan, El Dorado Irrigation District, California Service Area Zone Map	Figure 2-2
	DATE	11-18-05	TITLE		

Evapotranspiration (ET_o) records, which measure the loss of water from the soil both by evaporation and by transpiration from the plants growing thereon, indicate average values ranging from 1.4 inches in the District's wet December, to 9.0 inches in much drier July. Low humidity usually occurs in the summer months, from May through September. The combination of hot and dry weather results in high water demands during the summer. Table 2-1 summarizes the District's average climate conditions.

Table 2-1. (DWR Table 3) Climate Characteristics

	Average temperature ^a , °F	Average rainfall ^a , in	Standard average ET _o ^b , in
January	42.70	6.98	1.41
February	45.74	6.73	1.88
March	48.89	5.78	2.99
April	53.29	3.10	4.47
May	60.24	1.50	5.91
June	67.69	0.44	7.46
July	74.67	0.08	9.00
August	73.46	0.09	8.21
September	68.47	0.56	6.23
October	59.80	2.14	4.19
November	48.92	4.54	1.84
December	43.30	6.43	1.37
Annual	56.85	38.36	54.96

Notes:

^a Period of Record : 1/1/1915 to 3/31/2005, Placerville data recorded by NOAA www.wrcc.dri.edu.

^b Data recorded October 1982 to October 2005 from Sierra Foothill, Camino Station 13, CIMIS www.cimis.water.ca.gov

2.3 Water Supply Facilities

The District currently relies on surface water to meet its entire potable water demand. This section identifies the facilities which transmit, store, and treat the water supply provided to the service area. The District's transmission system is composed of three subsystems, with each subsystem identified by its water supply source. These subsystems are: (1) the El Dorado Forebay subsystem; (2) the Jenkinson Lake subsystem; (3) the Folsom Lake subsystem. Schematics of the Jenkinson Lake and Forebay subsystems, and the Folsom Lake subsystem are shown on Figure 2-3 and 2-4, respectively.

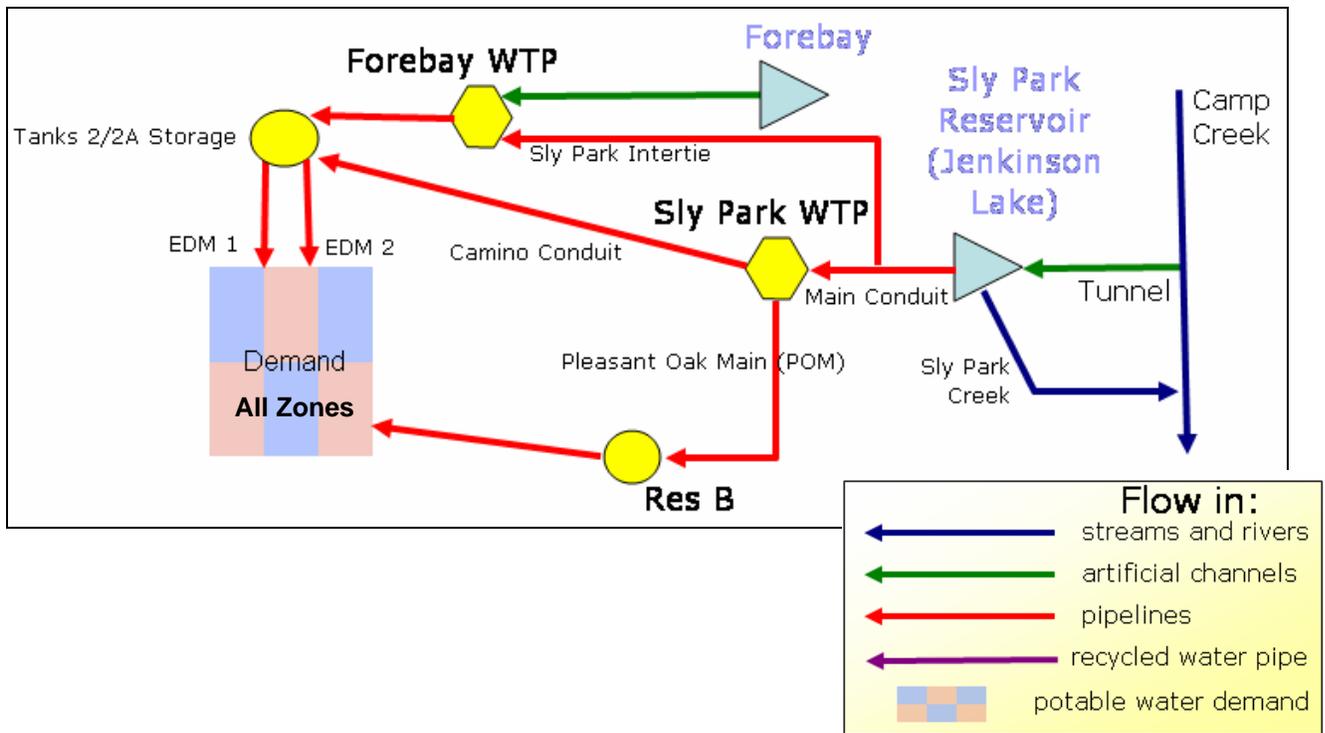


Figure 2-3. Jenkinson Lake and Forebay Subsystem

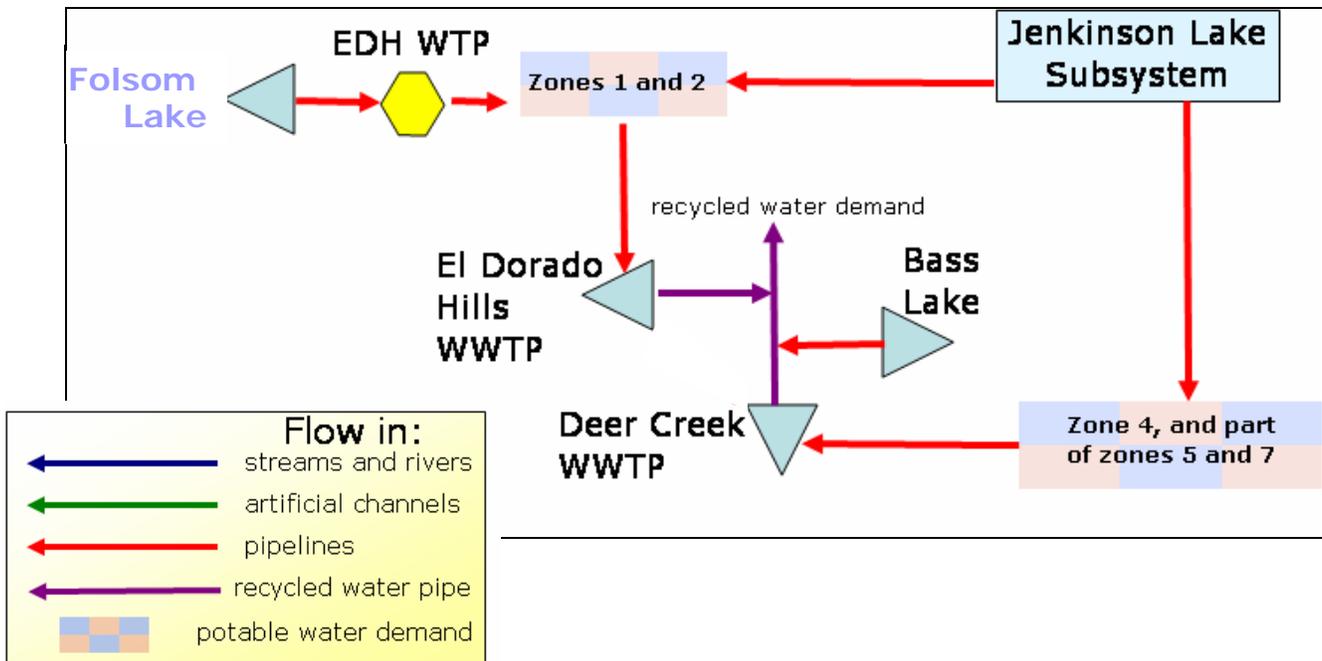


Figure 2-4. Folsom Lake Subsystem

2.3.1 Surface Water Facilities

The District's potable water system is composed of a main contiguous system which serves over 95 percent of its customers, and two satellite systems. The three main diversion points for the main system are (1) District owned and operated Sly Park Dam and Jenkinson Lake, (2) the District's Hydroelectric Project 184 at Forebay Reservoir, and (3) Folsom Lake via two USBR Water Service Contracts and one State water right permit 21112.

The District's two satellite diversions include potable water deliveries to (1) Outingdale, diverting water from the Middle Fork of the Cosumnes River, and (2) Strawberry, located near the upper South Fork of the American River.

2.3.2 Groundwater Facilities

The District does not currently use groundwater as a supply source.

2.3.3 Storage

Primary District operated storage includes 41,033 ac-ft in Jenkinson Lake, 1,200 ac-ft in Weber Reservoir, and a total of approximately 37,500 ac-ft in Project 184 storage (Lake Aloha and Caples, Silver, and Echo lakes).

2.3.4 Treatment Facilities

In the El Dorado Forebay subsystem, water is treated at the Forebay water treatment plant (26 million gallons per day (mgd) capacity) located in Pollock Pines. Water in the Jenkinson Lake subsystem is treated at the Sly Park water treatment plant (53 mgd capacity). The Folsom Lake subsystem conveys treated water from the El Dorado Hills water treatment plant (19.5 mgd capacity).

2.4 **Distribution System**

The District's conveyance system is a combination of pipelines, regulating reservoirs, tanks, and a few Gold Rush Era ditches. The ditch system that delivers raw water to agricultural users and a water treatment facility is composed of 26.5 miles of ditch, 15 percent of which is piped. The piped potable system consists of 1,239 miles of pipe ranging in size from 2 inches to 48 inches. The District has a total of 36 tanks and reservoirs with a combined storage capacity of 72.2 million gallons (MG).

CHAPTER 3 HISTORICAL AND PROJECTED WATER USE

Water demand projections provide the basis for sizing and staging future water facilities. Water use and production records, combined with projections of population, employment, and urban development, provide the basis for estimating future water requirements. This chapter presents an analysis of available demographic and water use data, customer connections, and the resulting projections for future District water needs in varying water year types.

3.1 Population, Employment, and Housing

Over the years, the District has changed from serving mainly agricultural customers, to one that equally serves rapidly growing residential, commercial, and industrial sectors. The majority of growth in El Dorado County has occurred in the El Dorado Hills/Cameron Park area, mirroring the population trends of the Sacramento metropolitan area. As transportation services, housing, and employment opportunities increase, the recent population growth trend is expected to continue.

In recent years, population, housing, and employment have increased due in part to the booming California economy and a strong regional real estate market. Since the year 2000, the District's population has grown at an annual rate of 2.8 percent, compared with a state annual growth rate of 1.4 percent.

Current District service area population estimates range from 87,000 to 100,000, according to the District's Water Supply Master Plan and website, respectively. In this Plan, current and future population is represented from a countywide demand forecast analysis prepared by Economic & Planning Systems (EPS) as part of the environmental impact assessment process in the County General Plan. EPS countywide growth projections were developed based on historical patterns, market research, and new housing unit commitments (e.g., issued permits or approved subdivisions) for the near future. Projections were then derived for the District by assuming uniform countywide growth and a District to County proportional factor of 66 percent. Population estimates are not utilized in the methodology used to calculate water demand in this Plan. Population information is included to provide background information. Table 3-1 provides population projections for the District.

Table 3-1. (DWR Table 2) Population – Current and Projected

Year	Population
2005	92,400
2010	100,980
2015	112,200
2020	122,100
2025	132,000
2030	142,560

3.2 Past, Current, and Future Water Use

This section discusses the District’s water use by customer type and projected water demands by water year type.

3.2.1 Water Use by Demand Type

The past, current, and projected water demands for the District in a normal water year are identified in Table 3-2. Demands are based on the forecast alternative adopted in the 2004 General Plan, which uses an analysis of the acreage within the region, and the demands that would result if the acreage were developed in accordance with the forecast land uses and requirements. The growth rate is the average increase in demand experienced by the District between 1989 and 1999. The annual rate of increase from past water years 2000 through 2005 is approximately four percent. The District estimates that its demand will increase at an overall 2.5 percent annual rate through 2030, corresponding to a demand projection of approximately 89,000 ac-ft by the year 2030. It is important to note that demand reductions as a result of conservation efforts are not included in these projections.

Unaccounted-for water (UFW) is unmetered water use resulting from system leaks, unauthorized connections and meter inaccuracies. The District estimates its unaccounted-for water use at approximately 13 percent, better than the standard 15 percent for rural districts. The District’s beneficial use category consists of water utilized for operational flushing, sewage lift station and collection system flushing, private fire service, and aesthetics maintenance. Growth for this use category is assumed to be proportional to urban use growth. Recreational turf services demand is projected to remain constant.

Table 3-2. (DWR Table 12 & 14) Past, Current and Projected Water Deliveries, ac-ft/yr

Water Use Sectors	Year						
	2000	2005	2010	2015	2020	2025	2030
Single-Family ^a	18,322	20,816	23,311	25,805	28,300	30,794	33,288
Multi-Family	1,159	1,399	1,639	1,880	2,120	2,360	2,600
Commercial	2,841	3,862	4,882	5,903	6,923	7,944	8,965
Agricultural Demand	6,571	9,677	12,783	15,888	18,994	22,100	25,206
Recreational Turf Services	1,720	1,720	1,720	1,720	1,720	1,720	1,720
Ditches	1,019	1,115	1,212	1,308	1,404	1,500	1,596
UFW and Beneficial Uses Water	5,706	6,558	7,409	8,260	9,112	9,963	10,814
Latent Demand	2,131	2,634	3,138	3,642	4,145	4,649	5,153
Total	39,469	47,782	56,094	64,406	72,718	81,030	89,342

Notes:

- ^a Single family deliveries include mobile home use.
- 1. Includes City of Placerville water sales.
- 2. Water savings from future water conservation are not included in demand projections.
- 3. Demands based on a linear growth function.
- 4. Source: EDCWA, 2003.

The historical and projected number of connections by customer sector are shown in Table 3-3.

Table 3-3. (DWR Table 12) Past, Current and Projected Connections by User Category

Water Use Sectors	Year						
	2000	2005	2010	2015	2020	2025	2030
Single-Family	29,120	33,084	37,049	41,013	44,978	48,942	52,907
Multi-Family	800	966	1,132	1,298	1,464	1,630	1,796
Commercial	1,269	1,724	2,180	2,636	3,092	3,547	4,003
Agricultural Demand	1,401	2,064	2,726	3,388	4,051	4,713	5,375
Recreational Turf Services	108	108	108	108	108	108	108
Ditches	47	51	55	60	64	69	73
Total	32,745	37,998	43,251	48,504	53,757	59,009	64,262

Notes:

1. Includes City of Placerville accounts.
2. Based on unit water use from actual 2004 connection and use relationship applied to Table 3-2 deliveries (EID 2004 Consumption Report).

3.2.2 Water Sales to Other Agencies

The District currently sells treated water to the City of Placerville (City). Current and projected demands are shown in Table 3-4. Because of the consistency of this demand on the District, the District treats the City as “just another customer” and includes City demand in current and projected water deliveries by user category, as shown in Table 3-2.

Table 3-4. (DWR Table 13) Sales to Other Agencies

Water distributed to:	2000	2005	2010	2015	2020	2025	2030
City of Placerville	1,637	1,857	2,084	2,312	2,540	2,767	2,995
Total	1,637	1,857	2,084	2,312	2,540	2,767	2,995

Note:

Demands based on a linear growth function, developed from a historical demand trend analysis.

3.2.3 Total Water Use

The total past, present, and future water use for the system is shown in Table 3-5.

Table 3-5. (DWR Table 15) Total Water Use, ac-ft/yr

Water Use	2000	2005	2010	2015	2020	2025	2030
Total water demand	39,469	47,782	56,094	64,406	72,718	81,030	89,342

Note:

Equivalent to Table 3-2, which includes all demand categories and system uses and losses.

3.3 Demand on Wholesale Supply

The District does not currently purchase water from any wholesale supplier, and has no plans to purchase water, as shown in Table 3-6.

Table 3-6. (DWR Table 19) District Demand Projections to Wholesale Suppliers, ac-ft/yr

Wholesaler	2010	2015	2020	2025	2030
N/A	0	0	0	0	0

3.4 Projected Water Demands by Water Year Type

This section presents the projected water demands for three water year scenarios: normal year, single-dry year, and multiple-dry year. The demands for all water year scenarios are projected through 2030.

3.4.1 Normal Year Demand

Water demand projections are shown by water use sector in Table 3-2, and are summarized in Table 3-5 previously. Over the next 25 years, water demands are expected to increase approximately 2.5 percent annually, from approximately 48,000 ac-ft/yr in 2005 to 89,000 ac-ft/yr in 2030. Impacts to water use due to any conservation measures implemented in the future are not reflected in the projected water demands. The following Table 3-7 presents total projected normal year type water demand for the District.

Table 3-7. (DWR Table 41) Projected Normal Year Water Demand, ac-ft/yr

	2010	2015	2020	2025	2030
Total demand	56,094	64,406	72,718	81,030	89,342
Percent of year 2005	117	135	152	170	187

3.4.2 Single-Dry Year Demand

Water use patterns change during dry years. During dry years some water agencies cannot provide their customers with 100 percent of what they deliver during normal water years. Based on the District's Four Stage Water Supply Matrix, found in Appendix F, and expected single dry year Sly Park storage volumes, detailed further in Section 4.5 of this Plan, the District assumes that overall demands will not change during a single dry year, its Stage 1 trigger not being reached. Therefore, no demand reductions are included in the single dry year demand estimates. Table 3-8 provides an estimate of the projected single-dry year water demands.

Table 3-8. (DWR Table 44) Projected Single-Dry Year Water Demands, ac-ft/yr

	2005	2010	2015	2020	2025	2030
Total demand	47,782	56,094	64,406	72,718	81,030	89,342
Percent of projected normal ^a	100	100	100	100	100	100

Notes:

^a Projected normal from Table 3-7.

3.4.3 Multiple-Dry Year Demand

This section projects the impact of a multiple-dry year period for each 5-year period during the 25-year projection. Based on the District's Four Stage Water Supply Matrix, found in Appendix F, and expected multiple dry year Sly Park storage volumes, detailed further in Section 4.5 of this Plan, the District assumes that overall demands will change 5, 10, and 20 percent in multiple dry years two, three and four, respectively. These cutbacks assume the maximum conservation response for the respective drought response stage as found in the District's current Water Shortage Contingency Plan, found in Appendix C. Tables 3-9 through 3-13 provide an estimate of the projected multiple-dry year water demands for each 5-year period.

Table 3-9. (DWR Table 47) Projected Multiple-Dry Year Water Demands, ac-ft/yr, Period Ending in 2010

	2006	2007	2008	2009	2010
Total demand	49,947	48,944	47,784	43,734	44,875
Percent of projected normal ^a	100	95	90	80	80

Notes:

^a Projected normal from Table 3-7.

Table 3-10. (DWR Table 50) Projected Multiple-Dry Year Water Demands, ac-ft/yr, Period Ending in 2015

	2011	2012	2013	2014	2015
Total demand	57,815	56,419	54,866	50,028	51,525
Percent of projected normal ^a	100	95	90	80	80

Notes:

^a Projected normal from Table 3-7.

Table 3-11. (DWR Table 53) Projected Multiple-Dry Year Water Demands, ac-ft/yr, Period Ending in 2020

	2016	2017	2018	2019	2020
Total demand	65,683	63,893	61,947	56,323	58,174
Percent of projected normal ^a	100	95	90	80	80

Notes:

^a Projected normal from Table 3-7.

**Table 3-12. (DWR Table 56) Projected Multiple-Dry Year Water Demands, ac-ft/yr,
 Period Ending in 2025**

	2021	2022	2023	2024	2025
Total demand	73,551	71,368	69,028	62,617	64,824
Percent of projected normal ^a	100	95	90	80	80

Notes:

^a Projected normal from Table 3-7.

**Table 3-13. Projected Multiple-Dry Year Water Demands, ac-ft/yr,
 Period Ending in 2030**

	2026	2027	2028	2029	2030
Total demand	81,419	78,843	76,109	68,912	71,474
Percent of projected normal ^a	100	95	90	80	80

Notes:

^a Projected normal from Table 3-7.

CHAPTER 4 WATER SUPPLY

This chapter describes the District’s current and planned water supply sources, quantities, constraints, and quality. In addition, this chapter describes current and projected water supplies, water supply reliability and vulnerability, and water transfers and exchanges. Recycled water supplies are discussed in Chapter 5 of this Plan.

4.1 Groundwater

The District currently does not use groundwater as a supply source. Groundwater aquifers in the District’s service area occur in fractured hard rock and are unreliable as a source. The District owns two wells; however, they are physically disconnected from the system and are not considered further in this Plan. Tables 4-1, 4-2, and 4-3 below reflect the District’s lack of reliance on groundwater as a supply source.

Table 4-1. (DWR Table 5) Groundwater Pumping Rights

Basin name	Pumping right, acre-feet per year
N/A	N/A

Table 4-2. (DWR Table 6) Amount of Groundwater Pumped, ac-ft/yr

Basin name	2000	2001	2002	2003	2004
N/A	0	0	0	0	0
Percent of Total Water Supply	0	0	0	0	0

Table 4-3. (DWR Table 7) Amount of Groundwater Projected to be Pumped, ac-ft/yr

Basin name	2010	2015	2020	2025	2030
N/A	0	0	0	0	0
Percent of Total Water Supply	0	0	0	0	0

4.2 Surface Water

This section provides a description of the District’s surface water supply as well as the physical and legal constraints of this supply.

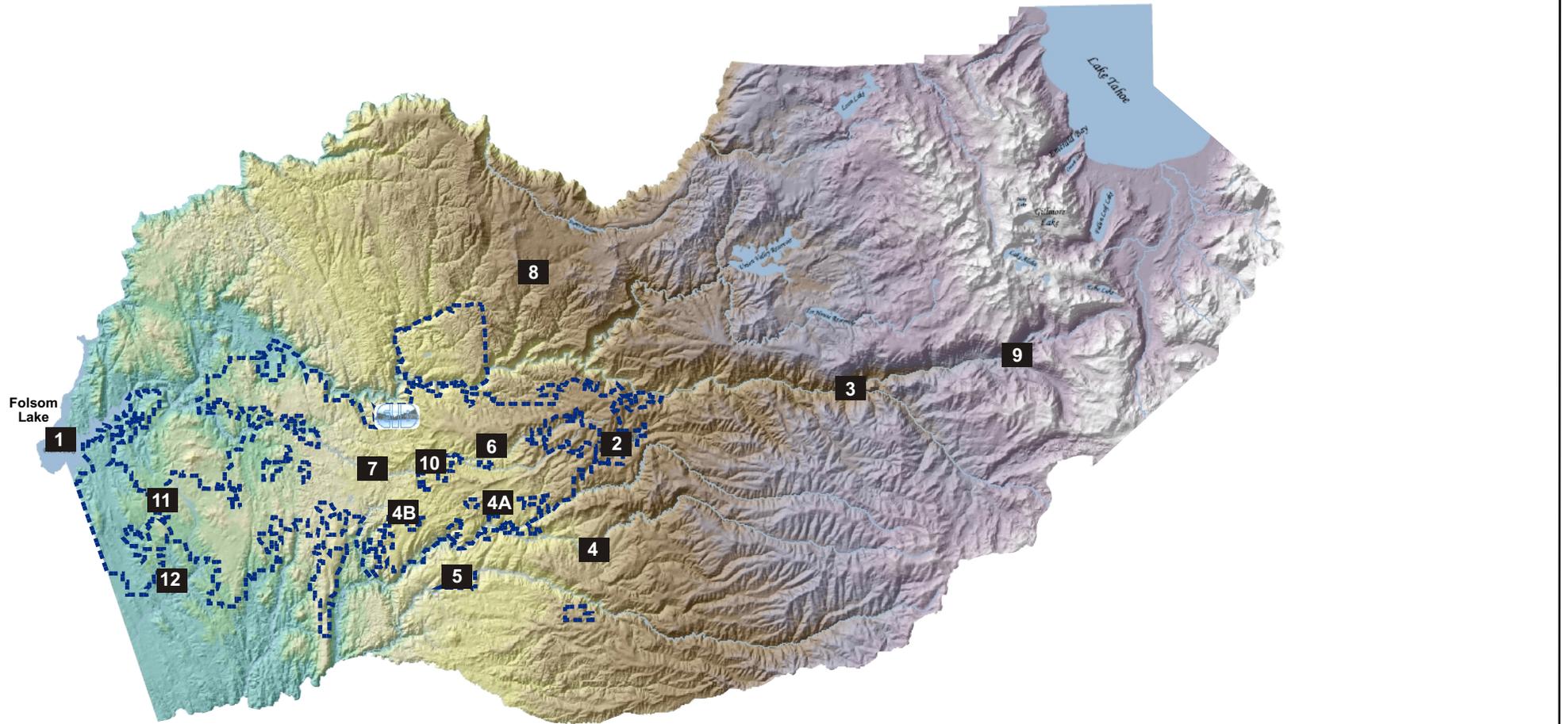
4.2.1 Description of Surface Water Supply

The following is a general description of the District's primary water supply sources. The approximate location of each source is shown in Figure 4-1. Details regarding specific diversion rates, storage amounts, and other water information can be found in the District's Water Supply Master Plan (EID, 2001).

Sly Park Dam and Jenkinson Lake is the main storage project in the District. It is formed by two earth and rock dams across Sly Park Creek near Pollock Pines. Jenkinson Lake receives flow from Sly Park, Hazel, and Camp Creeks, all of which are tributary to the North Fork of the Cosumnes River. This reservoir provides about half the total water supply to the District. Maximum capacity is 41,033 ac-ft. The total surface area at the spillway crest is 650 acres. The dam was constructed as a portion of the USBR's Central Valley Project in 1955. With the recent transfer of ownership from USBR of the Sly Park dam and surrounding lands, the District not only operates and maintains the Jenkinson Lake and Sly Park Dam facilities, including any recreational aspects, but holds the water rights. This source's average annual yield is approximately 23,000 ac-ft, though the District's annual water right is 33,400 ac-ft. This water supply is used entirely within the District's contiguous service area and is not shared with any other agency.

Project 184 Forebay is a surface water supply from the District's facilities upstream on the South Fork of the American River in the El Dorado Project (FERC Project 184). The District has an entitlement of 15,080 ac-ft per year delivery at the Forebay. The entitlement is a pre-1914 water right, and diversions are made in accordance with a schedule included in a now-lapsed agreement between the District and by previous Project 184 owner, Pacific Gas and Electric (P.G. & E.). Since the full entitlement can be provided in all years including the most severe historic single dry year 1977, this source of water is considered assured, and not subject to shortage from hydrologic droughts (Brown and Caldwell, 2005). Historically, however, this source has experienced temporary interruptions in numerous instances by damage to the conveyance system from forest fires, floods and landslides.

Folsom Lake provides surface water to the District's El Dorado Hills area. By contract with the USBR for Folsom water, the District is entitled to 7,550 ac-ft per year. The contract includes provisions for use in a particular area that generally encompasses the El Dorado Hills region. The water supplied from Folsom Lake carries a measured risk of availability. The USBR has imposed restrictions on the Folsom supply several times due to water shortages in the Central Valley Project. Starting in 1994, the USBR adopted a shortage policy of a maximum 25 percent cutback. The District was also awarded a water right for an additional 17,000 ac-ft per year of water supply with storage in Folsom Lake; authorized under Permit 21112 for diversion and consumptive use. There are no cutback provisions on this supply.



--- District Service Area Boundary

- | | |
|---|---|
| 1 Folsom Lake | 6 Weber Reservoir / Weber Dam |
| 2 Jenkinson Lake | 7 Weber Creek |
| 3 South Fork American River / Kyburz | 8 Slab Creek |
| 4 North Fork Cosumnes River / Crawford Ditch | 9 South Fork American River / Strawberry |
| 4A Clear Creek / Crawford Ditch | 10 Hangtown Creek |
| 4B Squaw Hollow Creek/East Diamond Ditch | 11 Bass Lake reservoir |
| 5 Middle Fork Cosumnes River / Outingdale | 12 Recycled Water / EDH and Deer Creek WWTPs |

Source: EID Water Supply Master Plan, 2001

BROWN AND CALDWELL	PROJECT	128748	2005 Urban Water Management Plan, El Dorado Irrigation District, California	Figure 4-1
	DATE	12-2-05		

Pre-1914 ditch water rights include diversions from Weber Creek, Slab Creek, and Hangtown Creek. Combined with the licensed water right in Weber Reservoir, approximately 4,560 ac-ft is available each year from these sources. The ditch water rights sources and subject to diminution in dry years. The District has taken these ditch water rights at Folsom Lake from 2002-2004 under a series of contracts with USBR. At present, the District is nearing completion of a project to obtain the necessary state and USBR authorizations to take these ditch water rights and the Weber Reservoir right at Folsom Lake, on a permanent basis.

4.2.2 Physical Constraints.

Due to the District’s geographical layout and infrastructure configuration, some water supplies are limited to certain areas of the District. The District has divided its service areas based on topography and points of diversion into two main areas; El Dorado Hills and Western/Eastern. Details of these areas are discussed in Chapter 2.

The District’s Western/Eastern service area has supply restrictions related to supply source locations such that unless costly pump stations are built, Folsom supplies cannot serve these uphill service areas.

The El Dorado Hills service area supply is restricted due to infrastructure limitations. Capacity restraints are based on infrastructure’s ability to deliver the daily peaking requirements to meet the overall annual demand. Supply-restricting infrastructure capacities in the El Dorado Hills service area of the District are presented in Table 4-4.

Table 4-4. Infrastructure Supply Constraints

Service Area	Infrastructure	Maximum capacity	Equivalent average capacity	Annual supply, ac-ft/yr
El Dorado Hills	El Dorado Hills Water Treatment Plant	19.5 mgd	9.75 mgd	10,900
	Gold Hill Intertie	750 gpm	375 gpm	600
Total				11,500

4.2.3 Legal Constraints.

The District receives surface water through numerous contracts or rights as summarized in Table 4-5.

Table 4-5. Surface Water Supply Contracts and Rights

Water source	Diversion/ Facility name	Contract/ Agreement or Appropriator	Water right permit number	Maximum diversion rate	Availability
Jenkinson Lake	Sly Park Dam	EID State water right permit	10473 & 4 12258, 2631	500 cfs Inlet (Camp Creek) and 125 cfs Outlet	33,400 ac-ft/yr water right 23,000 ac-ft/yr average annual yield
South Fork of the American River at Kyburz / FERC Project 184	El Dorado Forebay	EID Pre-1914	N/A	40 cfs	15,080 ac-ft/yr water right
Folsom Lake	EID raw water pump station	<ul style="list-style-type: none"> • USBR / EID Contract 14-06-200-1375A (El Dorado Hills) • USBR / EID Contract 14-06-200-7312 IRI (Lakehills Estates) • EID State water right permit 	<ul style="list-style-type: none"> • 11315 & 6 USBR • 21112 EID 	19.5 mgd	<ul style="list-style-type: none"> • 7,550 ac-ft/yr contract • 17,000 ac-ft/yr water right
Ditch/Weber Reservoir Water Rights	Weber Creek, Slab Creek, Hangtown Creek, Weber Reservoir	EID Pre-1914 (ditches)	EID state water right license L2184	N/A	4,560 ac-ft/yr water rights

Note:
Source: EID Water Supply Master Plan, 2001.

4.3 Desalination

The District currently has no opportunities or plans for using desalinated water as a supply source, as shown in Table 4-6.

Table 4-6. (DWR Table 18) Opportunities for Desalinated Water

Sources of water	Opportunities
Ocean water	none
Brackish ocean water	none
Brackish groundwater	none

4.4 Water Quality

This section describes the water quality of the existing water supply sources within the District and the manner in which water quality affects water management strategies. In addition, this section describes the manner in which water quality affects water supply.

4.4.1 Water Quality of Existing Water Supply Sources

With an interconnected transmission system, and the recent construction of several major water storage tanks, District operations are flexible when water quality or other technical problems arise. Based on water quality data from the District and other nearby water purveyors, the District water supply sources continue to be, and are anticipated to remain, high-quality water. There are no projected water supply changes due to water quality, as shown in Table 4-7.

Table 4-7. (DWR Table 39) Current and Projected Water Supply Changes Due to Water Quality

Water supply sources	2005	2010	2015	2020	2025	2030
Planned Surface Water	0	0	0	0	0	0
Supplier produced groundwater	N/A	N/A	N/A	N/A	N/A	N/A
Recycled water ^a	0	0	0	0	0	0
Water supply loss due to water quality	0	0	0	0	0	0
Desalination water	N/A	N/A	N/A	N/A	N/A	N/A

Notes:

^aRecycled water is discussed in Chapter 5 of this Plan.

N/A indicates this is not a current or projected water supply source.

4.4.2 Water Quality Effects on Water Management Strategies

Water quality affects the District’s water management strategies through efforts to comply with Federal and State drinking water regulations. These regulations require rigorous water quality testing, source assessments, and treatment compliance.

To ensure that tap water is safe to drink, the United States Environmental Protection Agency (EPA) and the California Department of Health Services (DHS) prescribe regulations that limit the amount of certain contaminants in water served by public water systems. The District is required to monitor drinking water quality on a daily, weekly, monthly, and annual basis. Water quality sampling results are compared against state and federal standards.

4.5 Current and Projected Normal Year Water Supplies

Table 4-8 summarizes the current and projected water supplies available to the District. This is based on a continued commitment to conservation programs, gained water rights and distribution system upgrades. The projects associated with these supplies are discussed in the following section.

Table 4-8. (DWR Table 4) Projected Normal Year Water Supplies, ac-ft/yr

Water supply sources	2005	2010	2015	2020	2025	2030
Surface Water						
Sly Park ^a	23,000	23,000	23,000	23,000	23,000	23,000
USBR – Folsom Lake contracts ^a	7,550	7,550	7,550	7,550	7,550	7,550
Forebay/Project 184 ^a	15,080	15,080	15,080	15,080	15,080	15,080
Ditch/Weber Reservoir water rights ^b	4,560	4,560	4,560	4,560	4,560	4,560
Permit 21112 Folsom Lake ^b	17,000	17,000	17,000	17,000	17,000	17,000
PL101-514 Folsom Lake ^c	0	7,500	7,500	7,500	7,500	7,500
SMUD-El Dorado Agreement ^c	0	0	0	20,000	20,000	20,000
Water loss reduction ^c	0	2,000	2,000	2,000	2,000	2,000
Supplier produced groundwater	0	0	0	0	0	0
Recycled water ^d	3,010	5,375	6,672	6,963	6,963	6,963
Water supply loss due to water quality	0	0	0	0	0	0
Transfers in or out	0	0	0	0	0	0
Exchanges in or out	0	0	0	0	0	0
Desalination water	0	0	0	0	0	0
Total	70,200	82,065	83,362	103,653	103,653	103,653

Notes:

^a Source: El Dorado Irrigation District Water Supply Master Plan, 2001.

^b Source: El Dorado County Drought Shared Vision Model (Brown and Caldwell, 2005).

^c Projected supply projects are discussed in Section 4.6.

^d Recycled water is discussed in Chapter 5 of this Plan.

As summarized in Table 4-9, the District has no current or future plans to purchase water from any wholesale supply source.

Table 4-9. (DWR Table 20) Wholesaler Identified & Quantified Existing and Planned Sources of Water- ac-ft/yr

Wholesaler sources	2010	2015	2020	2025	2030
N/A	0	0	0	0	0

4.6 Water Supply Projects

This section provides a description of the District’s water supply projects and water supply programs that may or will be undertaken to meet the total projected water use and provide system reliability. These are projects and programs currently in progress or planned for the near future, as described below. Furthermore, potential supply sources (those projects currently being considered and investigated) are also presented and summarized.

Water Loss Reduction Project consists of the District improving its distribution system so that water loss is reduced 2,000 ac-ft per year (Brown and Caldwell, 2005). The project consists primarily of advanced pressure management, decreased repair time and additional meter testing and replacement.

PL 101-514 Supply includes a proposed 7,500 ac-ft of legislatively transferred unallocated Central Valley Project Supply water from Folsom Lake to the District. This allocation would be subject to the USBR Shortage Policy for Municipal and Industrial Contractors of maximum dry year reductions of 25 percent.

SMUD-El Dorado Agreement allows for 20,000 ac-ft of water storage in SMUD reservoirs under normal year conditions; with an additional 15,000 ac-ft available for carryover purposes. The District projects using 20,000 ac-ft of storage annually, with 15,000 ac-ft of carryover storage rights in a single dry year, 10,000 ac-ft in any second consecutive dry year, and 5,000 ac-ft in years three and four of a multiple dry year sequence.

Recycled Water supply projects include seasonal storage facilities and increased distribution system development. This supply will increase as wastewater effluent, directly proportional to demand, increases. Recycled water is discussed in depth in Chapter 5 of this Plan.

Table 4-10 provides a summary and schedule of the future water supply projects. Also shown is a quantification of each project's normal-year yield, single dry-year yield, and multiple dry-year yields.

Table 4-10. (DWR Table 17) Future Water Supply Projects

Project name	Projected start date	Projected completion date	Normal water year, ac-ft/yr	Single dry water year, ac-ft/yr	Multiple-dry years, ac-ft/yr			
					Year 1	Year 2	Year 3	Year 4
Water Loss Reduction	2006	2010	2,000	2,000	2,000	2,000	2,000	2,000
PL 101-514 Supply	Present	2007	7,500	5,625	5,625	5,625	5,625	5,625
SMUD-El Dorado Agreement	2015	2020	20,000	15,000	15,000	10,000	5,000	5,000

The District is currently investigating several potential water supply projects. The following table lists the District's potential supply projects, their expected yields and the source where details regarding infrastructure, economic and environmental considerations, can be found.

Table 4-11. Potential Supply Projects

Potential Supply Source	Capacity, AF	Source
Groundwater Banking	50,000	Brown and Caldwell, <u>El Dorado County Shared Vision Drought Model 2005</u>
Sly Park Flashboard Project	1,280	<u>EID Water Supply Master Plan, 2001</u>
Alder Creek Reservoir	11,250	(JBIP, 2004)
Texas Hill Reservoir	10,050	(JBIP, 2004)
Capps Crossing Reservoir	14,000	(JBIP, 2004)

4.7 Water Supply Reliability and Vulnerability

This section describes the reliability of the District's water supply and their vulnerability to seasonal or climatic shortage.

The costs of demand management or supply augmentation options to reduce the frequency and severity of shortages are increasing for the District. The District is looking more carefully at the costs of unreliability to make the best possible estimate of the net benefit of taking specific actions, hence the term "reliability planning." Reliability is a measure of a water service system's expected success in managing water shortages.

In addition to climate, other factors that can cause water supply shortages are earthquakes, chemical spills, and energy outages at treatment and pumping facilities. Planning must include the probability of catastrophic outages when using the reliability planning approach.

Reliability planning requires information about: (1) the expected frequency and severity of shortages; (2) how additional water management measures are likely to affect the frequency and severity of shortages; and (3) how available contingency measures can reduce the impact of shortages when they occur.

4.7.1 Reliability Comparison

As modeled in the District's recently developed El Dorado County Drought Shared Vision Model, the District's future supply projections assume the persistence of normal rainfall patterns and stable water quality characteristics based on past observations, and moderate promulgation of water quality regulations (Brown and Caldwell, 2005).

A water supply reliability comparison is made in Table 4-12 for the year 2025, considering three water supply scenarios: normal (average) water year; single-dry water year; and multiple-dry water years.

Table 4-12. (DWR Table 8) Water Supply Reliability, 2025, ac-ft/yr

Water supply sources	Normal water year	Single dry water year	Multiple dry water years			
			Year 1	Year 2	Year 3	Year 4
Surface Water						
Sly Park ^a	23,000	21,000	22,000	17,000	15,500	14,300
USBR – Folsom Lake ^b	7,550	5,660	5,660	5,660	5,660	5,660
Forebay/Project 184 ^a	15,080	15,080	15,080	15,080	15,080	15,080
Ditch/Weber Reservoir water rights	4,560	4,560	4,560	3,500	3,000	3,000
Permit 21112 Folsom Lake ^a	17,000	17,000	17,000	17,000	17,000	17,000
PL101-514 Folsom Lake ^b	7,500	5,625	5,625	5,625	5,625	5,625
SMUD-El Dorado Agreement	20,000	15,000	15,000	10,000	5,000	5,000
Water loss reduction	2,000	2,000	2,000	2,000	2,000	2,000
Supplier produced groundwater	0	0	0	0	0	0
Recycled water ^c	6,963	6,963	6,963	6,963	6,963	6,963
Water supply loss due to water quality	0	0	0	0	0	0
Transfers in or out	0	0	0	0	0	0
Exchanges in or out	0	0	0	0	0	0
Desalination Water	0	0	0	0	0	0
Total	103,653	92,888	93,888	82,828	75,828	74,628
Percent of normal year supply	100	90	91	80	73	72

Notes:

^a Dry year supplies based on El Dorado County Drought Shared Vision Model results (Brown and Caldwell, 2005).

^b Dry year supplies based on USBR Shortage Policy for Municipal and Industrial Contractors, 75% of contract value.

^c Consistent with the assumptions made in Chapter 3 regarding no change in demand in single- and multiple-dry years; therefore wastewater influent and effluent, and consequently recycled water magnitudes, will remain constant. Recycled water is discussed in Chapter 5 of this Plan.

The definitions of these three water supply scenarios as stated in DWR's Guidebook to Assist Water Suppliers in the Preparation of the 2005 Urban Water Management Plan are provided below.

1. Normal year is a year in the historical sequence that most closely represents median runoff levels and patterns. Normal is defined as the median runoff over the previous 30 years or more. This median is recalculated every ten years.
2. Single-dry year is generally considered to be the lowest annual runoff for a watershed since the water year beginning in 1903.
3. Multiple-dry year period is generally considered to be the lowest average runoff for a consecutive multiple year period (three years or more) for a watershed since 1903.

The basis of the water year data to develop the water supply reliability in Table 4-12 is provided in Table 4-13.

Table 4-13. (DWR Table 9) Basis of Water Year Data

Water year type	Base year(s)
Single-dry water year	1976-1977
Multiple-dry water years	1987-1992

4.7.2 Projected Single-Dry Year Water Supplies

The projected single-dry year water supplies are provided in Table 4-14.

Table 4-14. (DWR Table 43) Projected Single-Dry Year Water Supplies, ac-ft/yr

Water supply sources	2005	2010	2015	2020	2025	2030
Total supply	66,310	76,300	77,597	92,888	92,888	92,888
Percent of normal year supply	94	93	93	90	90	90

4.7.3 Projected Multiple-Dry Year Water Supplies

This section projects the impact of a multiple-dry year period for each 5-year period during the 25-year projection. Tables 4-15 through 4-19 provide an estimate of the projected multiple-dry year water supplies for each 5-year period.

Table 4-15. (DWR Table 46) Projected Multiple-Dry Year Water Supply, ac-ft/yr, Period Ending in 2010

Water supply sources	2006	2007	2008	2009	2010
Total supply	68,150	68,155	66,457	65,666	68,040 ^a
Percent of normal year supply	96	86	84	82	83

Note:

^a Supply increase due to water loss reduction project coming online in 2010.

Table 4-16. (DWR Table 49) Projected Multiple-Dry Year Water Supply, ac-ft/yr, Period Ending in 2015

Water supply sources	2011	2012	2013	2014	2015
Total supply	77,464	71,701	69,976	69,049	69,337
Percent of normal year supply	94	87	85	83	83

Table 4-17. (DWR Table 52) Projected Multiple-Dry Year Water Supply, ac-ft/yr, Period Ending in 2020

	2016	2017	2018	2019	2020
Total supply	78,732	72,776	70,828	69,628	74,628 ^a
Percent of normal year supply	94	87	85	83	72

Note:

^aSupply increase due to SMUD-El Dorado Agreement water supplies coming online in 2020.

Table 4-18. (DWR Table 55) Projected Multiple-Dry Year Water Supply, ac-ft/yr, Period Ending in 2025

	2021	2022	2023	2024	2025
Total supply	93,888	82,828	75,828	74,628	74,628
Percent of normal year supply	91	80	73	72	72

Table 4-19. Projected Multiple-Dry Year Water Supply, ac-ft/yr, Period Ending in 2030

	2026	2027	2028	2029	2030
Total supply	93,888	82,828	75,828	74,628	74,628
Percent of normal year supply	91	80	73	72	72

4.7.4 Factors Resulting in Inconsistency of Supply

A summary of the factors resulting in inconsistency of the water sources is provided in Table 4-20.

Table 4-20. (DWR Table 10) Factors Resulting in Inconsistency of Supply

Water supply sources	Legal	Environmental	Water quality	Climatic
Surface water supply	X	X	N/A	X
Supplier produced groundwater	N/A	X	N/A	N/A

Water demand management measures would not be solely depended upon to replace inconsistent sources. The water shortage contingency plan would be implemented when there is a need to reduce demands significantly on a short-term basis. Chapter 6 of this Plan describes the District's current demand management measures. The water shortage contingency plan is presented in Appendix C and discussed in Chapter 7.

Due to no future plans on behalf of the District to purchase water, there are no factors to consider that might result in inconsistency of wholesaler’s supply as shown in Table 4-21.

Table 4-21. (DWR Table 22) Factors Resulting in Inconsistency of Wholesaler’s Supply

Name of supply	Legal	Environment	Water Quality	Climatic
N/A	None	None	None	None

4.8 Transfer and Exchange Opportunities

The District is not actively pursuing dry year water transfer options with urban or agricultural districts locally or statewide, though there are discussions with the City of Folsom regarding recycled water transfers from the District to the City of Folsom. A summary of the District’s water supply transfer and exchange opportunities is provided in Table 4-22.

Table 4-22. (DWR Table 11) Transfer and Exchange Opportunities, ac-ft/yr

Transfer agency	Transfer or exchange	Short term proposed quantities, acre-feet	Long term proposed quantities, acre-feet
N/A	N/A	0	0

CHAPTER 5 RECYCLED WATER

The purpose of this chapter is to provide information on recycled wastewater and its potential for use as a water resource in the District. The elements of the chapter are: (1) the agency coordination involved with developing this analysis, (2) the quantity, quality and existing use of wastewater generated in the service area, and a description of the collection, treatment, and disposal/reuse of that wastewater, (3) the current plans for water recycling, (4) the potential for water recycling in the service area, and (5) the plan for promoting and optimizing the use of recycled water.

5.1 Agency Coordination

The El Dorado Irrigation District in addition to being responsible for urban water supply, manages the wastewater collection and treatment for the domestic and industrial wastewater flows generated within the service area. Table 5-1 summarizes the agency coordination involved in developing this reuse summary.

Table 5-1. (DWR Table 32) Agency Participation in Reuse Planning

Agency Type	Participating Agency	Role
Local Water Supplier	EID	Provided Extensive Information
Wastewater Provider	EID	Provided Extensive Information
Consulting Firm	Brown & Caldwell	Chapter Author

Several reports were likewise crucial to the completion of this chapter, including the District's 2001 Wastewater Master Plan Update and the District's 2002 Recycled Water Master Plan.

5.2 Wastewater Quantity, Quality, and Existing Uses

This section describes the estimated wastewater generated in the District's service area. The wastewater service area is served by two wastewater treatment plants in the El Dorado Hills/Cameron Park areas, and three small satellite systems. The three satellite systems are at Gold Ridge Forest, Rancho Ponderosa and Camino Heights. Gold Ridge Forest relies on a septic system, while the other two rely on primary treatment with ponds and a sprayfield. The small flows at these plants make the use of recycled water very limited and not cost effective. The City of Placerville operates their own secondary treatment plant for customers within their city limits. Their plant has limited recycled water potential due to its location.

The following section provides a description of treatment processes and disposal methods at the two large wastewater treatment plants.

5.2.1 Wastewater Generation

Municipal wastewater in the District is generated from a combination of residential and commercial sources. The quantities of wastewater generated are proportional to the population and the water use in the service area. Wastewater volume projections are based on population projections, as presented in Chapter 3. The District maintains records of new and existing customer connections sold and in service in the form of equivalent dwelling units (EDU). Historic and projected population, wastewater treatment plant flow, and liability (sold) and active (connected) EDU data have been analyzed to establish the following general relationships for the Deer Creek Wastewater Treatment Plant (DCWWTP) and the El Dorado Hills Wastewater Treatment Plant (EDHWWTP):

1.0 EDU = 240 gpd flow (HDR, 2001).

Estimates of the wastewater flows generated within the District for present and future conditions are presented in Table 5-2. All projected wastewater effluent meets reuse water quality standards as shown in Table 5-2.

Table 5-2. (DWR Table 33) Wastewater Collected and Treated, ac-ft/yr

	2000 ^a	2005 ^a	2010 ^b	2015 ^b	2020 ^b	2025 ^b	2030 ^b
Deer Creek WWTP	3,343	3,564	4,400	4,780	5,115	5,450	5,785
El Dorado Hills WWTP	2,013	2,903	3,550	4,260	4,970	5,680	6,390
Total collected	5,353	6,467	7,950	9,040	10,085	11,130	12,175
Quantity that meets recycled water standard	5,353	6,467	7,950	9,040	10,085	11,130	12,175

Notes:

^a Actual plant influent flow

^b Source: Projected Annual Influent, Wastewater Master Plan Update (HDR, 2001).

5.2.2 Wastewater Collection

The District wastewater collection system consists of a series of lift stations, force mains, and gravity mains that collect wastewater from the El Dorado Hills, Deer Creek, and Motherlode drainage basins. The EDHWWTP service area encompasses approximately 30 square miles from the El Dorado County line east to Bass Lake Road, north to Folsom Lake and 3 miles south of Highway 50. There are approximately 110 miles of pipeline in the system ranging from 4-inch to 36-inch. The DCWWTP service area encompasses approximately 24 square miles. There are approximately 95 miles of pipelines in the system ranging from 4-inch to 30-inch. The Motherlode service area encompasses approximately 23 square miles with approximately 53 miles of pipelines in the system ranging from 4-inch to 36-inch. All three systems have pipe materials consisting of asbestos cement, and vitreous clay. Newer portions of pipeline are PVC and high-density polyethylene.

5.2.3 Wastewater Treatment

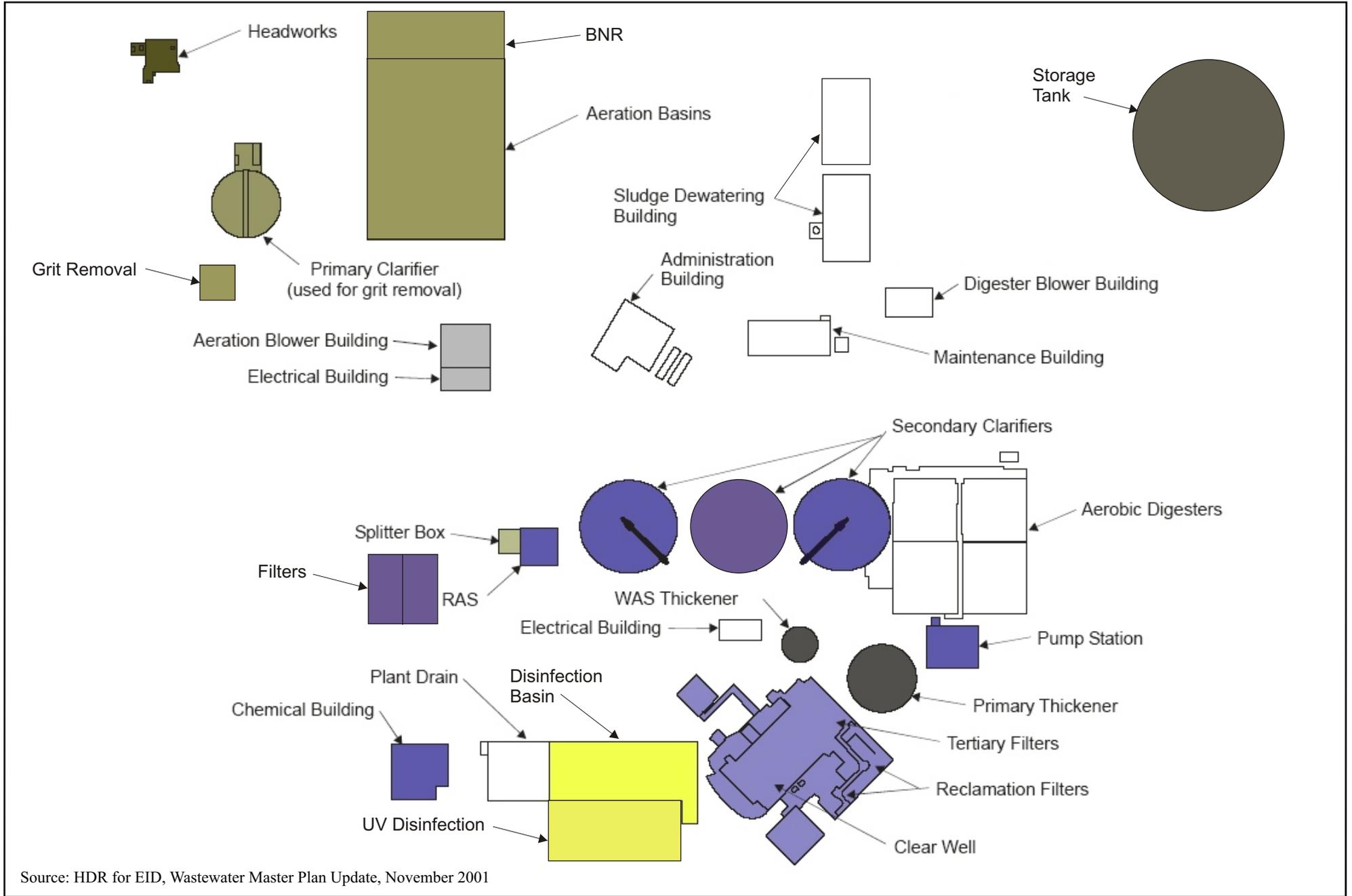
The El Dorado Hills WWTP is located in western El Dorado County, in the vicinity of El Dorado Hills. The plant site is located along the east side of Latrobe Road, approximately 1.25 miles south of US Highway 50. The elevation is approximately 540 feet above mean sea level. Average temperatures range from 72° F in the summer to 60° F in the winter. Carson Creek flows from

north to south immediately west of the plant site. The plant site occupies a portion of the northeast quarter of Section 14, Township 9 north, Range 8 east, Mount Diablo Base and Meridian. The plant services the El Dorado Hills drainage basin, which includes the community of El Dorado Hills.

The existing plant was expanded in 1998 to a design capacity of 3.0 MGD average dry weather flow. In 2003-2004 the plant was upgraded with a biological nutrient removal system. The treatment plant consists of headworks, screening and grit removal, two primary clarifiers, two completely nitrifying activated sludge basins, two BNR tanks for removal of nitrogen and phosphorus, two secondary clarifiers, three tertiary filters, two chlorine contact basins, DAF sludge thickening, sludge holding tank, anaerobic digestion, and a belt filter press. A dissolved air flotation unit is used to remove algae from the 66 MG secondary storage pond prior to filtration. Currently the District is designing the plant to expand to 5.4 MGD ADWF. The expansion will include upgrades and additional unit process throughout most of the facility. EDHWWTP produces Title 22 full body contact recycled water. A process flow schematic of the plant is shown in Figure 5-1.

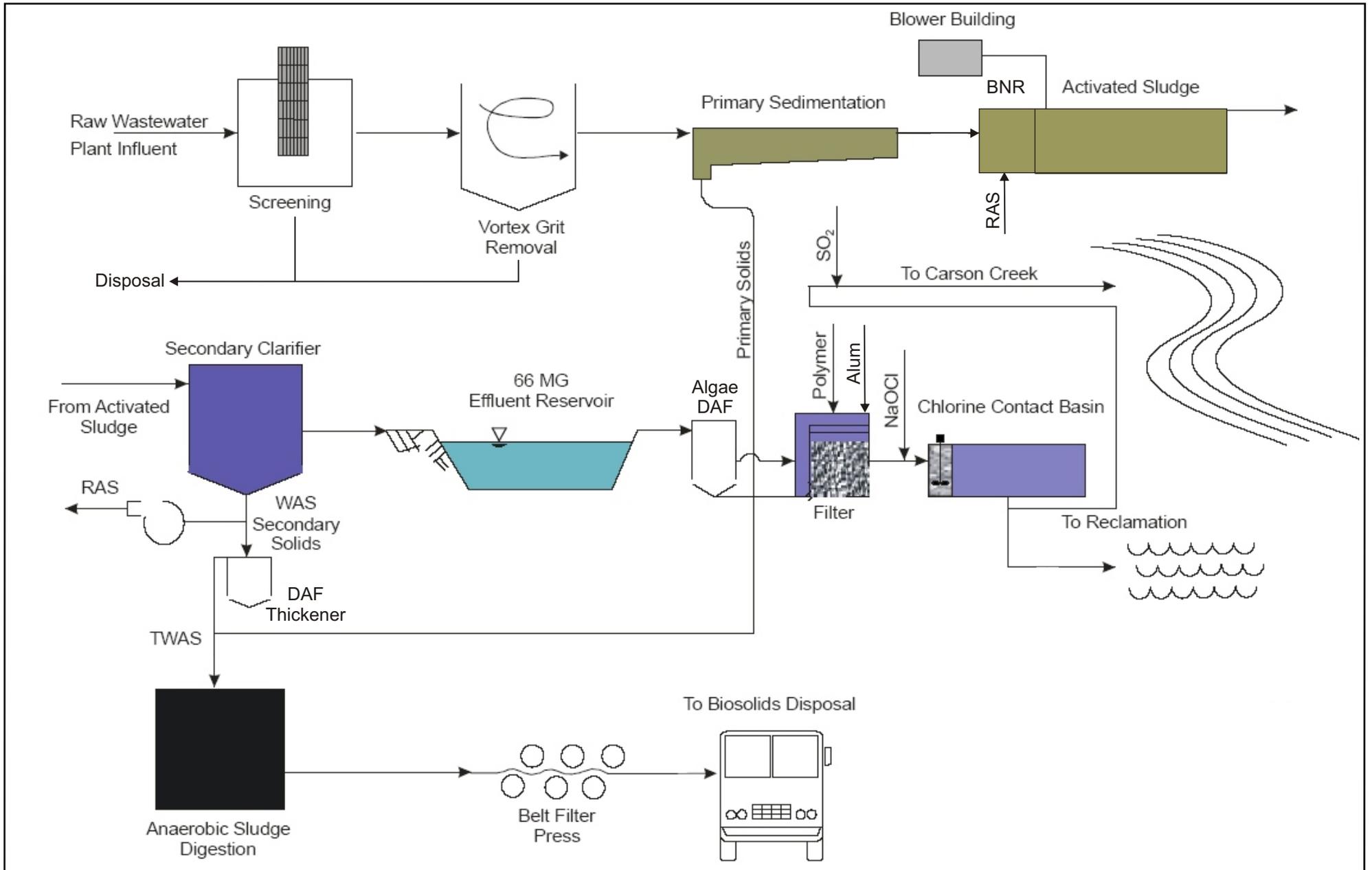
The Deer Creek Wastewater Treatment Plant is located within El Dorado County (County), in the vicinity of Cameron Park. The project site is located 13 miles southwest of Placerville and 35 miles northeast of Sacramento. The DCWWTP is situated on approximately 22 acres of a 131-acre site at the terminus of Deer Creek Road, southwest of Cameron Park Estates, and approximately two miles south of U.S. Highway 50. The plant discharges treated wastewater effluent to Deer Creek, which flows in a southwesterly direction downstream to the Cosumnes River. The plant also produces tertiary treated recycled water for irrigation of golf courses and other non-restricted uses. A process flow schematic of the plant is shown in Figure 5-2.

The Deer Creek Treatment Plant's main components consist of an inverted influent siphon, headworks, primary clarifier, three aeration basins an emergency storage basin, three secondary clarifiers, thirteen tertiary filters, two chlorine contact chambers, one primary sludge thickener, one waste activated sludge thickener, four aerobic digesters, two filter presses, two sludge lime addition stations, and a plant drain sump. The plant currently discharges treated municipal wastewater effluent to Deer Creek, a tributary to the Consumes River. At least one million gallons per day must be discharged to Deer Creek year-round in accordance with the discharge permit. The plant also produces tertiary treated recycled water for irrigation of golf courses and other non-restricted uses including landscape irrigation for individual residences. The existing plant has a permitted capacity 3.6 MGD ADWF. DCWWTP produces Title 22 full body contact recycled water.



Source: HDR for EID, Wastewater Master Plan Update, November 2001

BROWN AND CALDWELL	PROJECT	128748	2005 Urban Water Management Plan, El Dorado Irrigation District, California	Figure 5-1
	DATE	12-1-05		



Source: HDR for EID, Wastewater Master Plan Update, November 2001

BROWN AND CALDWELL	PROJECT	128748	SITE	2005 Urban Water Management Plan, El Dorado Irrigation District, California	Figure 5-2
	DATE	12-1-05	TITLE	El Dorado Hills WWTP Process Flow Schematic	

5.2.4 Wastewater Disposal

Wastewater treatment plant disposal methods are affected by the treatment required for surface water discharge, the seasonal nature of the recycled water demand, and the amount of recycled water storage available. Projected disposal methods and quantities are presented in Table 5-3.

Table 5-3. (DWR Table 34) Disposal of (non-recycled) Wastewater, ac-ft/yr

Method of disposal	Treatment level	2005	2010	2015	2020	2025	2030
Deer Creek ^{a,b}	Tertiary	3,020	1,457	620	620	620	620
Carson Creek ^b	Tertiary	1,216	602	0	0	0	0
Total		4,236	2,077	620	620	620	620

Notes:

^a Minimum discharge requirement per NPDES permit.

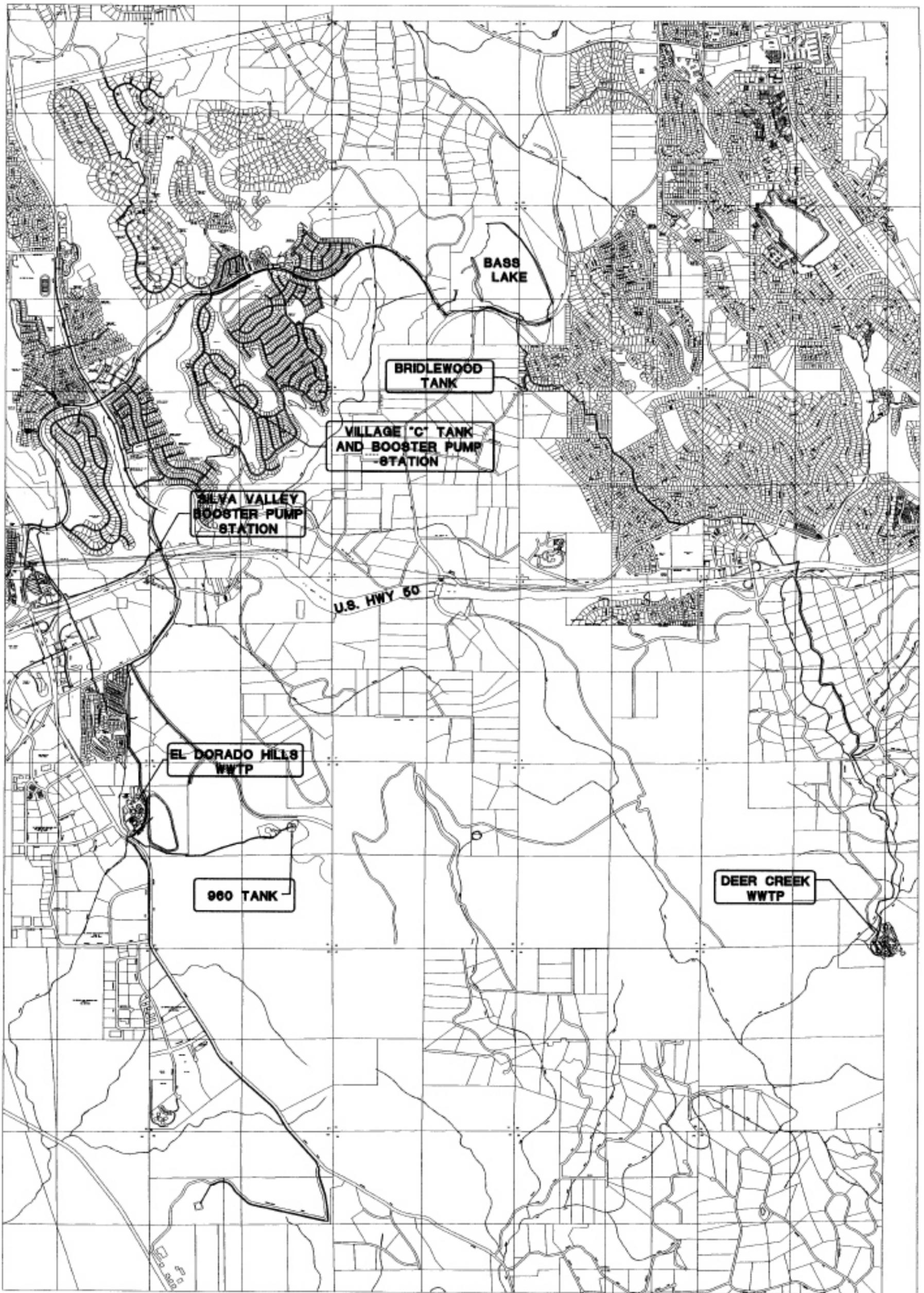
^b Recycled water seasonal storage to be constructed years 2010-2013. All WWTP effluent, except the irrigation discharge to Deer Creek, will be sent to the seasonal storage reservoir.

5.3 **Water Recycling Current Uses**

The District operates two reclamation plants and a distribution system that are regulated under a single Master Reclamation Permit. Recycled water is used within the El Dorado Hills service area to offset the need to develop new potable water sources. Recycled water is used for three main purposes: commercial landscape irrigation, residential landscape irrigation, and construction dust control. Typically, these uses are associated with warm weather and minor precipitation. Recycled water demand is highest during the warm weather months beginning in May and extending through October. Thus, disposal of WWTP effluent via recycling is not available year-round. Figure 5-3 displays the District's overall recycled water distribution system.

Currently, urban recycled water landscape irrigation occurs in the Serrano development at two golf courses, parks and along street medians. The Creekside Greens and Euer Ranch developments also use recycled water for irrigation of parks and street medians. All of the above mentioned developments utilize recycled water for irrigation of residential front and back yards. Future development that will utilize recycled water for landscape and residential irrigation include the West Valley and Carson Creek developments.

The current recycled water supply is limited by wastewater influent flow during the summer and storage available in the EDHWWTP 66 MG reservoir. This quantity is less than the total annual wastewater influent flow because not all of the wastewater received in the winter months can be stored for use in the summer. Annually, the 66 MG reservoir is filled and excess treated wastewater discharged to Carson Creek. Seasonal storage allows all wastewater flow to be available with winter flows stored for use during the summer (HDR, 2002).



El Dorado Irrigation District
System Map

WARNING: For schematic purposes only.
Exact pipe location must be
field verified.



Scale: Not to Scale

————— RECYCLED WATER LINE

Source: HDR for EID, Recycled Water Master Plan, December 2002, Draft

BROWN AND CALDWELL	PROJECT	128748	SITE	2005 Urban Water Management Plan, El Dorado Irrigation District, California	Figure 5-3
	DATE	10-27-05	TITLE	Recycled Water System	

Actual recycled water deliveries in 2005 are listed in Table 5-4. The discrepancy between wastewater effluent and the accumulation of wastewater disposed and delivered recycled water can be attributed to the addition of raw and potable water, from Bass Lake and District water treatment plants, respectively. Currently, in order to meet its peak recycled water demand, the District temporarily supplements its recycled water supply. As wastewater effluent grows with increasing system demand, this will no longer be necessary.

Table 5-4. (DWR Table 35A) Existing Recycled Water Uses

Type of use	Treatment level	2005, ac-ft/yr
Residential Dual Piped	Disinfected Tertiary	1,730
Street and Median/ Landscaping	Disinfected Tertiary	490
Golf Courses/Parks/Schools	Disinfected Tertiary	660
Construction	Disinfected Tertiary	130
Total		3,010

Note:
Source: District staff.

5.4 Potential and Projected Recycled Water Use Plan

This section presents the projected potential use and methods to optimize reuse in the future. The District's 2000 Urban Water Management Plan made future projections for recycled water use. A comparison of this projection with the actual use in 2005 is shown in Table 5-5. Currently, the District is using an estimated 3,010 ac-ft/yr of recycled water.

Table 5-5. (DWR Table 37) Recycled Water Uses – 2005 Projection versus Actual, ac-ft/yr

Method of disposal	2000 UWMP projection for 2005 ^a	2005 actual use ^b
Residential Dual Piped	1,250	1,730
Street and Median/ Landscaping	700	490
Golf Courses/Parks/Schools	980	660
Construction	570	130
Total	3,500	3,010

Notes:
^a Source: District 2000 UWMP.
^b Source: District staff.

The volume of District potential recycled water use is shown in Table 5-6. This Table presumes all wastewater effluent that can meet recycled water standards will be used, as shown in Table 5-2 previously.

Table 5-6. (DWR Table 35B) Recycled Water Uses – Potential ac-ft/yr

	Treatment level	2010	2015	2020	2025	2030
Total Potential Use	Disinfected Tertiary	7,950	9,040	10,085	11,130	12,175

Based on infrastructure, geographic, and financial constraints, the District’s recycled water supplies exceed its potential recycled water demand. All recycled water demands can potentially be met with a limited volume of wastewater discharge. Recycled water demand “buildout” occurs in 2017, after which, no new recycled water demands are identified. Consequently, as the wastewater influent continues to grow, the recycled water deficit decreases. Therefore, no change to the recycled water demands is made after year 2017 through the end of the planning period. However, potential additional demands may be identified from time to time. For example, additions such as 1,500 units from Bass Lake Hills Specific Plan Area, will be made to the extent that recycled water is available at the time of development. Additional facilities may be required in order to receive recycled water service. Details on specific recycled water demands can be found in the District’s 2002 Recycled Water Master Plan. It is also important to note that the District is investigating the discharge of excess treated wastewater to the City of Folsom for recycled water use (HDR, 2002).

The projected future use of recycled water in the District’s service area for the next 20 years is shown in Table 5-7. This table estimates the use of recycled water for various uses at five year intervals.

Table 5-7. (DWR Table 36) Projected Future Use of Recycled Water, ac-ft/yr

Type of use	Treatment level	2010	2015	2020 ^a	2025 ^a	2030 ^a
Residential Dual Piped Landscaping	Disinfected Tertiary	2,950	4,210	4,501	4,501	4,501
Parks/Schools Landscaping	Disinfected Tertiary	715	811	811	811	811
Street and Median Landscaping	Disinfected Tertiary	555	646	646	646	646
Golf Courses	Disinfected Tertiary	850	850	850	850	850
Commercial/Industrial	Disinfected Tertiary	305	155	155	155	155
Total		5,375	6,672	6,963	6,963	6,963

Note:

Source: “Normal/Wet Year Demand” with retrofit projects. Table 3-4, Recycled Water Master Plan (HDR, 2002).

^a Values remain constant because recycled water demand “buildout” occurs in 2017.

5.5 Optimizing the Use of Reclaimed Water

This section discusses how the District promotes the use of recycled water and their optimization plan for recycled water use.

5.5.1 Promotion of Recycled Water Use

The District currently exercises outreach programs in the forms of brochures and community meetings to convince the public that recycled water is safe and cost-effective. Public education is especially important because recycled water is often used for irrigating parks, athletic fields and other public areas. Additionally, all new development in areas where reclaimed water distribution is feasible is required to provide recycled water. The District’s methods to encourage recycled water use are listed in Table 5-8.

Table 5-8. (DWR Table 38) Methods to Encourage Recycled Water Uses

Actions	ac-ft/yr of use projected to result from this action				
	2010	2015	2020	2025	2030
Financial incentives	0	0	0	0	0
Education	0	0	0	0	0
Ordinance	374	288	0	0	0
Total	374	288	0	0	0

5.5.2 Optimization Plan for Recycled Water

As stated in the Recycled Water Master Plan, in order to continue recycled water development, the following items are recommended for efficient implementation:

1. Begin a series of meetings to prepare an Integrated Resource Plan including the Water Supply Master Plan (WSMP), Waste Water Master Plan (WWMP), and Recycled Water Master Plan (RWMP).
2. Prepare policies for recycled water development regarding supply and demand management.
3. Work with developers to prepare analysis of seasonal storage sites and associated engineering and design reports.
4. Prepare an update to the distribution system model incorporating decisions regarding supply, demand, and storage.
5. Prepare an annual Recycled Water Supply and Demand Report.

CHAPTER 6 WATER CONSERVATION

The District is a signatory to the California Urban Water Conservation Council's Memorandum of Understanding and has submitted their demand management implementation progress to the BMP Reporting Database.

BMP Activity Reports for reporting years 2002-2004 are included in Appendix D. Coverage Reports for reporting years 2002-2004 are also included in Appendix D. The District implements all BMPs and does not claim any BMP exemptions.

CHAPTER 7 WATER SUPPLY VERSUS DEMAND

This chapter provides a comparison of projected water supplies and demand and water shortage expectations. The District's water shortage contingency actions are also presented.

7.1 Current and Projected Water Supplies versus Demand

This section provides a comparison of normal, single-dry, and multiple-dry water year supply and demand for the District. Water demands are addressed in Chapter 3, water supply is addressed in Chapter 4, and recycled water supply is addressed in Chapter 5 of this Plan.

7.1.1 Current and Projected Normal Year Water Supplies Versus Demand

The normal water year current and projected water supplies are compared to the current and projected demand for the District in Table 7-1.

**Table 7-1. (DWR Table 42) Normal Year Water Supply and Demand Comparison,
ac-ft/yr**

	2005	2010	2015	2020	2025	2030
Supply totals	70,200	82,065	83,362	103,653	103,653	103,653
Demand totals	47,782	56,094	64,406	72,718	81,030	89,342
Difference (supply minus demand)	22,418	25,971	18,956	30,935	22,623	14,311
Difference as a percent of supply	32	32	23	30	22	14
Difference as a percent of demand	47	46	29	43	28	16

7.1.2 Current and Projected Single-Dry Year Water Supplies Versus Demand

The current and projected water supplies are compared to the demands for a single-dry year for the District in Table 7-2.

**Table 7-2. (DWR Table 45) Single-Dry Year Water Supply and Demand Comparison,
ac-ft/yr**

	2005	2010	2015	2020	2025	2030
Supply totals	66,310	76,300	77,597	92,888	92,888	92,888
Demand totals	47,782	56,094	64,406	72,718	81,030	89,342
Difference (supply minus demand)	18,528	20,206	13,191	20,170	11,858	3,546
Difference as a percent of supply	28	26	17	22	13	4
Difference as a percent of demand	39	36	20	28	15	4

7.1.3 Projected Multiple-Dry Year Water Supplies Versus Demand

The projected water supplies are compared to the demands for multiple-dry years for the District in Tables 7-3 through 7-7.

Table 7-3. (DWR Table 48) Multiple-Dry Year Water Supply and Demand Comparison, ac-ft/yr, Period ending in 2010

	2006	2007	2008	2009	2010
Supply totals	68,150	68,155	66,457	65,666	68,040
Demand totals	49,947	48,944	47,784	43,734	44,875
Difference (supply minus demand)	18,203	19,211	18,673	21,932	23,165
Difference as a percent of supply	27	28	28	33	34
Difference as a percent of demand	36	39	39	50	52

Table 7-4. (DWR Table 51) Multiple-Dry Year Water Supply and Demand Comparison, ac-ft/yr, Period ending in 2015

	2011	2012	2013	2014	2015
Supply totals	77,464	71,701	69,976	69,049	69,337
Demand totals	57,815	56,419	54,866	50,028	51,525
Difference (supply minus demand)	19,649	15,282	15,110	19,021	17,812
Difference as a percent of supply	25	21	22	28	26
Difference as a percent of demand	34	27	28	38	35

Table 7-5. (DWR Table 54) Multiple-Dry Year Water Supply and Demand Comparison, ac-ft/yr, Period ending in 2020

	2016	2017	2018	2019	2020
Supply totals	78,732	72,776	70,828	69,628	74,628
Demand totals	65,683	63,893	61,947	56,323	58,174
Difference (supply minus demand)	13,049	8,883	8,881	13,305	16,454
Difference as a percent of supply	17	12	13	19	22
Difference as a percent of demand	20	14	14	24	28

Table 7-6. (DWR Table 57) Multiple-Dry Year Water Supply and Demand Comparison, ac-ft/yr, Period ending in 2025

	2021	2022	2023	2024	2025
Supply totals	93,888	82,828	75,828	74,628	74,628
Demand totals	73,551	71,368	69,028	62,617	64,824
Difference (supply minus demand)	20,337	11,460	6,800	12,011	9,804
Difference as a percent of supply	22	14	9	16	13
Difference as a percent of demand	28	16	10	19	15

**Table 7-7. Multiple-Dry Year Water Supply and Demand Comparison,
 ac-ft/yr, Period ending in 2030**

	2026	2027	2028	2029	2030
Supply totals	93,888	82,828	75,828	74,628	74,628
Demand totals	81,419	78,843	76,109	68,912	71,474
Difference (supply minus demand)	12,469	3,985	-281	5,716	3,154
Difference as a percent of supply	13	5	0	8	4
Difference as a percent of demand	15	5	0	8	4

7.2 Water Shortage Expectations

The District projects water supply shortages in multiple-dry years based on current projected demand and supply. Based on experiences during the extended 1987-1992 drought, the community recognizes that it is better to enter into a water shortage alert early, at a minimal level, to establish necessary water use reduction programs and policies, to gain public support and participation, and to reduce the likelihood of more severe shortage levels later. As the community continues to become more water efficient, it may become more difficult for customers to reduce their water use during water shortages; this is known as demand hardening. Based on observations to date, it does not appear that District customers are yet approaching demand hardening. There are still reasonable water efficiency improvements available in landscaping irrigation practices community-wide when comparing irrigation demands and local climatic conditions. Furthermore, there are additional opportunities for residential and commercial plumbing fixture and appliance replacements with new low water using products. However, improved water use efficiency does mean that water supply reserves must be larger and that water shortage responses must be made early to prevent severe economic and environmental impacts.

The District assesses its water supply conditions annually, considering both hydrologic and water system conditions. Based on the water shortage stages and triggers, a water shortage condition may be declared. For planning purposes, the District, in conjunction with the EDCWA and several neighboring water purveyors, is developing a regional drought model that not only simulates the District's system response under dry year conditions, outputting shortfall, but incorporates switches to integrate potential water supply projects, potential demands cutbacks and climate change factors (Brown and Caldwell, 2005).

7.3 Water Shortage Contingency

The Water Forum Agreement describes supply scenarios for normal, dry, and multiple-dry years. However, the Water Forum Agreement acknowledges that there may be years where surface water supply is less than even the stipulated decreased demands. The District may also experience short-term water shortages due to mechanical failures or other circumstances. For these instances, the District has developed a water shortage contingency plan. The complete plan is included in Appendix C. In addition, the District has an Emergency Response Plan in place to mitigate against the impact of catastrophic emergencies and inconvenience to its customers. Due to security purposes, only the some components of the Emergency Response Plan are included in Appendix E.

7.3.1 Stages of Action

The District uses a four stage water shortage plan whereby storage amounts in Jenkinson Lake are monitored by month as guidance in implementing conservation measures designed to reduce water deliveries. Since Jenkinson Lake is the main storage project in the District, serving approximately half of the District’s water demand, it is used as the guidance to implement actions to reduce water usage during water emergencies. A matrix of Jenkinson Reservoir storage levels was developed for the various stages by month, and can be found in the District’s “4-Stage Water Supply Matrix and Water Shortage Response Measures” report in Appendix F. The District’s water shortage planning stages are summarized in Table 7-8.

Table 7-8. (DWR Table 23) Water Shortage Contingency Plan Stages

Stage	Water supply conditions	Percent shortage
Stage 1 – Water Alert	Probability that supplies will not meet demands	0-5
Stage 2 – Water Warning	Supplies will not be able to meet expected demands	5-10
Stage 3 – Water Emergency	Supplies not meeting current demands	10-20
Stage 4 – Critical Water Emergency	Major failure of a supply, storage, or distribution system	20-30

7.3.2 Three-Year Minimum Water Supply

The three-year minimum water supply is presented in Chapter 4. Results are summarized in Table 7-9.

Table 7-9. (DWR Table 24) Three-Year Estimated Minimum Water Supply ac-ft/yr

Water supply sources	Normal ^a	Year 1 ^b	Year 2 ^b	Year 3 ^b
Surface Water				
Sly Park	23,000	22,000	17,000	15,500
USBR – Folsom Lake	7,550	5,660	5,660	5,660
Forebay/Project 184 ^a	15,080	15,080	15,080	15,080
Ditch/Weber Reservoir water rights	4,560	4,560	3,500	3,000
PL 21112 Folsom Lake	17,000	17,000	17,000	17,000
PL101-514 Folsom Lake	0	0	5,625	5,625
SMUD-El Dorado Agreement ^c	0	0	0	0
Water loss reduction ^d	0	0	0	0
Supplier produced groundwater	0	0	0	0
Recycled water	3,850	3,850	4,290	4,592
Water supply loss due to water quality	0	0	0	0
Transfers in or out	0	0	0	0
Exchanges in or out	0	0	0	0
Desalination Water	0	0	0	0
Total	71,040	68,150	68,155	66,457

Notes:

^aThis is the projected supply for a normal 2006 year.

^bThis represents the 2006 through 2008 year sequence.

^cThis supply is projected to come online in 2020.

^dThis supply is projected to come online in 2010.

7.3.3 Catastrophic Supply Interruption Plan

The District has an adopted Emergency Response Plan to provide procedures and guidance to District personnel in responding to emergency situations including catastrophic events, both natural and manmade. The plan provides procedures for preparing, mobilizing and employing District resources and coordinating outside resources during an emergency to provide potable water to customers. The District provides periodic training, including full scale simulated events and responses to keep District personnel fully trained on implementation emergency procedures. A copy of the Emergency Response Plan's Table of Contents and Introduction are provided in Appendix E. The following Table 7-10 summarizes the response actions to possible major catastrophes within the District. The Emergency Response Plan provides detailed response actions for each individual possible major catastrophe.

Table 7-10. (DWR Table 23) Preparation Actions for a Catastrophe

Possible catastrophe	Summary of actions
<ul style="list-style-type: none"> • Earthquake • Fire/explosion • Medical • Flood • Tornado/severe weather • Bomb threat • Hard freeze • Loss of normal water supply • Hazardous material release • Contamination of District water supplies • Terrorist attack 	<p>Command chain is defined that dispatches crews to inspect infrastructure and critical operations. Operations response crews assigned to monitor system operations and modify as necessary. Communication command chain is defined to coordinate with other local water agencies and emergency response officials as necessary. Criteria and procedures provided to return system to normal operations including initiating water quality testing when necessary and performing necessary emergency repairs to the system. Plan contains contact information for responsible parties and support services. Water shortage contingency plan stages will be implemented as required by the situation.</p>

7.3.4 Prohibitions, Consumption Reduction Methods, and Penalties

Mandatory prohibition consumption reduction methods and penalties in the District’s water shortage contingency plan are presented in Appendix C and summarized in Tables 7-11 through 7-13 to conform to the UWMP guidelines.

Table 7-11. (DWR Table 26) Mandatory Prohibitions

Prohibitions	Stage when prohibition is voluntarily requested	Stage when prohibition becomes mandatory
Street/sidewalk cleaning	1	2
Washing cars (residential)	2	3
Watering lawns/landscapes	2	3
No refilling or filling of pools	2	3
New/proposed agricultural plantings	None	4
Construction water use for dust control, earth work or road construction	None	2

Note:
 Water shortage contingency plan stages are defined in Table 7-8.

Table 7-12. (DWR Table 27) Consumption Reduction Methods

Examples of consumption reduction methods	Stage when method takes effect	Projected reduction, percent
Demand reduction program	2	5 - 50
Restrict building permits	3	Not estimated
Restrict for only priority uses	4	Not estimated
Use prohibitions	1	Not estimated
Mandatory rationing	2	5 - 50
Education Program	1	Not estimated
Irrigation allowed only during off-peak hours	2	Not estimated

Note:
Water shortage contingency plan stages are defined in Table 7-8.

Table 7-13. (DWR Table 28) Penalties and Charges

Examples of penalties and charges	Stage when penalty takes effect
Penalties for not reducing consumption	2
Termination of service and reconnect fee	3

Note:
Water shortage contingency plan stages are defined in Table 7-8.

7.3.5 Analysis of Revenue Impacts of Reduced Sales During Shortages

Since all of the District's customers are metered, revenue impacts from decreasing supply and consumer use would be substantial. Furthermore, although expenditures on water purchases would decrease, administration and operations and maintenance expenses for the District would remain the same, or possibly increase, with additional operations and administrative activity.

The following Tables 7-14 and 7-15 present the District's analysis of reduced revenues during water shortages.

Table 7-14. (DWR Table 29) Proposed Measures to Overcome Revenue Impacts

Name of measures	Summary of effects
Rate adjustment	For prolonged water shortages with water sales that are 20% or less over a water year, the District requires a rate increase.
Development of reserves	The District has a reserve policy in place to help offset revenue impacts during times of emergency. The District's rate stabilization fund is 20% of annual revenues.

Table 7-15. (DWR Table 30) Proposed Measures to Overcome Expenditure Impacts

Name of measures	Summary of effects
Development of reserves	The District has a reserve policy in place to help offset expenditure impacts during times of emergency. The District's rate stabilization fund is 20% of annual revenues.

7.3.6 Reduction Measuring Mechanisms

Under normal water supply conditions, potable water production figures are recorded instantaneously, and totaled daily. Daily totals are then manually recorded and sent to District headquarters. Daily totals are compiled monthly and incorporated into the water supply report.

During any stage of water shortage, production figures can be generated hourly, daily, weekly, or monthly, depending on the need. Water usage is then reviewed by the Water Co-Division Manager to monitor production goals and peaking water conditions. Water usage reports are reported to the Board of Directors at the bimonthly meetings, or more often if necessary.

During emergency shortages, production figures can be provided hourly and appropriate response measures can be implemented.

Table 7-16 summarizes the District's water use monitoring mechanisms.

Table 7-16. (DWR Table 31) Water Use Monitoring Mechanisms

Mechanism for determining actual reduction	Type and quality of data expected
Water treatment plant production meters	Daily treatment plant production will be monitored from the water production meters on a daily or weekly basis, dependant upon the severity of the water shortage.
Customer records	Customer water usage is monitored on a bimonthly reading cycle or as necessary.

CHAPTER 8 REFERENCES

Brown and Caldwell. El Dorado County Drought Shared Vision Model October 2005.

El Dorado County Water Agency. Water Resources Development and Management Plan June 2003.

El Dorado Irrigation District. 2004 Consumption Report by Zone and User Category 2004.

El Dorado Irrigation District. El Dorado Irrigation District Urban Water Management Plan 2000 Update Adopted January 22, 2001.

El Dorado Irrigation District. Water Supply Master Plan – Administrative Draft December 2001.

HDR. EID Recycled Water Master Plan Draft December 2002.

HDR. EID Wastewater Master Plan Update November 2001.

Mead and Hunt. Joint Benefit Investigation Plan: Technical Analysis for Preliminary Alternatives Prepared for El Dorado County Water Agency, El Dorado Irrigation District, Sacramento Municipal Utility District, and Georgetown Divide Public Utility District July 2004.

Mead and Hunt. Impacts of the Upper American River Project on El Dorado County Water Supply and Socioeconomic Resources and background excel documents January 2005. http://www.co.el-dorado.ca.us/waterandpower/uarp_document.html

APPENDIX A

Notice of Public Hearing

EL DORADO IRRIGATION DISTRICT
NOTICE OF PUBLIC HEARING ON URBAN WATER MANAGEMENT PLAN UPDATE

NOTICE IS HEREBY GIVEN THAT PURSUANT TO THE PROVISIONS OF Section 10621 of the Water Code, EL DORADO IRRIGATION DISTRICT (District) has prepared its Urban Water Management Plan (Plan) and the District intends to adopt said Plan as a result of said preparation.

That said Plan and the proposed changes and amendments is available for public inspection at the District office located at 2890 Mosquito Road, Placerville, California. Loaner copies of the Plan are also available for checkout at the District office.

NOTICE IS FURTHER GIVEN that a public hearing will be held on the proposed Plan at a meeting of the Board of Directors to be held on the 19 day of December at the hour of 9:30 am at the District office.

Upon completion of said public hearing, the Plan will be adopted as prepared or as modified.

This notice shall be published once a week for two successive weeks in the Mountain Democrat.

Dated: November 22, 2005

EL DORADO IRRIGATION DISTRICT by/ Laura Wroblewski, Secretary

APPENDIX B

Adopted Resolution

1 RESOLUTION NO. 06-02
2 THE BOARD OF DIRECTORS OF
3 EL DORADO IRRIGATION DISTRICT
4 AUTHORIZING THE ADOPTION OF THE
5 URBAN WATER MANAGEMENT PLAN 2006 UPDATE

6 **WHEREAS** the California Legislature enacted Assembly Bill 797 (Water Code Section
7 10610 et seq., known as the Urban Water Management Planning Act) during the 1983 - 1984
8 Regular Session, and as amended subsequently, which mandates that every supplier providing
9 water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre feet
10 of water annually, prepare an Urban Water Management Plan, the primary objective of which is to
11 serve as a long range planning document for EL DORADO IRRIGATION DISTRICT'S Water
12 supply; and

13 **WHEREAS** the EL DORADO IRRIGATION DISTRICT ("District") is an urban supplier
14 of water providing water to over 92,400 customers; and

15 **WHEREAS** the Urban Water Management Plan ("Plan") shall be periodically reviewed at
16 least once every five years, and that the District shall make any amendments or changes to its plan
17 which are indicated by the review; and

18 **WHEREAS** the Plan must be adopted, after public review and hearing, and filed with the
19 California Department of Water Resources within thirty days of adoption; and

20 **WHEREAS** the District has therefore, prepared and circulated for public review a draft
21 Urban Water Management Plan 2005 Update, and a properly notice public hearing regarding said
22 Plan was held on December 19, 2005; and

23 **NOW, THEREFORE, BE IT AND IT IS HEREBY RESOLVED** by the Board of
24 Directors of the EL DORADO IRRIGATION DISTRICT that:

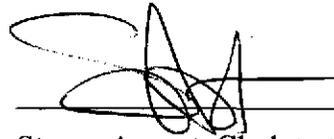
- 25 1. The Urban Water Management Plan 2005 Update is hereby adopted, and
- 26 2. The EL DORADO IRRIGATION DISTRICT will file the 2005 Plan Update with the
27 California Department of Water Resources within thirty days

28 The foregoing resolution was introduced at a regular meeting of the Board of Directors of
29 EL DORADO IRRIGATION DISTRICT, held on the 23rd day of January, 2006, by Director
30 Wheeldon, who moved its adoption. The motion was seconded by Director Fraser, and a poll vote
31 taken which stood as follows:

32 //

//

I, the undersigned, Clerk to the Board of the EL DORADO IRRIGATION DISTRICT hereby certify that the foregoing resolution is a full, true and correct copy of a resolution of the Board of Directors of the EL DORADO IRRIGATION DISTRICT entered into and adopted at a regular meeting of the Board of Directors held on the 23rd day of January, 2006.

A handwritten signature in black ink, appearing to read 'Stacey August', is written over a horizontal line.

Stacey August, Clerk to the Board
EL DORADO IRRIGATION DISTRICT

APPENDIX C

Water Shortage Contingency Plan

WATER SHORTAGE CONTINGENCY PLAN



**ADOPTED:
JULY 13, 1992**

**EL DORADO IRRIGATION DISTRICT
2890 MOSQUITO ROAD
PLACERVILLE, CALIFORNIA 95667
(916) 622-4513**

IV ELEMENTS OF CONSERVATION PROGRAM

As the drought increased in intensity and with dwindling water supplies, the El Dorado Irrigation District and the City of Placerville initiated a number of measures to conserve water to prevent a complete water outage.

Water use in the service area has been subject not only to the actual prohibition of nonessential uses, penalties and other incentives curbing water consumption, but simultaneously to an intensive educational and retrofitting program and campaign to conserve water. Community and media efforts have heightened the awareness of the water shortage, the need to conserve, and communicated various ways of saving water.

Listed below is a summary of the multiply effect program instituted and the principle resolutions adopted by the El Dorado Irrigation District.

1. RESOLUTION 77-23 JANUARY 11, 1977

A. Usage Allocation

Established a per customer "life line" concept for the use of 1200 cubic feet maximum for a two month period at previously established rates.

B. Penalties For Excessive Use

Established a new rate structure to reflect increasing rates for increasing consumption. The basic charge for 1200 cubic feet or less for a two month period is \$12.50. The costs for uses in excess of this "lifeline" amount are shown below.

<u>Use in Cu. Ft.</u>	<u>Cost</u>
1201 - 2200	\$0.20 per 100 cu. ft.
2201 - 3200	\$1.25 per 100 cu. ft.
3201 - 4200	\$1.50 per 100 cu. ft.

This gradually rising scale was established as a penalty for excessive use to encourage conservation. Recently, the EID instituted

a further change to allow an additional \$2.00 reduction to those whose use is less than 800 cubic feet during a billing period.

Use in excess of 4200 cubic feet per two months per customer results in one warning followed by a shutoff for a second offense. The reconnection fee is set at \$50. The District felt it unnecessary to exercise the penalty option.

C. Prohibition of Nonessential Uses

Watering lawns and gardens between 6 a.m. and 8 p.m., except by hand.

Filling ponds of sizes in excess of 10' x 10' by 1-1/2' deep for nonagricultural purposes.

Gutter flooding - that is, water runoff caused by applying more water than soil can absorb.

Watering of golf course fairways, except where use of reclaimed water is available and authorized.

Watering of schools' green play areas and athletic fields.

Cooling of roofs for human comfort by other than recirculated water.

Flowing and flushing of hydrants by fire department.

Filling and draining of swimming pools, but existing pools can remain.

Washing down driveways, sidewalks or patios which can be swept clean.

Hosing down cars on sales lots . . . buckets and sponges to be used there and at home.

Use of swamp coolers, watering of galvanized roofs or water to cool refrigerants without closed-loop systems (recirculation) so water can be re-used. This also applies to commercial car-washes.

School shower systems without restrictions through use of time clocks or other controls.

Construction projects which do not use alternate water sources such as creeks, ponds or wastewater if available within five miles.

All restrooms in commercial buildings will be inspected and leaks must be repaired.

2. AGRICULTURAL ALLOTMENT

Resolution 77-30 adopted April 14, 1977 limited agricultural usage to

to 7800 acre feet for 1977 at a 35% increase in rates. Rates were increased from 40¢ per MID (Miners Inch Per Day) to 54¢ per MID.

To establish a control to assure the above goals would be met individual allocations were established as follows:

Orchards	2.3 Ac Ft/acre		
Orchards	2.3 Ac Ft/acre	Vineyards	1.5 Ac Ft/acre
Pasture	2.03 Ac Ft/acre	Walnuts	1.0 Ac Ft/acre

3. IRRIGATION MANAGEMENT PROGRAM

The El Dorado Irrigation District has conducted an irrigation management service using the neutron probe to detect soil moisture over the past two drought years to guide farmers in the efficient use of irrigation water. The Bureau of Reclamation, the Soil Conservation Service, the Agricultural Commissioner, and the Cooperative Extension Service have participated in this effort to conserve water and produce food more efficiently by providing technical assistance and personnel to collect data.

Don Price and Ralph Mouillesseaux from the EID staff have collaborated with the above agencies on implementing methods of water conservation in rural areas.

This program is described in greater detail in Chapter VIII, Page 46.

4. INDUSTRIAL/COMMERCIAL ALLOTMENT

Resolution passed by the EID board on March 8, 1977 reduced the water allocation for industrial and commercial use from 1000 acre feet used in 1976 to 700 acre feet for 1977. The rate was changed as follows:

	<u>1976</u>	<u>1977</u>
First 3,000 cubic feet	\$10.50	Minimum \$12.50
Next 17,000 cubic feet	30¢/100 cu ft	Usage 50¢/100 cu ft
Next 30,000 cubic feet	20¢/100 cu ft	
Over 50,000 cubic feet	10¢/100 cu ft	

5. EDUCATION - MOTIVATION

To promote an awareness for each individual within the District of the seriousness of the water shortage. To encourage the community to change its habits relating to water use. To start an education process

APPENDIX D

BMP Activity Reports and BMP Coverage Reports, 2002-2004

Reported as of 10/14/05

Water Supply & Reuse

Reporting Unit:
El Dorado Irrigation District

Year:
2002

Water Supply Source Information

Supply Source Name	Quantity (AF) Supplied	Supply Type
--------------------	------------------------	-------------

Total AF:

Reported as of 10/14/05

Accounts & Water Use

Reporting Unit Name:
EI Dorado Irrigation District

Submitted to
 CUWCC
 03/21/2003

Year:
2002

A. Service Area Population Information:

1. Total service area population 100000

B. Number of Accounts and Water Deliveries (AF)

Type	Metered		Unmetered	
	No. of Accounts	Water Deliveries (AF)	No. of Accounts	Water Deliveries (AF)
1. Single-Family	29131	18760	0	0
2. Multi-Family	1040	1717	0	0
3. Commercial	1176	2596	0	0
4. Industrial	0	0	0	0
5. Institutional	11	1696	0	0
6. Dedicated Irrigation	282	6003	0	0
7. Recycled Water	1242	123.07	0	0
8. Other	99	1357	0	0
9. Unaccounted	NA	0	NA	0
Total	32981	32252.07	0	0

Metered

Unmetered

Reported as of 10/14/05

Reported as of 10/14/05

BMP 01: Water Survey Programs for Single-Family and Multi-Family Residential Customers

Reporting Unit: **EI Dorado Irrigation District** BMP Form Status: **100% Complete** Year: **2002**

A. Implementation

- | | |
|--|------------|
| 1. Based on your signed MOU date, 03/12/2003, your Agency STRATEGY DUE DATE is: | 03/11/2005 |
| 2. Has your agency developed and implemented a targeting/marketing strategy for SINGLE-FAMILY residential water use surveys? | yes |
| a. If YES, when was it implemented? | 1/1/1995 |
| 3. Has your agency developed and implemented a targeting/marketing strategy for MULTI-FAMILY residential water use surveys? | yes |
| a. If YES, when was it implemented? | 1/1/1995 |

B. Water Survey Data

Survey Counts:	Single Family Accounts	Multi-Family Units
1. Number of surveys offered:	178	41
2. Number of surveys completed:	167	41

Indoor Survey:

- | | | |
|---|-----|-----|
| 3. Check for leaks, including toilets, faucets and meter checks | yes | yes |
| 4. Check showerhead flow rates, aerator flow rates, and offer to replace or recommend replacement, if necessary | yes | yes |
| 5. Check toilet flow rates and offer to install or recommend installation of displacement device or direct customer to ULFT replacement program, as necessary; replace leaking toilet flapper, as necessary | yes | yes |

Outdoor Survey:

- | | | |
|--|----------------|-----|
| 6. Check irrigation system and timers | yes | yes |
| 7. Review or develop customer irrigation schedule | yes | yes |
| 8. Measure landscaped area (Recommended but not required for surveys) | no | no |
| 9. Measure total irrigable area (Recommended but not required for surveys) | no | no |
| 10. Which measurement method is typically used (Recommended but not required for surveys) | Odometer Wheel | |
| 11. Were customers provided with information packets that included evaluation results and water savings recommendations? | yes | yes |
| 12. Have the number of surveys offered and completed, survey results, and survey costs been tracked? | yes | yes |
| a. If yes, in what form are surveys tracked? | spreadsheet | |

b. Describe how your agency tracks this information.

We use all three methods of tracking.

C. Water Survey Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	54140	56000
2. Actual Expenditures	55745	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

E. Comments

Reported as of 10/14/05

BMP 02: Residential Plumbing Retrofit

Reporting Unit: **El Dorado Irrigation District** BMP Form Status: **100% Complete** Year: **2002**

A. Implementation

- 1. Is there an enforceable ordinance in effect in your service area requiring replacement of high-flow showerheads and other water use fixtures with their low-flow counterparts? no
 - a. If YES, list local jurisdictions in your service area and code or ordinance in each:

- 2. Has your agency satisfied the 75% saturation requirement for single-family housing units? no
- 3. Estimated percent of single-family households with low-flow showerheads: 48%
- 4. Has your agency satisfied the 75% saturation requirement for multi-family housing units? no
- 5. Estimated percent of multi-family households with low-flow showerheads: 48%
- 6. If YES to 2 OR 4 above, please describe how saturation was determined, including the dates and results of any survey research.

B. Low-Flow Device Distribution Information

- 1. Has your agency developed a targeting/ marketing strategy for distributing low-flow devices? yes
 - a. If YES, when did your agency begin implementing this strategy? 1/1/1995
 - b. Describe your targeting/ marketing strategy.

Events, Billing inserts, Public counter, Water Audits, Word of Mouth.

Low-Flow Devices Distributed/ Installed	SF Accounts	MF Units
2. Number of low-flow showerheads distributed:	107	18
3. Number of toilet-displacement devices distributed:	27	6
4. Number of toilet flappers distributed:	81	34
5. Number of faucet aerators distributed:	84	49
6. Does your agency track the distribution and cost of low-flow devices?		yes
a. If YES, in what format are low-flow devices tracked?		Database
b. If yes, describe your tracking and distribution system :		

Access database, spreadsheet, manual tracking and account system.

C. Low-Flow Device Distribution Expenditures

	This Year	Next Year
1. Budgeted Expenditures	5000	5000

2. Actual Expenditures

2475

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

E. Comments

Actual expenditures not available.

Reported as of 10/14/05

BMP 03: System Water Audits, Leak Detection and Repair

Reporting Unit: **EI Dorado Irrigation District** BMP Form Status: **100% Complete** Year: **2002**

A. Implementation

1. Has your agency completed a pre-screening system audit for this reporting year? yes
2. If YES, enter the values (AF/Year) used to calculate verifiable use as a percent of total production:
 - a. Determine metered sales (AF) 32252
 - b. Determine other system verifiable uses (AF) 1201
 - c. Determine total supply into the system (AF) 38885
 - d. Using the numbers above, if (Metered Sales + Other Verifiable Uses) / Total Supply is < 0.9 then a full-scale system audit is required. 0.86
3. Does your agency keep necessary data on file to verify the values used to calculate verifiable uses as a percent of total production? yes
4. Did your agency complete a full-scale audit during this report year? yes
5. Does your agency maintain in-house records of audit results or the completed AWWA audit worksheets for the completed audit? yes
6. Does your agency operate a system leak detection program? yes
 - a. If yes, describe the leak detection program:

Through metering, Operations & Maintenance, CIP projects, consumption & water demand reporting & visual observations.

B. Survey Data

1. Total number of miles of distribution system line. 1200
2. Number of miles of distribution system line surveyed. 60

C. System Audit / Leak Detection Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	1000	1000
2. Actual Expenditures	0	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No
 - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

E. Comments

Actual expenditures not available.

Reported as of 10/14/05

BMP 04: Metering with Commodity Rates for all New Connections and Retrofit of Existing

Reporting Unit: **EI Dorado Irrigation District** BMP Form Status: **100% Complete** Year: **2002**

A. Implementation

- 1. Does your agency require meters for all new connections and bill by volume-of-use? yes
- 2. Does your agency have a program for retrofitting existing unmetered connections and bill by volume-of-use? no
 - a. If YES, when was the plan to retrofit and bill by volume-of-use existing unmetered connections completed?
 - b. Describe the program:
- 3. Number of previously unmetered accounts fitted with meters during report year. 0

B. Feasibility Study

- 1. Has your agency conducted a feasibility study to assess the merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters? no
 - a. If YES, when was the feasibility study conducted? (mm/dd/yy)
 - b. Describe the feasibility study:
- 2. Number of CII accounts with mixed-use meters. 0
- 3. Number of CII accounts with mixed-use meters retrofitted with dedicated irrigation meters during reporting period. 0

C. Meter Retrofit Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

D. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No
 - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

E. Comments

Actual expenditures not available.

Reported as of 10/14/05

BMP 05: Large Landscape Conservation Programs and Incentives

Reporting Unit: **EI Dorado Irrigation District** BMP Form Status: **100% Complete** Year: **2002**

A. Water Use Budgets

- | | |
|--|------|
| 1. Number of Dedicated Irrigation Meter Accounts: | 1337 |
| 2. Number of Dedicated Irrigation Meter Accounts with Water Budgets: | 32 |
| 3. Budgeted Use for Irrigation Meter Accounts with Water Budgets (AF): | 32 |
| 4. Actual Use for Irrigation Meter Accounts with Water Budgets (AF): | 32 |
| 5. Does your agency provide water use notices to accounts with budgets each billing cycle? | no |

B. Landscape Surveys

- | | |
|--|----------|
| 1. Has your agency developed a marketing / targeting strategy for landscape surveys? | yes |
| a. If YES, when did your agency begin implementing this strategy? | 1/1/1995 |
| b. Description of marketing / targeting strategy: | |

- | | |
|---|-----|
| Billing inserts, public announcements | |
| 2. Number of Surveys Offered. | 40 |
| 3. Number of Surveys Completed. | 32 |
| 4. Indicate which of the following Landscape Elements are part of your survey: | |
| a. Irrigation System Check | yes |
| b. Distribution Uniformity Analysis | yes |
| c. Review / Develop Irrigation Schedules | yes |
| d. Measure Landscape Area | yes |
| e. Measure Total Irrigable Area | no |
| f. Provide Customer Report / Information | yes |
| 5. Do you track survey offers and results? | yes |
| 6. Does your agency provide follow-up surveys for previously completed surveys? | yes |
| a. If YES, describe below: | |

Once a evaluation and irrigation scheduling has been developed, the customer is offered the option of contacting the District for another review of their system.

C. Other BMP 5 Actions

- | | |
|---|----|
| 1. An agency can provide mixed-use accounts with ETo-based landscape budgets in lieu of a large landscape survey program. | no |
| Does your agency provide mixed-use accounts with landscape budgets? | |

- 2. Number of CII mixed-use accounts with landscape budgets. 0
- 3. Do you offer landscape irrigation training? no
- 4. Does your agency offer financial incentives to improve landscape water use efficiency? yes

Type of Financial Incentive:	Budget (Dollars/Year)	Number Awarded to Customers	Total Amount Awarded
a. Rebates	0	0	0
b. Loans	0	0	0
c. Grants	6500	0	0

5. Do you provide landscape water use efficiency information to new customers and customers changing services? No

a. If YES, describe below:

- 6. Do you have irrigated landscaping at your facilities? yes
 - a. If yes, is it water-efficient? yes
 - b. If yes, does it have dedicated irrigation metering? no
- 7. Do you provide customer notices at the start of the irrigation season? yes
- 8. Do you provide customer notices at the end of the irrigation season? yes

D. Landscape Conservation Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	5000	5000
2. Actual Expenditures	3500	

E. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No
 - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

F. Comments

Actual expenditures not available.

Reported as of 10/14/05

BMP 06: High-Efficiency Washing Machine Rebate Programs

Reporting Unit: **El Dorado Irrigation District** BMP Form Status: **100% Complete** Year: **2002**

A. Implementation

1. Do any energy service providers or waste water utilities in your service area offer rebates for high-efficiency washers? yes

a. If YES, describe the offerings and incentives as well as who the energy/waste water utility provider is.

The District received a \$5,000 grant through USBR to offer rebates on high efficiency clothes washer.

2. Does your agency offer rebates for high-efficiency washers? yes

3. What is the level of the rebate? 100

4. Number of rebates awarded. 50

B. Rebate Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	5000	0
2. Actual Expenditures	5000	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? yes

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

USBR has been contacted in hopes of receiving another \$5,000 to offer this program again in 2003.

D. Comments

Reported as of 10/14/05

BMP 07: Public Information Programs

Reporting Unit: **El Dorado Irrigation District** BMP Form Status: **100% Complete** Year: **2002**

A. Implementation

1. Does your agency maintain an active public information program to promote and educate customers about water conservation? yes
- a. If YES, describe the program and how it's organized.

Water efficiency programs are publicized through the various media sources and public service announcements.

2. Indicate which and how many of the following activities are included in your public information program.

Public Information Program Activity	Yes/No	Number of Events
a. Paid Advertising	yes	0
b. Public Service Announcement	yes	0
c. Bill Inserts / Newsletters / Brochures	yes	3
d. Bill showing water usage in comparison to previous year's usage	yes	
e. Demonstration Gardens	yes	2
f. Special Events, Media Events	yes	4
g. Speaker's Bureau	yes	3
h. Program to coordinate with other government agencies, industry and public interest groups and media	yes	

B. Conservation Information Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No
- a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

Actual expenditures and additional statistics will be forthcoming upon the public information officer's return.

D. Comments

Actual expenditures and budget are not available.

Reported as of 10/14/05

BMP 08: School Education Programs

Reporting Unit:
EI Dorado Irrigation District

BMP Form Status:
100% Complete

Year:
2002

A. Implementation

1. Has your agency implemented a school information program to promote water conservation? yes

2. Please provide information on your school programs (by grade level):

Grade	Are grade-appropriate materials distributed?	No. of class presentations	No. of students reached	No. of teachers' workshops
Grades K-3rd	yes	0	0	0
Grades 4th-6th	yes	0	0	0
Grades 7th-8th	yes	0	0	0
High School	yes	0	0	0

3. Did your Agency's materials meet state education framework requirements? yes

4. When did your Agency begin implementing this program? 1/1/1995

B. School Education Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Actual expenditures and additional statistics will be forthcoming upon the public information officer's return.

Reported as of 10/14/05

BMP 09: Conservation Programs for CII Accounts

Reporting Unit:
EI Dorado Irrigation District

BMP Form Status:
100% Complete

Year:
2002

A. Implementation

- 1. Has your agency identified and ranked COMMERCIAL customers according to use? no
- 2. Has your agency identified and ranked INDUSTRIAL customers according to use? no
- 3. Has your agency identified and ranked INSTITUTIONAL customers according to use? no

Option A: CII Water Use Survey and Customer Incentives Program

4. Is your agency operating a CII water use survey and customer incentives program for the purpose of complying with BMP 9 under this option? yes

CII Surveys	Commercial Accounts	Industrial Accounts	Institutional Accounts
a. Number of New Surveys Offered	116	0	1
b. Number of New Surveys Completed	116	0	1
c. Number of Site Follow-ups of Previous Surveys (within 1 yr)	0	0	0
d. Number of Phone Follow-ups of Previous Surveys (within 1 yr)	0	0	1
CII Survey Components	Commercial Accounts	Industrial Accounts	Institutional Accounts
e. Site Visit	yes	yes	yes
f. Evaluation of all water-using apparatus and processes	yes	yes	yes
g. Customer report identifying recommended efficiency measures, paybacks and agency incentives	yes	yes	yes
Agency CII Customer Incentives	Budget (\$/Year)	No. Awarded to Customers	Total \$ Amount Awarded
h. Rebates	0	0	0
i. Loans	0	0	0
j. Grants	6500	0	0
k. Others	0	0	0

Option B: CII Conservation Program Targets

- 5. Does your agency track CII program interventions and water savings for the purpose of complying with BMP 9 under this option? no
- 6. Does your agency document and maintain records on how savings were realized and the method of calculation for estimated savings? no
- 7. Estimated annual savings (AF/yr) from site-verified actions taken by agency since 1991. 0
- 8. Estimated annual savings (AF/yr) from non-site-verified actions taken by agency since 1991. 0

B. Conservation Program Expenditures for CII Accounts

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

C. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No
 - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Actual budget and expenditures unavailable at this time.

Reported as of 10/14/05

BMP 09a: CII ULFT Water Savings

Reporting Unit: **EI Dorado Irrigation District** BMP Form Status: **100% Complete** Year: **2002**

1. Did your agency implement a CII ULFT replacement program in the reporting year? No
 If No, please explain why on Line B. 10.

A. Targeting and Marketing

1. What basis does your agency use to target customers for participation in this program?

Check all that apply.

a. Describe which method you found to be the most effective overall, and which was the most effective per dollar expended.

2. How does your agency advertise this program? Check all that apply.

a. Describe which method you found to be the most effective overall, and which was the most effective per dollar expended.

B. Implementation

1. Does your agency keep and maintain customer participant information? (Read the Help information for a complete list of all the information for this BMP.) Yes

2. Would your agency be willing to share this information if the CUWCC did a study to evaluate the program on behalf of your agency? Yes

3. What is the total number of customer accounts participating in the program during the last year ?

CII Subsector	Number of Toilets Replaced			
	Standard Gravity Tank	Air Assisted	Valve Floor Mount	Valve Wall Mount
4.				
a. Offices	0	0	0	0
b. Retail / Wholesale	0	0	0	0
c. Hotels	0	0	0	0
d. Health	0	0	0	0
e. Industrial	0	0	0	0
f. Schools: K to 12	0	0	0	0
g. Eating	0	0	0	0
h. Government	0	0	0	0
i. Churches	0	0	0	0
j. Other	0	0	0	0

- 5. Program design.
- 6. Does your agency use outside services to implement this program? No
 - a. If yes, check all that apply.
- 7. Participant tracking and follow-up.
- 8. Based on your program experience, please rank on a scale of 1 to 5, with 1 being the least frequent cause and 5 being the most frequent cause, the following reasons why customers refused to participate in the program.
 - a. Disruption to business
 - b. Inadequate payback
 - c. Inadequate ULFT performance
 - d. Lack of funding
 - e. American's with Disabilities Act
 - f. Permitting
 - g. Other. Please describe in B. 9.
- 9. Please describe general program acceptance/resistance by customers, obstacles to implementation, and other issues affecting program implementation or effectiveness.
- 10. Please provide a general assessment of the program for this reporting year. Did your program achieve its objectives? Were your targeting and marketing approaches effective? Were program costs in line with expectations and budgeting?

Our agency was going through a completed reorganization during the year 2002. An official Office of Water Efficiency has been created to focus on all areas of water efficiency and waste. The CII market is a strategic area of focus in the upcoming year.

C. Conservation Program Expenditures for CII ULFT

1. CII ULFT Program: Annual Budget & Expenditure Data

	Budgeted	Actual Expenditure
a. Labor		
b. Materials		
c. Marketing & Advertising		
d. Administration & Overhead		
e. Outside Services		
f. Total	0	0

2. CII ULFT Program: Annual Cost Sharing

- a. Wholesale agency contribution
- b. State agency contribution
- c. Federal agency

contribution

d. Other contribution

e. Total

0

D. Comments

The CII sector is the next focus in our water efficiency programs.

Reported as of 10/14/05

BMP 11: Conservation Pricing

Reporting Unit:
El Dorado Irrigation District

BMP Form
 Status:
100% Complete

Year:
2002

A. Implementation

Rate Structure Data Volumetric Rates for Water Service by Customer Class

1. Residential

a. Water Rate Structure	Increasing Block
b. Sewer Rate Structure	Non-volumetric Flat Rate
c. Total Revenue from Volumetric Rates	\$9451820
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$2190509

2. Commercial

a. Water Rate Structure	Increasing Block
b. Sewer Rate Structure	Increasing Block
c. Total Revenue from Volumetric Rates	\$474639.5
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$109951

3. Industrial

a. Water Rate Structure	Increasing Block
b. Sewer Rate Structure	Non-volumetric Flat Rate
c. Total Revenue from Volumetric Rates	\$474639.5
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$109951

4. Institutional / Government

a. Water Rate Structure	Increasing Block
b. Sewer Rate Structure	Non-volumetric Flat Rate
c. Total Revenue from Volumetric Rates	\$255767
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$59294

5. Irrigation

a. Water Rate Structure	Increasing Block
b. Sewer Rate Structure	Non-volumetric Flat Rate
c. Total Revenue from Volumetric Rates	\$251601
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$58262

6. Other

a. Water Rate Structure	Service Not Provided
-------------------------	----------------------

- b. Sewer Rate Structure Service Not Provided
- c. Total Revenue from Volumetric Rates \$
- d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources \$

B. Conservation Pricing Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

C. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Actual budget and expenditures unavailable at this time.

Reported as of 10/14/05

BMP 12: Conservation Coordinator

Reporting Unit: **El Dorado Irrigation District** BMP Form Status: **100% Complete** Year: **2002**

A. Implementation

- 1. Does your Agency have a conservation coordinator? yes
- 2. Is this a full-time position? yes
- 3. If no, is the coordinator supplied by another agency with which you cooperate in a regional conservation program ? no
- 4. Partner agency's name:
- 5. If your agency supplies the conservation coordinator:
 - a. What percent is this conservation coordinator's position? 60%
 - b. Coordinator's Name Michele Weimer
 - c. Coordinator's Title Mgr Customer & Development Services & Water Efficiency Coordinator
 - d. Coordinator's Experience and Number of Years 6 months
 - e. Date Coordinator's position was created (mm/dd/yyyy) 1/1/1995
- 6. Number of conservation staff, including Conservation Coordinator. 3

B. Conservation Staff Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

C. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no
 - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Actual budget & expenditures are unavailable at this time and will be updated upon the Water Conservation Coordinator's return.

Reported as of 10/14/05

BMP 13: Water Waste Prohibition

Reporting Unit:
El Dorado Irrigation District

BMP Form Status:
100% Complete

Year:
2002

A. Requirements for Documenting BMP Implementation

1. Is a water waste prohibition ordinance in effect in your service area? no

a. If YES, describe the ordinance:

2. Is a copy of the most current ordinance(s) on file with CUWCC? no

a. List local jurisdictions in your service area in the first text box and water waste ordinance citations in each jurisdiction in the second text box:

B. Implementation

1. Indicate which of the water uses listed below are prohibited by your agency or service area.

- a. Gutter flooding yes
- b. Single-pass cooling systems for new connections no
- c. Non-recirculating systems in all new conveyor or car wash systems no
- d. Non-recirculating systems in all new commercial laundry systems no
- e. Non-recirculating systems in all new decorative fountains no
- f. Other, please name yes
 applies during shortage

2. Describe measures that prohibit water uses listed above:

gutter flooding, customer plumbing leaks, midday irrigation, hosing of hard surfaces, water automatically served in restaurants

Water Softeners:

3. Indicate which of the following measures your agency has supported in developing state law:

- a. Allow the sale of more efficient, demand-initiated regenerating DIR models. no
- b. Develop minimum appliance efficiency standards that:
 - i.) Increase the regeneration efficiency standard to at least 3,350 grains of hardness removed per pound of common salt used. no
 - ii.) Implement an identified maximum number of gallons discharged per gallon of soft water produced. no
- c. Allow local agencies, including municipalities and special districts, to set more stringent standards and/or to ban on-site regeneration of water softeners if it is demonstrated and found by the agency governing board that there is an adverse effect on the reclaimed water or groundwater supply. yes

4. Does your agency include water softener checks in home water audit programs? yes

5. Does your agency include information about DIR and exchange-type water softeners in educational efforts to encourage replacement of less efficient timer models? no

C. Water Waste Prohibition Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

E. Comments

Actual budget and expenditures unavailable at this time.

Reported as of 10/14/05

BMP 14: Residential ULFT Replacement Programs

Reporting Unit: **El Dorado Irrigation District** BMP Form Status: **100% Complete** Year: **2002**

A. Implementation

	Single-Family Accounts	Multi-Family Units
1. Does your Agency have program(s) for replacing high-water-using toilets with ultra-low flush toilets?	yes	no

Number of Toilets Replaced by Agency Program During Report Year

Replacement Method	SF Accounts	MF Units
2. Rebate	575	0
3. Direct Install	0	0
4. CBO Distribution	0	0
5. Other	0	0
Total	575	0

6. Describe your agency's ULFT program for single-family residences.

Rebate program offering \$50.00 to water only customers, \$75.00 to water/sewer customers, up to 2 toilets per household.

7. Describe your agency's ULFT program for multi-family residences.

None at this time.

8. Is a toilet retrofit on resale ordinance in effect for your service area? no

9. List local jurisdictions in your service area in the left box and ordinance citations in each jurisdiction in the right box:

Building code 1.6gpf toilets must be properly disposed of at a landfill.

B. Residential ULFT Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	40000	40800
2. Actual Expenditures	39275	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Reported as of 7/2

Water Supply & Reuse

Reporting Unit:
EI Dorado Irrigation District

Year:
2003

Water Supply Source Information

Supply Source Name	Quantity (AF) Supplied	Supply Type
DCWWTP	587	Recycled
EDHWWTP	1230	Recycled
BASS LAKE	235	Recycled

Total AF: 2052

Reported as of 7/2

Accounts & Water UseReporting Unit Name:
El Dorado Irrigation DistrictSubmitted to
CUWCC
06/29/2004Year:
2003**A. Service Area Population Information:**

1. Total service area population 100690

B. Number of Accounts and Water Deliveries (AF)

Type	Metered		Unmetered	
	No. of Accounts	Water Deliveries (AF)	No. of Accounts	Water Deliveries (AF)
1. Single-Family	31737	18503	0	0
2. Multi-Family	1127	1622	0	0
3. Commercial	1212	2768	0	0
4. Industrial	0	0	0	0
5. Institutional	0	0	0	0
6. Dedicated Irrigation	97	2778	0	0
7. Recycled Water	2079	2052	0	0
8. Other	93	1040	0	0
9. Unaccounted	NA	0	NA	0
Total	36345	28763	0	0
	Metered		Unmetered	

BMP 01: Water Survey Programs for Single-Family and Multi-Family Residential Customers

Reporting Unit: **El Dorado Irrigation District** BMP Form Status: **100% Complete** Year: **2003**

A. Implementation

- 1. Based on your signed MOU date, 03/12/2003, your Agency STRATEGY DUE DATE is: 03/11/2005
- 2. Has your agency developed and implemented a targeting/ marketing strategy for SINGLE-FAMILY residential water use surveys? yes
 - a. If YES, when was it implemented? 01/01/1995
- 3. Has your agency developed and implemented a targeting/ marketing strategy for MULTI-FAMILY residential water use surveys? yes
 - a. If YES, when was it implemented? 01/01/1995

B. Water Survey Data

Survey Counts:	Single Family Accounts	Multi-Family Units
1. Number of surveys offered:	286	85
2. Number of surveys completed:	239	80

Indoor Survey:

- 3. Check for leaks, including toilets, faucets and meter checks yes yes
- 4. Check showerhead flow rates, aerator flow rates, and offer to replace or recommend replacement, if necessary yes yes
- 5. Check toilet flow rates and offer to install or recommend installation of displacement device or direct customer to ULFT replacement program, as necessary; replace leaking toilet flapper, as necessary yes yes

Outdoor Survey:

- 6. Check irrigation system and timers yes yes
- 7. Review or develop customer irrigation schedule yes yes
- 8. Measure landscaped area (Recommended but not required for surveys) yes yes
- 9. Measure total irrigable area (Recommended but not required for surveys) yes yes
- 10. Which measurement method is typically used (Recommended but not required for surveys) Odometer Wheel
- 11. Were customers provided with information packets that included evaluation results and water savings recommendations? yes yes
- 12. Have the number of surveys offered and completed, survey results, and survey costs been tracked? yes yes
 - a. If yes, in what form are surveys tracked? spreadsheet

b. Describe how your agency tracks this information.

We use all three methods of tracking.

C. Water Survey Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	65500	82000
2. Actual Expenditures	74770	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

E. Comments

A major factor in the difference btwn the Budgeted and Actual Expenditures was due to an employee classification study & implementation.

Reported as of 7/2

BMP 02: Residential Plumbing Retrofit

Reporting Unit: **EI Dorado Irrigation District** BMP Form Status: **100% Complete** Year: **2003**

A. Implementation

- 1. Is there an enforceable ordinance in effect in your service area requiring replacement of high-flow showerheads and other water use fixtures with their low-flow counterparts? no
 - a. If YES, list local jurisdictions in your service area and code or ordinance in each:

- 2. Has your agency satisfied the 75% saturation requirement for single-family housing units? no
- 3. Estimated percent of single-family households with low-flow showerheads: 50%
- 4. Has your agency satisfied the 75% saturation requirement for multi-family housing units? no
- 5. Estimated percent of multi-family households with low-flow showerheads: 50%
- 6. If YES to 2 OR 4 above, please describe how saturation was determined, including the dates and results of any survey research.

B. Low-Flow Device Distribution Information

- 1. Has your agency developed a targeting/ marketing strategy for distributing low-flow devices? yes
 - a. If YES, when did your agency begin implementing this strategy? 01/01/1995
 - b. Describe your targeting/ marketing strategy.

Events, Billing inserts, Public Counter, Water Audits, Word of Mouth.

Low-Flow Devices Distributed/ Installed	SF Accounts	MF Units
2. Number of low-flow showerheads distributed:	187	32
3. Number of toilet-displacement devices distributed:	45	0
4. Number of toilet flappers distributed:	110	35
5. Number of faucet aerators distributed:	204	29
6. Does your agency track the distribution and cost of low-flow devices?		yes
a. If YES, in what format are low-flow devices tracked?		Spreadsheet
b. If yes, describe your tracking and distribution system :		

Spreadsheet, manual tracking and accounting system.

C. Low-Flow Device Distribution Expenditures

	This Year	Next Year
1. Budgeted Expenditures	5000	5000

2. Actual Expenditures

5200

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?

No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

E. Comments

BMP 03: System Water Audits, Leak Detection and Repair

Reporting Unit: **El Dorado Irrigation District** BMP Form Status: **100% Complete** Year: **2003**

A. Implementation

- 1. Has your agency completed a pre-screening system audit for this reporting year? yes
- 2. If YES, enter the values (AF/Year) used to calculate verifiable use as a percent of total production:
 - a. Determine metered sales (AF) 25713
 - b. Determine other system verifiable uses (AF) 7091
 - c. Determine total supply into the system (AF) 35894
 - d. Using the numbers above, if (Metered Sales + Other Verifiable Uses) / Total Supply is < 0.9 then a full-scale system audit is required. 0.91
- 3. Does your agency keep necessary data on file to verify the values used to calculate verifiable uses as a percent of total production? yes
- 4. Did your agency complete a full-scale audit during this report year? yes
- 5. Does your agency maintain in-house records of audit results or the completed AWWA audit worksheets for the completed audit? yes
- 6. Does your agency operate a system leak detection program? yes
 - a. If yes, describe the leak detection program:

Through metering, O&M CIP projects, consumption & water demand reporting & visual observations.

B. Survey Data

- 1. Total number of miles of distribution system line. 1212
- 2. Number of miles of distribution system line surveyed. 60

C. System Audit / Leak Detection Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	1000	1000
2. Actual Expenditures	0	

D. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No
 - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

E. Comments

Actual Expenditures N/A

Reported as of 7/2

BMP 04: Metering with Commodity Rates for all New Connections and Retrofit of Existing

Reporting Unit: **El Dorado Irrigation District** BMP Form Status: **100% Complete** Year: **2003**

A. Implementation

- 1. Does your agency require meters for all new connections and bill by volume-of-use? yes
- 2. Does your agency have a program for retrofitting existing unmetered connections and bill by volume-of-use? no
 - a. If YES, when was the plan to retrofit and bill by volume-of-use existing unmetered connections completed?
 - b. Describe the program:
- 3. Number of previously unmetered accounts fitted with meters during report year. 0

B. Feasibility Study

- 1. Has your agency conducted a feasibility study to assess the merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters? no
 - a. If YES, when was the feasibility study conducted? (mm/dd/yy)
 - b. Describe the feasibility study:
- 2. Number of CII accounts with mixed-use meters. 0
- 3. Number of CII accounts with mixed-use meters retrofitted with dedicated irrigation meters during reporting period. 0

C. Meter Retrofit Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

D. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No
 - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

E. Comments

Actual expenditures N/A

Reported as of 7/2

BMP 05: Large Landscape Conservation Programs and Incentives

Reporting Unit:
**El Dorado Irrigation
 District**

BMP Form Status:
100% Complete

Year:
2003

A. Water Use Budgets

- | | |
|--|----|
| 1. Number of Dedicated Irrigation Meter Accounts: | 97 |
| 2. Number of Dedicated Irrigation Meter Accounts with Water Budgets: | 0 |
| 3. Budgeted Use for Irrigation Meter Accounts with Water Budgets (AF): | 0 |
| 4. Actual Use for Irrigation Meter Accounts with Water Budgets (AF): | 0 |
| 5. Does your agency provide water use notices to accounts with budgets each billing cycle? | no |

B. Landscape Surveys

- | | |
|--|------------|
| 1. Has your agency developed a marketing / targeting strategy for landscape surveys? | yes |
| a. If YES, when did your agency begin implementing this strategy? | 01/01/1995 |
| b. Description of marketing / targeting strategy: | |
| Billing inserts, PSAs, Water Survey Program in 2003 | |
| 2. Number of Surveys Offered. | 3 |
| 3. Number of Surveys Completed. | 3 |
| 4. Indicate which of the following Landscape Elements are part of your survey: | |
| a. Irrigation System Check | yes |
| b. Distribution Uniformity Analysis | yes |
| c. Review / Develop Irrigation Schedules | yes |
| d. Measure Landscape Area | yes |
| e. Measure Total Irrigable Area | yes |
| f. Provide Customer Report / Information | yes |
| 5. Do you track survey offers and results? | yes |
| 6. Does your agency provide follow-up surveys for previously completed surveys? | yes |
| a. If YES, describe below: | |

If an evaluation & irrig sched isn't developed due to poor DU, the customer is provided recommendations to improve the irrigation system and is offered the option of the contacting the District for another review.

C. Other BMP 5 Actions

- | | |
|---|----|
| 1. An agency can provide mixed-use accounts with ETo-based landscape budgets in lieu of a large landscape survey program. | no |
| Does your agency provide mixed-use accounts with landscape budgets? | |

- 2. Number of CII mixed-use accounts with landscape budgets. 0
- 3. Do you offer landscape irrigation training? no
- 4. Does your agency offer financial incentives to improve landscape water use efficiency? yes

Type of Financial Incentive:	Budget (Dollars/Year)	Number Awarded to Customers	Total Amount Awarded
a. Rebates	0	0	0
b. Loans	0	0	0
c. Grants	6000	30	6000

- 5. Do you provide landscape water use efficiency information to new customers and customers changing services? yes
 - a. If YES, describe below:

We provide landscape & Water-Wise Gardening booklets to the public thru organizations such as Welcome Wagon, at public events and upon request.

- 6. Do you have irrigated landscaping at your facilities? yes
 - a. If yes, is it water-efficient? yes
 - b. If yes, does it have dedicated irrigation metering? no
- 7. Do you provide customer notices at the start of the irrigation season? yes
- 8. Do you provide customer notices at the end of the irrigation season? yes

D. Landscape Conservation Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	8000	40000
2. Actual Expenditures	9600	

E. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No
 - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

F. Comments

Reported as of 7/2

BMP 06: High-Efficiency Washing Machine Rebate Programs

Reporting Unit: **El Dorado Irrigation District** BMP Form Status: **100% Complete** Year: **2003**

A. Implementation

1. Do any energy service providers or waste water utilities in your service area offer rebates for high-efficiency washers? yes

a. If YES, describe the offerings and incentives as well as who the energy/waste water utility provider is.

The District received another \$5,000 grant through USBR to offer rebates on high efficiency clothes washers.

- 2. Does your agency offer rebates for high-efficiency washers? no
- 3. What is the level of the rebate? 0
- 4. Number of rebates awarded. 0

B. Rebate Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	1250	15000
2. Actual Expenditures	1200	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Reported as of 7/2

BMP 07: Public Information Programs

Reporting Unit:
El Dorado Irrigation District

BMP Form Status:
100% Complete

Year:
2003

A. Implementation

1. Does your agency maintain an active public information program to promote and educate customers about water conservation? yes
- a. If YES, describe the program and how it's organized.

Water efficiency programs are publicized thru the RWA network, public events, WE publications, speaking engagements, billing inserts, flyers, PSA's, newspaper ads, word of mouth.

2. Indicate which and how many of the following activities are included in your public information program.

Public Information Program Activity	Yes/No	Number of Events
a. Paid Advertising	yes	3
b. Public Service Announcement	yes	1
c. Bill Inserts / Newsletters / Brochures	yes	5
d. Bill showing water usage in comparison to previous year's usage	yes	
e. Demonstration Gardens	yes	2
f. Special Events, Media Events	yes	4
g. Speaker's Bureau	yes	3
h. Program to coordinate with other government agencies, industry and public interest groups and media	yes	

B. Conservation Information Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	3500	5000
2. Actual Expenditures	4392	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No
- a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Reported as of 7/2

BMP 08: School Education Programs

Reporting Unit: **El Dorado Irrigation District** BMP Form Status: **100% Complete** Year: **2003**

A. Implementation

1. Has your agency implemented a school information program to promote water conservation? yes

2. Please provide information on your school programs (by grade level):

Grade	Are grade-appropriate materials distributed?	No. of class presentations	No. of students reached	No. of teachers' workshops
Grades K-3rd	yes	0	539	0
Grades 4th-6th	yes	0	235	0
Grades 7th-8th	yes	0	0	0
High School	yes	1	24	0

3. Did your Agency's materials meet state education framework requirements? yes

4. When did your Agency begin implementing this program? 1/1/1995

B. School Education Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	3500	5000
2. Actual Expenditures	4392	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

BMP 09: Conservation Programs for CII Accounts

Reporting Unit:
El Dorado Irrigation District

BMP Form Status:
100% Complete

Year:
2003

A. Implementation

- 1. Has your agency identified and ranked COMMERCIAL customers according to use? no
- 2. Has your agency identified and ranked INDUSTRIAL customers according to use? no
- 3. Has your agency identified and ranked INSTITUTIONAL customers according to use? no

Option A: CII Water Use Survey and Customer Incentives Program

4. Is your agency operating a CII water use survey and customer incentives program for the purpose of complying with BMP 9 under this option? yes

CII Surveys	Commercial Accounts	Industrial Accounts	Institutional Accounts
a. Number of New Surveys Offered	30/40 183	0	1
b. Number of New Surveys Completed	183	0	1
c. Number of Site Follow-ups of Previous Surveys (within 1 yr)	0	0	0
d. Number of Phone Follow-ups of Previous Surveys (within 1 yr)	0	0	0

CII Survey Components	Commercial Accounts	Industrial Accounts	Institutional Accounts
e. Site Visit	yes	yes	yes
f. Evaluation of all water-using apparatus and processes	yes	no	yes
g. Customer report identifying recommended efficiency measures, paybacks and agency incentives	yes	yes	yes

Agency CII Customer Incentives	Budget (\$/Year)	No. Awarded to Customers	Total \$ Amount Awarded
h. Rebates	0	0	0
i. Loans	0	0	0
j. Grants	6000	14	2127
k. Others	2500	23	1150

Option B: CII Conservation Program Targets

- 5. Does your agency track CII program interventions and water savings for the purpose of complying with BMP 9 under this option? ~~yes~~ no
- 6. Does your agency document and maintain records on how savings were realized and the method of calculation for estimated savings? ~~yes~~ no
- 7. Estimated annual savings (AF/yr) from site-verified actions taken by agency since 1991. 0
- 8. Estimated annual savings (AF/yr) from non-site-verified actions taken by agency since 1991. 0

B. Conservation Program Expenditures for CII Accounts

	This Year	Next Year
1. Budgeted Expenditures	32000	34500
2. Actual Expenditures	33407	

C. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No
 - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Reported as of 7/2

BMP 09a: CII ULFT Water Savings

Reporting Unit: **EI Dorado Irrigation District** BMP Form Status: **100% Complete** Year: **2003**

1. Did your agency implement a CII ULFT replacement program in the reporting year? No
If No, please explain why on Line B. 10.

A. Targeting and Marketing

1. What basis does your agency use to target customers for participation in this program?

Check all that apply.

- a. Describe which method you found to be the most effective overall, and which was the most effective per dollar expended.

2. How does your agency advertise this program? Check all that apply.

- a. Describe which method you found to be the most effective overall, and which was the most effective per dollar expended.

B. Implementation

1. Does your agency keep and maintain customer participant information? (Read the Help information for a complete list of all the information for this BMP.)
2. Would your agency be willing to share this information if the CUWCC did a study to evaluate the program on behalf of your agency?
3. What is the total number of customer accounts participating in the program during the last year ?

CII Subsector	Number of Toilets Replaced				
	Standard Gravity Tank	Air Assisted	Valve Mount	Floor Mount	Valve Wall Mount
a. Offices					
b. Retail / Wholesale					
c. Hotels					
d. Health					
e. Industrial					
f. Schools: K to 12					
g. Eating					
h. Government					
i. Churches					
j. Other					

- 5. Program design.
- 6. Does your agency use outside services to implement this program?
 - a. If yes, check all that apply.
- 7. Participant tracking and follow-up.
- 8. Based on your program experience, please rank on a scale of 1 to 5, with 1 being the least frequent cause and 5 being the most frequent cause, the following reasons why customers refused to participate in the program.
 - a. Disruption to business
 - b. Inadequate payback
 - c. Inadequate ULFT performance
 - d. Lack of funding
 - e. American's with Disabilities Act
 - f. Permitting
 - g. Other. Please describe in B. 9.
- 9. Please describe general program acceptance/resistance by customers, obstacles to implementation, and other issues affecting program implementation or effectiveness.
- 10. Please provide a general assessment of the program for this reporting year. Did your program achieve its objectives? Were your targeting and marketing approaches effective? Were program costs in line with expectations and budgeting?

The District is currently in the process of updating the CII database to comply with the first provision of BMP 9 that states CII accounts must be ID'd by NCAIS/SIC codes. Once this is accomplished, program planning & implementation will begin. In addition, USBR has awarded grant funding to implement a small Pilot Waterless Urinal Replacement Project for our school institutional accounts which will be completed in 2004.

C. Conservation Program Expenditures for CII ULFT

1. CII ULFT Program: Annual Budget & Expenditure Data

	Budgeted	Actual Expenditure
a. Labor		
b. Materials		
c. Marketing & Advertising		
d. Administration & Overhead		
e. Outside Services		
f. Total	0	0

2. CII ULFT Program: Annual Cost Sharing

- a. Wholesale agency contribution
- b. State agency

contribution
c. Federal agency
contribution
d. Other contribution
e. Total

0

D. Comments

Reported as of 7/2

BMP 11: Conservation Pricing

Reporting Unit:
El Dorado Irrigation District

BMP Form
Status:
100% Complete

Year:
2003

A. Implementation

Rate Structure Data Volumetric Rates for Water Service by Customer Class

1. Residential

a. Water Rate Structure	Increasing Block
b. Sewer Rate Structure	Increasing Block
c. Total Revenue from Volumetric Rates	\$0
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$0

2. Commercial

a. Water Rate Structure	Increasing Block
b. Sewer Rate Structure	Increasing Block
c. Total Revenue from Volumetric Rates	\$0
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$0

3. Industrial

a. Water Rate Structure	Increasing Block
b. Sewer Rate Structure	Increasing Block
c. Total Revenue from Volumetric Rates	\$0
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$0

4. Institutional / Government

a. Water Rate Structure	Increasing Block
b. Sewer Rate Structure	Increasing Block
c. Total Revenue from Volumetric Rates	\$0
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$0

5. Irrigation

a. Water Rate Structure	Increasing Block
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$0
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$0

6. Other

a. Water Rate Structure	Service Not Provided
-------------------------	----------------------

Reported as of 7/2

BMP 12: Conservation Coordinator

Reporting Unit: **El Dorado Irrigation District** BMP Form Status: **100% Complete** Year: **2003**

A. Implementation

1. Does your Agency have a conservation coordinator? yes
2. Is this a full-time position? yes
3. If no, is the coordinator supplied by another agency with which you cooperate in a regional conservation program ? no
4. Partner agency's name:
5. If your agency supplies the conservation coordinator:
 - a. What percent is this conservation coordinator's position? 60%
 - b. Coordinator's Name Michele L. Weimer
 - c. Coordinator's Title Mgr Customer & Development Services & Water Efficiency Coordinator
 - d. Coordinator's Experience and Number of Years 1.5 years
 - e. Date Coordinator's position was created (mm/dd/yyyy) 1/1/1995
6. Number of conservation staff, including Conservation Coordinator. 3

B. Conservation Staff Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	170000	197000
2. Actual Expenditures	203700	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no
 - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Reported as of 7/2

BMP 13: Water Waste Prohibition

Reporting Unit: **EI Dorado Irrigation District** BMP Form Status: **100% Complete** Year: **2003**

A. Requirements for Documenting BMP Implementation

1. Is a water waste prohibition ordinance in effect in your service area? no
- a. If YES, describe the ordinance:
2. Is a copy of the most current ordinance(s) on file with CUWCC? no
- a. List local jurisdictions in your service area in the first text box and water waste ordinance citations in each jurisdiction in the second text box:

B. Implementation

1. Indicate which of the water uses listed below are prohibited by your agency or service area.
- a. Gutter flooding yes
- b. Single-pass cooling systems for new connections no
- c. Non-recirculating systems in all new conveyor or car wash systems no
- d. Non-recirculating systems in all new commercial laundry systems no
- e. Non-recirculating systems in all new decorative fountains no
- f. Other, please name yes
Applies during water shortage

2. Describe measures that prohibit water uses listed above:

During drought water alert conditions, gutter flooding, customer plumbing leaks, midday irrigation, hosing of hard surfaces, water automatically served in restaurants is prohibited

Water Softeners:

3. Indicate which of the following measures your agency has supported in developing state law:
- a. Allow the sale of more efficient, demand-initiated regenerating DIR models. no
- b. Develop minimum appliance efficiency standards that:
- i.) Increase the regeneration efficiency standard to at least 3,350 grains of hardness removed per pound of common salt used. no
- ii.) Implement an identified maximum number of gallons discharged per gallon of soft water produced. no
- c. Allow local agencies, including municipalities and special districts, to set more stringent standards and/or to ban on-site regeneration of water softeners if it is demonstrated and found by the agency governing board that there is an adverse effect on the reclaimed water or groundwater supply. yes
4. Does your agency include water softener checks in home water

audit programs? yes

5. Does your agency include information about DIR and exchange-type water softeners in educational efforts to encourage replacement of less efficient timer models? no

C. Water Waste Prohibition Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

E. Comments

BMP 14: Residential ULFT Replacement Programs

Reporting Unit: **El Dorado Irrigation District** BMP Form Status: **100% Complete** Year: **2003**

A. Implementation

	Single-Family Accounts	Multi-Family Units
1. Does your Agency have program(s) for replacing high-water-using toilets with ultra-low flush toilets?	yes	no

Number of Toilets Replaced by Agency Program During Report Year

Replacement Method	SF Accounts	MF Units
2. Rebate	411	
3. Direct Install	106	
4. CBO Distribution	0	
5. Other	0	

Total 517

6. Describe your agency's ULFT program for single-family residences.

Rebate program offering \$50.00 to water only customers, \$75.00 to water/sewer customers, up to 2 toilets per household. The Direct Install program offered rebates for \$225.00 or a voucher worth \$225.00 to have a new ULFT installed for free.

7. Describe your agency's ULFT program for multi-family residences.

None at this time but a direct delivery program will be initiated in 2004.

8. Is a toilet retrofit on resale ordinance in effect for your service area? no

9. List local jurisdictions in your service area in the left box and ordinance citations in each jurisdiction in the right box:

Building code 1.6gpf toilets must be properly disposed of at a landfill.

B. Residential ULFT Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	75000	75000
2. Actual Expenditures	72006	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Reported as of 4/2

Water Supply & Reuse

Reporting Unit:
EI Dorado Irrigation District

Year:
2004

Water Supply Source Information

Supply Source Name	Quantity (AF) Supplied	Supply Type
Water Diversions	43358	Local Watershed
EID Recycled	2324	Recycled

Total AF: 45682

Reported as of 4/2

Accounts & Water Use

Reporting Unit Name:
El Dorado Irrigation District

Submitted to
 CUWCC
 04/20/2005

Year:
2004

A. Service Area Population Information:

1. Total service area population 104200

B. Number of Accounts and Water Deliveries (AF)

Type	Metered		Unmetered	
	No. of Accounts	Water Deliveries (AF)	No. of Accounts	Water Deliveries (AF)
1. Single-Family	32678	21505	0	0
2. Multi-Family	1182	1714	0	0
3. Commercial	1249	4037	0	0
4. Industrial	0	0	0	0
5. Institutional	0	0	0	0
6. Dedicated Irrigation	101	2315	0	0
7. Recycled Water	2541	2324	0	0
8. Other	179	1720	0	0
9. Unaccounted	NA	5588	NA	0
Total	37930	39203	0	0
	Metered		Unmetered	

Reported as of 4/2

BMP 01: Water Survey Programs for Single-Family and Multi-Family Residential Customers

Reporting Unit: **El Dorado Irrigation District** BMP Form Status: **100% Complete** Year: **2004**

A. Implementation

- | | |
|---|------------|
| 1. Based on your signed MOU date, 03/12/2003, your Agency STRATEGY DUE DATE is: | 03/11/2005 |
| 2. Has your agency developed and implemented a targeting/ marketing strategy for SINGLE-FAMILY residential water use surveys? | yes |
| a. If YES, when was it implemented? | 01/01/1995 |
| 3. Has your agency developed and implemented a targeting/ marketing strategy for MULTI-FAMILY residential water use surveys? | yes |
| a. If YES, when was it implemented? | 01/01/1995 |

B. Water Survey Data

Survey Counts:	Single Family Accounts	Multi-Family Units
1. Number of surveys offered:	330	54
2. Number of surveys completed:	302	53

Indoor Survey:

- | | | |
|---|-----|-----|
| 3. Check for leaks, including toilets, faucets and meter checks | yes | yes |
| 4. Check showerhead flow rates, aerator flow rates, and offer to replace or recommend replacement, if necessary | yes | yes |
| 5. Check toilet flow rates and offer to install or recommend installation of displacement device or direct customer to ULFT replacement program, as necessary; replace leaking toilet flapper, as necessary | yes | yes |

Outdoor Survey:

- | | | |
|--|----------------|-----|
| 6. Check irrigation system and timers | yes | yes |
| 7. Review or develop customer irrigation schedule | yes | yes |
| 8. Measure landscaped area (Recommended but not required for surveys) | yes | yes |
| 9. Measure total irrigable area (Recommended but not required for surveys) | yes | yes |
| 10. Which measurement method is typically used (Recommended but not required for surveys) | Odometer Wheel | |
| 11. Were customers provided with information packets that included evaluation results and water savings recommendations? | yes | yes |
| 12. Have the number of surveys offered and completed, survey results, and survey costs been tracked? | yes | yes |
| a. If yes, in what form are surveys tracked? | spreadsheet | |

b. Describe how your agency tracks this information.

All three methods are used

C. Water Survey Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	71800	82000
2. Actual Expenditures	78027	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

E. Comments

Reported as of 4/2

BMP 02: Residential Plumbing Retrofit

Reporting Unit: **EI Dorado Irrigation District** BMP Form Status: **100% Complete** Year: **2004**

A. Implementation

1. Is there an enforceable ordinance in effect in your service area requiring replacement of high-flow showerheads and other water use fixtures with their low-flow counterparts? no
 - a. If YES, list local jurisdictions in your service area and code or ordinance in each:

2. Has your agency satisfied the 75% saturation requirement for single-family housing units? no
3. Estimated percent of single-family households with low-flow showerheads: 51%
4. Has your agency satisfied the 75% saturation requirement for multi-family housing units? no
5. Estimated percent of multi-family households with low-flow showerheads: 55%
6. If YES to 2 OR 4 above, please describe how saturation was determined, including the dates and results of any survey research.

B. Low-Flow Device Distribution Information

1. Has your agency developed a targeting/ marketing strategy for distributing low-flow devices? yes
 - a. If YES, when did your agency begin implementing this strategy? 01/01/1995
 - b. Describe your targeting/ marketing strategy.

Events, billing inserts, web-site, referrals, public counter, water audits, word of mouth

Low-Flow Devices Distributed/ Installed	SF Accounts	MF Units
2. Number of low-flow showerheads distributed:	86	14
3. Number of toilet-displacement devices distributed:	85	15
4. Number of toilet flappers distributed:	88	17
5. Number of faucet aerators distributed:	68	13
6. Does your agency track the distribution and cost of low-flow devices?		yes
a. If YES, in what format are low-flow devices tracked?		Spreadsheet
b. If yes, describe your tracking and distribution system :		

Spreadsheet, accounting software, manual tracking & distribution system

C. Low-Flow Device Distribution Expenditures

This Year Next Year

1. Budgeted Expenditures	5000	5000
2. Actual Expenditures	4100	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

E. Comments

Reported as of 4/2

BMP 03: System Water Audits, Leak Detection and Repair

Reporting Unit:	BMP Form Status:	Year:
EI Dorado Irrigation District	100% Complete	2004

A. Implementation

1. Has your agency completed a pre-screening system audit for this reporting year? yes
2. If YES, enter the values (AF/Year) used to calculate verifiable use as a percent of total production:
 - a. Determine metered sales (AF) 28727
 - b. Determine other system verifiable uses (AF) 7425
 - c. Determine total supply into the system (AF) 42509
 - d. Using the numbers above, if (Metered Sales + Other Verifiable Uses) / Total Supply is < 0.9 then a full-scale system audit is required. 0.85
3. Does your agency keep necessary data on file to verify the values used to calculate verifiable uses as a percent of total production? yes
4. Did your agency complete a full-scale audit during this report year? yes
5. Does your agency maintain in-house records of audit results or the completed AWWA audit worksheets for the completed audit? yes
6. Does your agency operate a system leak detection program? yes
 - a. If yes, describe the leak detection program:

EID is a participant in the CUWCC BMP 3 AWWARF Study. Ongoing leak detection is conducted through metering, O&M CIP projects, consumption & water demand reporting & visual observations

B. Survey Data

1. Total number of miles of distribution system line. 1150
2. Number of miles of distribution system line surveyed. 1150

C. System Audit / Leak Detection Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	199000	185650
2. Actual Expenditures	13978	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No
 - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

E. Comments

Reported as of 4/2

BMP 04: Metering with Commodity Rates for all New Connections and Retrofit of Existing

Reporting Unit: **El Dorado Irrigation District** BMP Form Status: **100% Complete** Year: **2004**

A. Implementation

- | | |
|---|-----|
| 1. Does your agency require meters for all new connections and bill by volume-of-use? | yes |
| 2. Does your agency have a program for retrofitting existing unmetered connections and bill by volume-of-use? | no |
| a. If YES, when was the plan to retrofit and bill by volume-of-use existing unmetered connections completed? | |
| b. Describe the program: | |
| 3. Number of previously unmetered accounts fitted with meters during report year. | 0 |

B. Feasibility Study

- | | |
|--|------|
| 1. Has your agency conducted a feasibility study to assess the merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters? | no |
| a. If YES, when was the feasibility study conducted? (mm/dd/yy) | |
| b. Describe the feasibility study: | |
| 2. Number of CII accounts with mixed-use meters. | 1249 |
| 3. Number of CII accounts with mixed-use meters retrofitted with dedicated irrigation meters during reporting period. | 0 |

C. Meter Retrofit Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	86700
2. Actual Expenditures	0	

D. "At Least As Effective As"

- | | |
|--|-----|
| 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? | yes |
| a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as." | |

EID was awarded Prop 13 grant funding to provide incentives to CII customers for irrigation metering/submetering or landscape irrigation improvements through an RWA project. Also, in Jan. 2005, EID applied for Prop 50 grant funding for additional incentives to motivate CII customers to convert to separate landscape meters.

E. Comments

Reported as of 4/2

BMP 05: Large Landscape Conservation Programs and Incentives

Reporting Unit: **EI Dorado Irrigation District** BMP Form Status: **100% Complete** Year: **2004**

A. Water Use Budgets

- | | |
|--|-----|
| 1. Number of Dedicated Irrigation Meter Accounts: | 101 |
| 2. Number of Dedicated Irrigation Meter Accounts with Water Budgets: | 0 |
| 3. Budgeted Use for Irrigation Meter Accounts with Water Budgets (AF): | 0 |
| 4. Actual Use for Irrigation Meter Accounts with Water Budgets (AF): | 0 |
| 5. Does your agency provide water use notices to accounts with budgets each billing cycle? | no |

B. Landscape Surveys

- | | |
|--|------------|
| 1. Has your agency developed a marketing / targeting strategy for landscape surveys? | yes |
| a. If YES, when did your agency begin implementing this strategy? | 01/01/1995 |
| b. Description of marketing / targeting strategy: | |
| EID website, billing inserts, PSAs, Water Survey Program & through RWA's Prop 13 RWA DWR/CalFed grant award program. | |
| 2. Number of Surveys Offered. | 5 |
| 3. Number of Surveys Completed. | 3 |
| 4. Indicate which of the following Landscape Elements are part of your survey: | |
| a. Irrigation System Check | yes |
| b. Distribution Uniformity Analysis | yes |
| c. Review / Develop Irrigation Schedules | yes |
| d. Measure Landscape Area | yes |
| e. Measure Total Irrigable Area | yes |
| f. Provide Customer Report / Information | yes |
| 5. Do you track survey offers and results? | yes |
| 6. Does your agency provide follow-up surveys for previously completed surveys? | yes |
| a. If YES, describe below: | |

When an evaluation & irrig sched isn't developed due to poor DU, the customer is provided recommendations to improve the irrigation system and is offered the option of the contacting the District for another review.

C. Other BMP 5 Actions

- | | |
|---|----|
| 1. An agency can provide mixed-use accounts with ETo-based landscape budgets in lieu of a large landscape survey program. | no |
| Does your agency provide mixed-use accounts with landscape budgets? | |

- 2. Number of CII mixed-use accounts with landscape budgets. 0
- 3. Do you offer landscape irrigation training? yes
- 4. Does your agency offer financial incentives to improve landscape water use efficiency? yes

Type of Financial Incentive:	Budget (Dollars/Year)	Number Awarded to Customers	Total Amount Awarded
a. Rebates	0	0	0
b. Loans	0	0	0
c. Grants	97500	0	0

- 5. Do you provide landscape water use efficiency information to new customers and customers changing services? yes

a. If YES, describe below:

WUE landscape publications are distributed thru the water audit program, public events, Welcome Wagon & upon request.

- 6. Do you have irrigated landscaping at your facilities? yes
 - a. If yes, is it water-efficient? yes
 - b. If yes, does it have dedicated irrigation metering? no
- 7. Do you provide customer notices at the start of the irrigation season? yes
- 8. Do you provide customer notices at the end of the irrigation season? yes

D. Landscape Conservation Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	5000	97500
2. Actual Expenditures	1800	

E. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? yes

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

EID was awarded Prop 13 grant funding to provide incentives to CII customers for irrigation metering/submetering or landscape irrigation improvements through an RWA project. Also, in Jan. 2005, EID applied for Prop 50 grant funding for additional incentives to motivate CII customers to convert to separate landscape meters.

F. Comments

Reported as of 4/2

BMP 06: High-Efficiency Washing Machine Rebate Programs

Reporting Unit: **EI Dorado Irrigation District** BMP Form Status: **100% Complete** Year: **2004**

A. Implementation

1. Do any energy service providers or waste water utilities in your service area offer rebates for high-efficiency washers? yes
- a. If YES, describe the offerings and incentives as well as who the energy/waste water utility provider is.

EID received \$5,000 in a cost-share grant through USBR to offer WECW rebates to single, multi-family.

2. Does your agency offer rebates for high-efficiency washers? yes
3. What is the level of the rebate? 100
4. Number of rebates awarded. 106

B. Rebate Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	10000	25000
2. Actual Expenditures	10000	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no
- a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

The 2004 rebates were based upon CEE's Tier 2,3a & 3b criteria. Tier 2=\$50, Tier 3a=\$75 & Tier 3B=\$100.

BMP 07: Public Information Programs

Reporting Unit:
EI Dorado Irrigation District

BMP Form Status:
100% Complete

Year:
2004

A. Implementation

1. Does your agency maintain an active public information program to promote and educate customers about water conservation? yes

a. If YES, describe the program and how it's organized.

WUE programs were publicized thru the RWA network, EID website, public events, WE publications, speaking engagements, billing inserts, flyers, PSA's, newspaper ads, word of mouth.

2. Indicate which and how many of the following activities are included in your public information program.

Public Information Program Activity	Yes/No	Number of Events
a. Paid Advertising	yes	3
b. Public Service Announcement	yes	1
c. Bill Inserts / Newsletters / Brochures	yes	6
d. Bill showing water usage in comparison to previous year's usage	yes	
e. Demonstration Gardens	yes	2
f. Special Events, Media Events	yes	3
g. Speaker's Bureau	no	3
h. Program to coordinate with other government agencies, industry and public interest groups and media	yes	

B. Conservation Information Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	9000	12000
2. Actual Expenditures	9395	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Reported as of 4/2

BMP 08: School Education Programs

Reporting Unit: **El Dorado Irrigation District** BMP Form Status: **100% Complete** Year: **2004**

A. Implementation

1. Has your agency implemented a school information program to promote water conservation? yes

2. Please provide information on your school programs (by grade level):

Grade	Are grade-appropriate materials distributed?	No. of class presentations	No. of students reached	No. of teachers' workshops
Grades K-3rd	yes	4	300	0
Grades 4th-6th	yes	4	927	0
Grades 7th-8th	yes	4	646	0
High School	yes	1	15	0

3. Did your Agency's materials meet state education framework requirements? yes

4. When did your Agency begin implementing this program? 01/01/1995

B. School Education Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	5000	5000
2. Actual Expenditures	2542	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Reported as of 4/2

BMP 09: Conservation Programs for CII Accounts

Reporting Unit:
**EI Dorado Irrigation
 District**

BMP Form Status:
100% Complete

Year:
2004

A. Implementation

- | | |
|--|----|
| 1. Has your agency identified and ranked COMMERCIAL customers according to use? | no |
| 2. Has your agency identified and ranked INDUSTRIAL customers according to use? | no |
| 3. Has your agency identified and ranked INSTITUTIONAL customers according to use? | no |

Option A: CII Water Use Survey and Customer Incentives Program

- | | |
|---|-----|
| 4. Is your agency operating a CII water use survey and customer incentives program for the purpose of complying with BMP 9 under this option? | yes |
|---|-----|

CII Surveys	Commercial Accounts	Industrial Accounts	Institutional Accounts
a. Number of New Surveys Offered	48	0	0
b. Number of New Surveys Completed	48	0	0
c. Number of Site Follow-ups of Previous Surveys (within 1 yr)	3	0	0
d. Number of Phone Follow-ups of Previous Surveys (within 1 yr)	3	0	0

CII Survey Components	Commercial Accounts	Industrial Accounts	Institutional Accounts
e. Site Visit	yes	yes	yes
f. Evaluation of all water-using apparatus and processes	yes	no	yes
g. Customer report identifying recommended efficiency measures, paybacks and agency incentives	yes	yes	yes

Agency CII Customer Incentives	Budget (\$/Year)	No. Awarded to Customers	Total \$ Amount Awarded
h. Rebates	500	4	\$ 300
i. Loans	0	0	0
j. Grants	8500	0	0
k. Others	5500	0	0

Option B: CII Conservation Program Targets

- 5. Does your agency track CII program interventions and water savings for the purpose of complying with BMP 9 under this option? yes
- 6. Does your agency document and maintain records on how savings were realized and the method of calculation for estimated savings? yes
- 7. Estimated annual savings (AF/yr) from site-verified actions taken by agency since 1991. 0
- 8. Estimated annual savings (AF/yr) from non-site-verified actions taken by agency since 1991. 0

B. Conservation Program Expenditures for CII Accounts

	This Year	Next Year
1. Budgeted Expenditures	18000	25000
2. Actual Expenditures	17600	

C. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No YES
 - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

EID was awarded 2 grants thru USBR-one for 20 waterless urinals & the 2nd to assign NAICS/SIC codes to all CII cusotmers which is currently being implemented. to date, CII customers have not chosen to participate in the Waterless Urinal program. We also offer pre-rinse spray valves as an incentive to sign up for CII water audits.



Reported as of 4/2

BMP 09a: CII ULFT Water Savings

Reporting Unit: **EI Dorado Irrigation District** BMP Form Status: **100% Complete** Year: **2004**

1. Did your agency implement a CII ULFT replacement program in the reporting year? No
 If No, please explain why on Line B. 10.

A. Targeting and Marketing

1. What basis does your agency use to target customers for participation in this program?
 Check all that apply.
 - a. Describe which method you found to be the most effective overall, and which was the most effective per dollar expended.

 Not enough data to evaluate
2. How does your agency advertise this program? Check all that apply.
 - a. Describe which method you found to be the most effective overall, and which was the most effective per dollar expended.

B. Implementation

1. Does your agency keep and maintain customer participant information? (Read the Help information for a complete list of all the information for this BMP.) no
2. Would your agency be willing to share this information if the CUWCC did a study to evaluate the program on behalf of your agency? No
3. What is the total number of customer accounts participating in the program during the last year ?

CII Subsector	Number of Toilets Replaced			
	Standard Gravity Tank	Air Assisted	Valve Floor Mount	Valve Wall Mount
4.				
a. Offices				
b. Retail / Wholesale				
c. Hotels				
d. Health				
e. Industrial				
f. Schools: K to 12				
g. Eating				
h. Government				
i. Churches				
j. Other				

- 5. Program design.
- 6. Does your agency use outside services to implement this program? No
 - a. If yes, check all that apply.
- 7. Participant tracking and follow-up.
- 8. Based on your program experience, please rank on a scale of 1 to 5, with 1 being the least frequent cause and 5 being the most frequent cause, the following reasons why customers refused to participate in the program.
 - a. Disruption to business
 - b. Inadequate payback
 - c. Inadequate ULFT performance
 - d. Lack of funding
 - e. American's with Disabilities Act
 - f. Permitting
 - g. Other. Please describe in B. 9.
- 9. Please describe general program acceptance/resistance by customers, obstacles to implementation, and other issues affecting program implementation or effectiveness.

10. Please provide a general assessment of the program for this reporting year. Did your program achieve its objectives? Were your targeting and marketing approaches effective? Were program costs in line with expectations and budgeting?

The District is currently implementing the CII database to comply with the first provision of BMP 9 that states CII accounts must be ID'd by NCAIS/SIC codes. Once this is finished, the program planning & implementation will begin. In addition, USBR had awarded grant funding to implement a small Pilot Waterless Urinal Replacement Project for our school institutional accounts that was unsuccessful & the program has been revamped to be implemented in 2005.

C. Conservation Program Expenditures for CII ULFT

1. CII ULFT Program: Annual Budget & Expenditure Data

	Budgeted	Actual Expenditure
a. Labor		
b. Materials		
c. Marketing & Advertising		
d. Administration & Overhead		
e. Outside Services		
f. Total	0	0

2. CII ULFT Program: Annual Cost Sharing

- a. Wholesale agency contribution

- b. State agency contribution
- c. Federal agency contribution
- d. Other contribution
- e. Total

0

D. Comments

BMP 11: Conservation Pricing

Reporting Unit:
EI Dorado Irrigation District

BMP Form
 Status:
100% Complete

Year:
2004

A. Implementation

Rate Structure Data Volumetric Rates for Water Service by Customer Class

*See
 2004
 CAFR*

1. Residential

	28.7	8.5
a. Water Rate Structure	Increasing Block	83.34
b. Sewer Rate Structure	Increasing Block	
c. Total Revenue from Volumetric Rates	\$0 11.5	
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$0 7.1	

2. Commercial

a. Water Rate Structure	Increasing Block	7.82
b. Sewer Rate Structure	Increasing Block	
c. Total Revenue from Volumetric Rates	\$0 1.05	
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$0 .66	

3. Industrial

a. Water Rate Structure	Increasing Block	
b. Sewer Rate Structure	Increasing Block	
c. Total Revenue from Volumetric Rates	\$0	
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$0	

4. Institutional / Government

a. Water Rate Structure	Increasing Block	2.19
b. Sewer Rate Structure	Increasing Block	
c. Total Revenue from Volumetric Rates	\$0 .3	
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$0 .19	

5. Irrigation

a. Water Rate Structure	Increasing Block	2.71
b. Sewer Rate Structure	Service Not Provided	
c. Total Revenue from Volumetric Rates	\$0 .37	
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$0 .23	

6. Other

a. Water Rate Structure	Service Not Provided	1.94
-------------------------	----------------------	------

De .17

Reported as of 4/2

BMP 12: Conservation Coordinator

Reporting Unit: **El Dorado Irrigation District** BMP Form Status: **100% Complete** Year: **2004**

A. Implementation

- 1. Does your Agency have a conservation coordinator? yes
- 2. Is this a full-time position? yes
- 3. If no, is the coordinator supplied by another agency with which you cooperate in a regional conservation program? no
- 4. Partner agency's name:
- 5. If your agency supplies the conservation coordinator:
 - a. What percent is this conservation coordinator's position? 50%
 - b. Coordinator's Name David Witter
 - c. Coordinator's Title Director of Water Policy
Coordination & Special Projects
 - d. Coordinator's Experience and Number of Years 10 years
 - e. Date Coordinator's position was created (mm/dd/yyyy) 1/1/1995
- 6. Number of conservation staff, including Conservation Coordinator. 5

B. Conservation Staff Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	198000	370745
2. Actual Expenditures	320247	

C. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no
 - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Reported as of 4/2

BMP 13: Water Waste Prohibition

Reporting Unit: **EI Dorado Irrigation District** BMP Form Status: **100% Complete** Year: **2004**

A. Requirements for Documenting BMP Implementation

- 1. Is a water waste prohibition ordinance in effect in your service area? no
 - a. If YES, describe the ordinance:

- 2. Is a copy of the most current ordinance(s) on file with CUWCC? no
 - a. List local jurisdictions in your service area in the first text box and water waste ordinance citations in each jurisdiction in the second text box:

B. Implementation

- 1. Indicate which of the water uses listed below are prohibited by your agency or service area.
 - a. Gutter flooding yes
 - b. Single-pass cooling systems for new connections no
 - c. Non-recirculating systems in all new conveyor or car wash systems no
 - d. Non-recirculating systems in all new commercial laundry systems no
 - e. Non-recirculating systems in all new decorative fountains no
 - f. Other, please name yes
Applies during water shortage

2. Describe measures that prohibit water uses listed above:

During drought water alert conditions, gutter flooding, customer plumbing leaks, midday irrigation, hosing of hard surfaces, water automatically served in restaurants is prohibited

Water Softeners:

- 3. Indicate which of the following measures your agency has supported in developing state law:
 - a. Allow the sale of more efficient, demand-initiated regenerating DIR models. no
 - b. Develop minimum appliance efficiency standards that:
 - i.) Increase the regeneration efficiency standard to at least 3,350 grains of hardness removed per pound of common salt used. no
 - ii.) Implement an identified maximum number of gallons discharged per gallon of soft water produced. no
 - c. Allow local agencies, including municipalities and special districts, to set more stringent standards and/or to ban on-site regeneration of water softeners if it is demonstrated and found by the agency governing board that there is an adverse effect on the reclaimed water or groundwater supply. yes

4. Does your agency include water softener checks in home water

- audit programs? yes
5. Does your agency include information about DIR and exchange-type water softeners in educational efforts to encourage replacement of less efficient timer models? no

C. Water Waste Prohibition Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no
- a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

E. Comments

BMP 14: Residential ULFT Replacement Programs

Reporting Unit: **EI Dorado Irrigation District** BMP Form Status: **100% Complete** Year: **2004**

A. Implementation

	Single-Family Accounts	Multi-Family Units
1. Does your Agency have program(s) for replacing high-water-using toilets with ultra-low flush toilets?	yes	yes

Number of Toilets Replaced by Agency Program During Report Year

Replacement Method	SF Accounts	MF Units
2. Rebate	0	0
3. Direct Install	0	0
4. CBO Distribution	302	53
5. Other	0	0
Total	302	53

6. Describe your agency's ULFT program for single-family residences.

Niagara flapperless ULFTs were distributed directly to customer's homes via FEDEX with a \$25.00 customer cost share payment. Maximum two ULFTs per customer. This program was implemented in May 2004 & ended in Dec 2004.

7. Describe your agency's ULFT program for multi-family residences.

Same program - Niagara flapperless ULFTs were distributed directly to property location with a \$25.00 customer cost share payment per ULFT. Maximum two ULFTs per dwelling unit. This program was implemented in May 2004 & ended in Dec 2004.

8. Is a toilet retrofit on resale ordinance in effect for your service area? no

9. List local jurisdictions in your service area in the left box and ordinance citations in each jurisdiction in the right box:

Building code 1.6gpf toilets must be properly disposed of at a landfill.

B. Residential ULFT Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	50000	50000
2. Actual Expenditures	45000	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective"

as."

D. Comments

APPENDIX E

Emergency Response Plan

EMERGENCY CONTINGENCY PLAN



Date: December 1999

H:\WORKGRPSIT\Helpdesk\Y2K\Dec1999 EOC-Draft

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SECTION I

INTRODUCTION

A. OBJECTIVE

The Objective of this plan is to prevent, minimize and mitigate any disruption in sewage collection, transportation, treatment and disposal in the plan area in order to ensure continuing compliance with all applicable laws regulations for the protection of public health and safety, the environment and the preservation of water quality of the EL DORADO IRRIGATION DISTRICT, hereinafter called "District".

B. PURPOSE

This Emergency Preparedness Plan has been prepared to aid the El Dorado Irrigation District Manager, District staff and the operating personnel in responding to emergency situations and unusual occurrences, which may develop on or near District facilities. This program is concerned with natural and manmade disasters, as well as civil disorders, and is intended to create a greater awareness on the part of management and the employees concerning these problems.

This report outlines protective responses for a number of specific situations. Neither the situations listed nor the instructions should be considered as complete or comprehensive. Situations may arise which would require new and additional action by the responsible individuals.

This report provides a plan for preparing, mobilizing, and employing EID resources during an emergency to provide potable water and sewage treatment for the general welfare of the public. Also an important purpose of this plan, which is a major responsibility of EID, is to help prevent the destruction of life and property in an emergency.

SEMS

The district as a public agency is required to use the State Sanction SEMS Program for both its EOC and Emergency Center Operations and in the field command structure.

For specifics on the SEMS program required forms, EOC position guidelines and position responsibilities, refer to the SEMS binder furnished for your position.

Sample forms are enclosed with this contingency plan, as well as in the SEMS binder provided.



C. METHODOLOGY

By an evaluation of potential failure situations, past history, public health and safety requirements, and environmental goals, a working plan to establish guidelines and priorities for the prevention, notification, response, and mitigation of breaches in the security of the wastewater system, and for the solution of other emergencies will be developed. After appropriate review by District Superintendents, Supervisors, and key personnel, the District will formally adopt the plan. The plan shall rely on continuing preventive measures. Specific emergency action plans may reflect in this plan, and therefore enable the District to become familiar with emergency action plans.

D. EVALUATION

Based on information provided by the observer at the emergency site, an evaluation must be made by the OSC prior to activation of the plan. The following information should be developed if practical:

1. Nature and type of emergency that has occurred.
2. Location of emergency.
3. Initial abatement and mitigation actions required.
4. Safety equipment needed immediately for employee safety and public health protection.

The evaluation shall enable the affected area to plan and implement immediate and longer-term mitigation steps.

E. ORGANIZATIONAL STRUCTURE

1. Chain of Command

The District shall establish an appropriate chain of command to function in emergency situations. In all cases the District shall appoint an On-Site Coordinator (OSC) (Incident Commander). This individual shall have complete charge of all personnel, equipment, and material resources utilized during emergency operations. The OSC may delegate certain responsibilities for adequate coverage and control. In particular, all notifications should be handled by others so that the OSC may remain at the scene of the emergency. If more than one site is involved, a second OSC shall be designated. The chain of command shall be reviewed on site as soon as possible with all personnel involved in



the operation. It is particularly important for District personnel to be aware of who is in charge of the emergency at the site.

2. Responsibility of the District

All inquiries for information shall be referred to the District Manager or an individual delegated by the District Manager, who shall have the sole responsibility for disseminating information. Anyone providing aid and assistance shall not make any written or verbal statements without approval of the District Manager or delegated individual.

Safety of the District's personnel and equipment shall be a prime responsibility of the OSC. The OSC shall be the safety officer or shall clearly delegate the responsibility to another person. The safety officer shall be immediately identified to all District personnel.

The safety officer shall coordinate with the Crew Leaders on operating District equipment relative to the safe operation of the equipment. The OSC may dismiss outside employees from service for failure to comply with appropriate instructions or safety requirements.

3. Communications

During emergency situations, communication is vital. The District should provide for suitable communications equipment. Portable hand-held radios may supplement mobile equipment. Scanner type radios are available so that two-way communication can be maintained. A list of radio frequencies for the District and other emergency organizations is shown in Appendix "B".

F. OPERATIONS ASPECTS

The emergency action plan for the District shall detail operations aspects of emergency operations. The following is provided for guidance and standardization:

1. Operational Priorities

Operational priorities shall be a part of each facility emergency action plan. The order of priority is as follows:

- a. Safety of Personnel at the Emergency Site.
- b. Public Health and Safety.
- c. Protection of District Facilities.



- d. Water Quality.
- e. Public Convenience.

2. Immediate Mitigation and Containment Measures

These are defensive actions, which shall be initiated as soon as possible after discovery of the problem. These may include:

- a. Control of discharge or spill source
- b. Public health and safety precautions
- c. Notification
- d. By-pass of malfunctioning equipment
- e. Physical containment by construction of dikes or barriers to contain hazardous materials, and/or prevent erosion.
- f. Failure of domestic water supplies

3. Repair Operation Techniques

This phase of the contingency plan will vary greatly depending on the physical characteristics of each emergency, and each of the District's facilities.

The following shall be considered:

- a. Public safety at site of emergency
 - 1. Traffic control
 - 2. Pedestrian/onlookers control
 - 3. Direction of press and information gathering persons to District office to avoid a hazard at the site.
- b. Location of other utilities (gas, power, telephone, etc.)
- c. Containment procedures
- d. Specific personnel assignments by job title
- e. Mobilization of equipment
- f. Communication network



- g. Outside assistance
- h. Liquid storage and transport provisions to include tankage, tank trucks, pumps, etc.
- i. By-pass pumping equipment
- j. Repair materials; commercially available or specially constructed (repair clamps, by-pass equipment, etc.)
- k. Outside equipment and personnel may be required for mitigation of spills of other hazardous materials.

4. Identification of Hazardous Material

Materials from unmarked containers may be present in a spill situation. The California Highway Patrol and California Department of Transportation are equipped to identify hazardous materials. Outside agencies available to assist in the identification and cleanup of hazardous materials are shown in Appendices "A" and "E".

5. Clean up Operation

These efforts shall include removal and proper disposal of contaminants. Public health and safety, along with environmental concerns, shall be considered. No materials shall be placed in the sanitary sewer system that could create an explosive atmosphere or disrupt the treatment process. Regional public health officials shall be consulted on the public health aspects of clean up operations. Information on the clean up of hazardous materials is available from various state agencies. Monitoring of the contaminated area may be necessary after the emergency situation has been eliminated. Areas damaged or impacted due to spill containment, emergency repairs, and/or removal of hazardous materials shall be mitigated. Mitigation shall include regrading, repair, revegetation, replacement of damaged property, and complete clean up as appropriate. Clean up and stabilization of disturbed watercourses, stream channels, and shoreline areas shall be accomplished, if necessary. Stabilization of hazardous materials through chemical use should be coordinated with Fish and Game officials due to the toxic nature of chlorine with regard to native fish.

Clean up operation may be assigned or delegated to outside sources providing such specialized services. Technical assistance in handling hazardous materials is available through Chemtrec, Appendix "E".



G. SCOPE

Planning criteria and evaluation are prepared for the following elements.

1. Notification Methods and Procedures
2. Emergency Communications
3. Assignment of Responsibility-Organization Control
4. Mobilization of Forces
5. Emergency Classification System
6. Medical and Public Health Support
7. Public Education and Information
8. Emergency Training and Exercise Drills
9. Protective Measures or Responses

Disasters occur in many forms at unexpected times and places. District personnel must be prepared to respond to these events when they occur. This Emergency Preparedness Plan provides for the employment of District resources as necessary to cope with a wide range of emergency situations. This plan also outlines the emergency responsible organizations, prescribes readiness and operational functions and provides guidance to District employees.

H. EMERGENCY CLASSIFICATION SYSTEM

1. Routine Problem Areas

District personnel are involved daily in emergencies which, although serious, are controlled by standard procedures and do not require notification of Civil authorities.

Some of these are:

- Pipeline breaks
- Blowouts of water lines
- Minor sewage spills
- Minor chlorine leaks
- Minor chemical spills
- Single total coliform violations of drinking water
- Minor wastewater effluent violations
- Minor accidents requiring first aid
- Short duration power failures
- Variations in water quality such as high turbidity
- Intermittent low pressure in isolated areas

The above types of problems are not discussed in this report.



2. Classification of Emergencies

Simply stated, a disaster is an event, natural or manmade, which causes a community or a specific area to suffer danger or disruption of normal functions.

An emergency situation as defined in this plan is a failure of a District facility or a natural phenomenon that causes immediate destruction of property or threat to human life. An emergency situation requires an immediate decision by the area Supervisor, and action by District employees assigned to the area. In most cases the Operations and Maintenance Director may request aid from Civil Agencies through the dispatcher at the Office of Emergency Services (911).

Examples of emergencies discussed in this plan are:

3. Disasters

- a. Dam failures
- b. Earthquakes
- c. Major fire
- d. Drowning or other deaths
- e. Rupture of CL₂ or SO₂ cylinders or major leaks
- f. Explosion
- g. Civil disorders, sabotage or bomb threat
- h. Nuclear attack or Act of War

4. Local Emergencies:

- a. Major sewage spill
- b. Drinking water emergencies:
 1. Failures in one fecal coliform or multiple total coliform tests
 2. Oil Spills
 3. Toxic chemicals
 4. Radioactive fallout
 5. Sewage spills



6. High coliform content

c. Criminal action including assault, vandalism and theft.

Four levels or degrees are listed below. These are characterized and discussed under the Section on Positive Responses.

Category 1 – Notification of Unusual Event

Category 2 – Notification of Alert

Category 3 – Emergency on District Property

Category 4 – General Area Emergency effecting District Services

I. EFFECT ON DISTRICT OPERATIONS

The above incidents can cause any of the following problems to the District:

1. Curtailment of services
2. Contamination of water supplies
3. Rationing of water
4. Personal contamination
5. Large scale loss of water
6. Loss of power with disruption of service
7. Failure of pumping facilities
8. Disruption of communications
9. Interruption of maintenance and repair operations



APPENDIX F

4-Stage Water Supply Matrix and Water Shortage Response Measures



El Dorado Irrigation District

EL DORADO IRRIGATION DISTRICT

4-STAGE WATER SUPPLY MATRIX

AND

WATER SHORTAGE RESPONSE MEASURES

Adopted by EID Board of Directors

June 12, 1995

INTRODUCTION

The El Dorado Irrigation District maintains a water conservation plan called the **4-Stage Water Supply Matrix and Water Shortage Response Measures**. This conservation program establishes a logical series (i.e. stages) of measures which respond to increasingly severe water shortage conditions. This is accomplished by articulating an objective for each stage, and listing the corresponding conservation measures which, when implemented, are expected to achieve the stated objective. The four stages and associated objectives are documented below.

STAGE ONE WATER ALERT (0% - 5% Expected Conservation)

Objective: Heighten public awareness of emerging water shortage conditions and enlist voluntary customer participation in increased water conservation.

STAGE TWO WATER WARNING (5% - 10% Expected Conservation)

Objective: Ensure public understanding of worsening water supply condition and evoke customer compliance with voluntary and mandatory conservation measures.

STAGE THREE WATER EMERGENCY (10% - 20% Expected Conservation)

Objective: Confirm public recognition of the continuing water supply emergency and impose mandatory conservation measures.

STAGE FOUR CRITICAL WATER EMERGENCY (20% - 30% Expected Conservation)

Objective: Ensure that District water use is limited to those needs associated with maintaining public health and welfare.

PROGRAM ADMINISTRATION

The District's 4-stage water conservation program is administered according to a "Water Matrix" (see Table 1). The monthly Sly Park storage volumes listed in the matrix represent the threshold, or "trigger" values, that must first be observed before declaring the applicable conservation stage and associated water use restrictions. Accordingly, progression into and out of the various water conservation stages, except Stage 1, is based on the amount of water stored in Sly Park Reservoir.

Because of certain unique circumstances, the declaration of Stage 1 conservation measures is handled differently than declarations of Stages 2, 3 and 4. Prior to declaring a Stage 1 Water Alert, the Sly Park storage levels are monitored daily until the level is 1,000 below the applicable first-of-the-month Stage 1 threshold. Declaring a Stage 1 Alert at this point prevents Stage 1 declarations from being made when the threshold storage levels are exceeded for short periods of time. As a result, District customers are not called on to observe Water Alert conditions off and on from month to month.

The chart below depicts the conditions under which Stage 1 declarations are made.

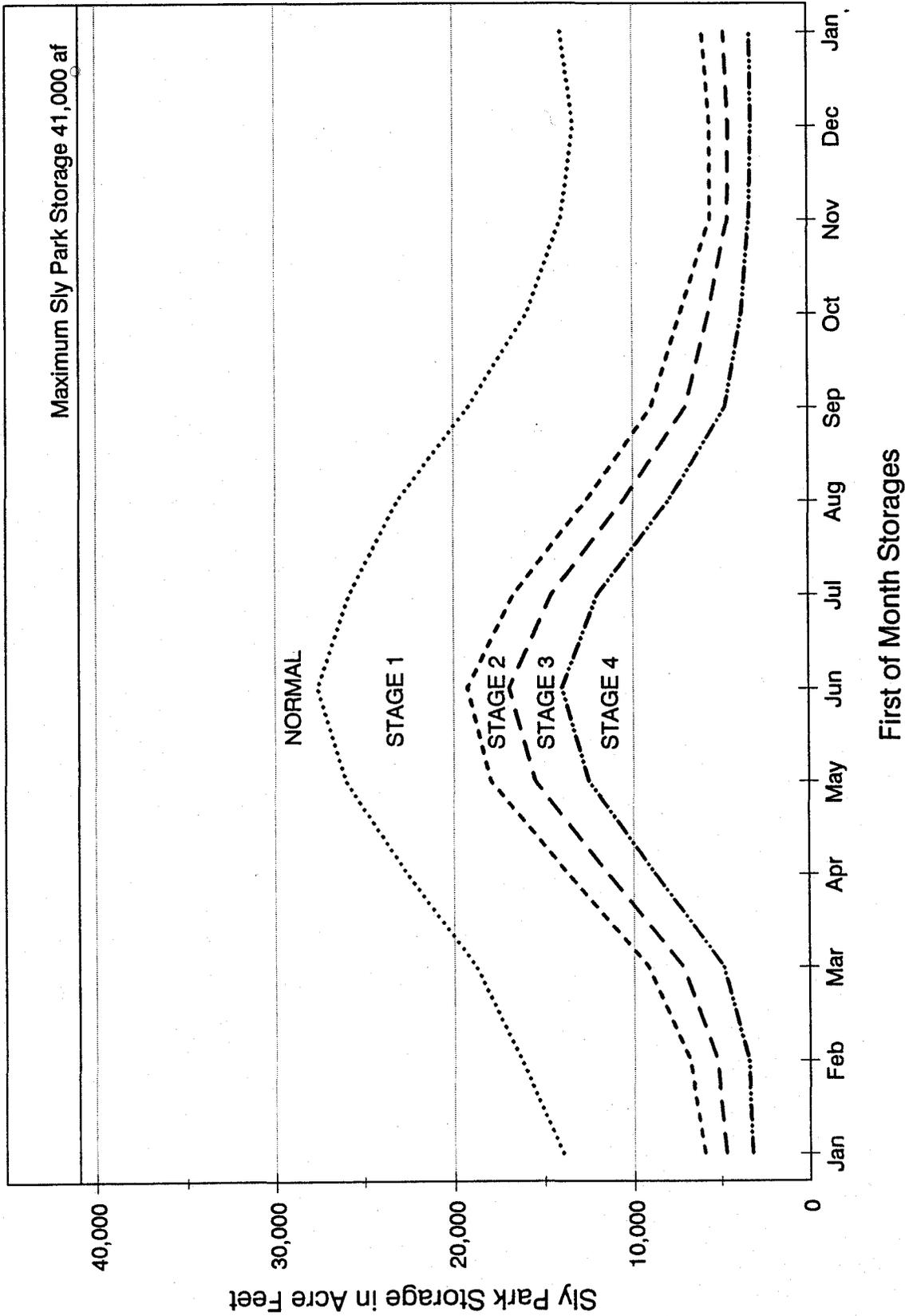
<u>MONTH</u>	<u>STAGE 1 THRESHOLD</u>	<u>STAGE 1 RESTRICTIONS IMPOSED</u>
January	14,000	13,000
February	16,300	15,300
March	18,800	17,800
April	22,600	21,600
May	26,000	25,000
June	27,600	26,600
July	25,800	24,800
August	23,100	22,100
September	19,200	18,200
October	15,900	14,900
November	14,000	13,000
December	13,300	12,300

TABLE 1
WATER MATRIX

(SLY PARK STORAGE VOLUME IN ACRE FEET)

1st of MONTH	NORMAL	STAGE 1	STAGE 2	STAGE 3	STAGE 4
OCTOBER	15,900 to 41,000	7,270 to 15,900	5,650 to 7,270	3,750 to 5,650	Below 3,750
NOVEMBER	14,000 to 41,000	5,560 to 14,000	4,530 to 5,560	3,300 to 4,530	Below 3,300
DECEMBER	13,300 to 41,000	5,560 to 13,300	4,490 to 5,560	3,200 to 4,490	Below 3,200
JANUARY	14,000 to 41,000	5,980 to 14,000	4,730 to 5,980	3,250 to 4,730	Below 3,250
FEBRUARY	16,300 to 41,000	6,840 to 16,300	5,260 to 6,840	3,450 to 5,260	Below 3,450
MARCH	18,800 to 41,000	9,190 to 18,800	7,210 to 9,190	4,850 to 7,210	Below 4,850
APRIL	22,600 to 41,000	13,680 to 22,600	11,450 to 13,680	8,800 to 11,450	Below 8,800
MAY	26,000 to 41,000	17,960 to 26,000	15,500 to 17,960	12,500 to 15,500	Below 12,500
JUNE	27,600 to 41,000	19,240 to 27,600	16,920 to 19,240	14,000 to 16,920	Below 14,000
JULY	25,800 to 41,000	16,670 to 25,800	14,580 to 16,670	12,000 to 14,580	Below 12,000
AUGUST	23,100 to 41,000	12,630 to 23,100	10,580 to 12,630	8,000 to 10,580	Below 8,000
SEPTEMBER	19,200 to 41,000	8,980 to 19,200	7,020 to 8,980	4,700 to 7,020	Below 4,700

EXHIBIT A
EL DORADO IRRIGATION DISTRICT
 Water Conservation Levels - Sly Park Storage



4-STAGE WATER SUPPLY MATRIX AND WATER SHORTAGE RESPONSE MEASURES

Stage One - "WATER ALERT" (0% - 5% Expected Conservation)

Objective: Heighten public awareness of emerging water shortage conditions and enlist voluntary customer participation in increased water conservation.

1. Initiate aggressive EID public information campaign to include informational publication/s mailed to all customers and ads in local newspapers describing situation and seeking support from customers to manage water supplies wisely and to be aware of current water situation.
2. Engage local radio and cable TV media outlets to advertise or announce water shortage information and promote customer wise water use.
3. Provide commercial agricultural customers with special water conservation information materials (literature) from the District.
4. Request all portable construction meter customers to voluntarily seek water sources other than potable EID water for dust control, earthwork, road construction, etc.

Stage Two - "WATER WARNING" (5% - 10% Expected Conservation)

Objective: Ensure public understanding of worsening water supply condition and evoke customer compliance with voluntary and mandatory conservation measures.

1. Intensify Stage 1 public information campaign.
2. Continue all other Stage 1 measures.
3. Implement mandatory conservation measures:
 - * Prohibit washing of driveways, parking lots and other surfaces with potable EID water.
 - * Ponds, lakes and other non-irrigation water features shall not be filled with potable EID water.
 - * Restaurants asked not to serve water to customers unless requested.
 - * Portable construction water meter customers directed not to use EID water for dust control, earthwork, or road construction.
4. Implement voluntary conservation measures:
 - * All outside watering, including garden, lawn, landscape, domestic and pasture irrigation, parks, golf courses, school grounds and public grounds shall occur only between 6:00 p.m. to 9:00 a.m.
 - * Empty swimming pools are not to be filled with potable EID water.
 - * No washing of automobiles, recreational vehicles, trailers, etc. with EID potable water.
5. Agricultural users not complying with existing Irrigation Management Service (IMS) Program to submit individual water conservation plans to EID for approval within 30 days of Stage 2 declaration.
6. Domestic irrigation users shall be sent an informational mailer which will include a "questionnaire" asking specific questions regarding the water shortage and how the customer intends to respond to it. All domestic irrigation customers will be required to return the questionnaire.

Stage Three - "WATER EMERGENCY" (10% - 20% Expected Conservation)

Objective: Confirm public recognition of the continuing water supply emergency and impose mandatory conservation measures.

1. Continue with Stage 2 informational campaign.
2. Continue Stage 2 mandatory measures.
3. Make Stage 2 voluntary measures mandatory.
4. Initiate steps and conduct public hearing(s) to consider Water Emergency pursuant to Water Code Section 350 et seq., and develop Rules and Regulations and associated enforcement powers appropriate to prevailing circumstances such as: drought water rates, citation and disconnect procedures, suspension of water meter sales, water patrol, etc.

Stage Four - "CRITICAL WATER EMERGENCY" (20% - 30% Expected Conservation)

Objective: Ensure that District water use is limited to those needs associated with maintaining public health and welfare.

1. Continue all Stage 3 measures.
2. Defer all proposed/new agricultural plantings until the water supply condition returns to a Stage 2 level and provided that it does not conflict with any established water emergency.
3. All outside watering including garden, lawn, landscape, domestic and pasture irrigation, parks, golf courses, school grounds and public grounds shall **not** be watered with potable EID water.

Adopted April 13, 1988 (5 Stage)
Revised April 10, 1989
Revised April 23, 1990 (4 Stage)
Revised May 30, 1990 (Resolution 90-91)
Revised February 25, 1991
Revised June 13, 1994
Revised June 12, 1995

4stage.95

APPENDIX G

DWR UWMP Checklist

2005 Urban Water Management Plan Checklist

EL DORADO IRRIGATION DISTRICT

Coordination with Appropriate Agencies		(Water Code § 10620 (d)(1)(2))	
<input checked="" type="checkbox"/>	Describe the coordination of the plan preparation and anticipated benefits.	1.3	Reference & Section Number
Describe resource maximization / import minimization plan		(Water Code § 10620 (f))	
<input checked="" type="checkbox"/>	Describe how water management tools / options maximize resources & minimize need to import water	1.4	Reference & Section Number
Plan Updated in Years Ending in Five and Zero		(Water Code § 10621(a))	
<input checked="" type="checkbox"/>	Date updated and adopted plan received _____ (enter date)	1.2	Reference & Section Number
City and County Notification and Participation		(Water Code § 10621(b))	
<input checked="" type="checkbox"/>	Notify any city or county within service area of UWMP of plan review & revision	1.3	Reference & Section Number
<input checked="" type="checkbox"/>	Consult and obtain comments from cities and counties within service area	1.3	Reference & Section Number
Service Area Information		Water Code § 10631 (a)	
<input checked="" type="checkbox"/>	Include current and projected population	3.1	Reference & Section Number
<input checked="" type="checkbox"/>	Population projections were based on data from state, regional or local agency	3.1	Reference & Section Number
<input checked="" type="checkbox"/>	Describe climate characteristics that affect water management	2.2	Reference & Section Number
<input checked="" type="checkbox"/>	Describe other demographic factors affecting water management	3.1	Reference & Section Number
Water Sources		(Water Code § 10631 (b))	
<input checked="" type="checkbox"/>	Identify existing and planned water supply sources	4.5	Reference & Section Number
<input checked="" type="checkbox"/>	Provide current water supply quantities	4.5	Reference & Section Number
<input checked="" type="checkbox"/>	Provide planned water supply quantities	4.5	Reference & Section Number
If Groundwater identified as existing or planned source		(Water Code § 10631 (b)(1-4))	
<input type="checkbox"/>	Has management plan	N/A	Reference & Section Number
<input type="checkbox"/>	Attached management plan (b)(1)	N/A	Reference & Section Number
<input type="checkbox"/>	Description of basin(s) (b)(2)	N/A	Reference & Section Number
<input type="checkbox"/>	Basin is adjudicated	N/A	Reference & Section Number
<input type="checkbox"/>	If adjudicated, attached order or decree (b)(2)	N/A	Reference & Section Number
<input type="checkbox"/>	Quantified amount of legal pumping right (b)(2)	N/A	Reference & Section Number
<input type="checkbox"/>	DWR identified, or projected to be, in overdraft (b)(2)	N/A	Reference & Section Number
<input type="checkbox"/>	Plan to eliminate overdraft (b)(2)	N/A	Reference & Section Number
<input type="checkbox"/>	Analysis of location, amount & sufficiency, last five years (b)(3)	N/A	Reference & Section Number
<input type="checkbox"/>	Analysis of location & amount projected, 20 years (b)(4)	N/A	Reference & Section Number
Reliability of Supply		(Water Code § 10631 (c) (1-3))	
<input checked="" type="checkbox"/>	Describes the reliability of the water supply and vulnerability to seasonal or climatic shortage	4.7	Reference & Section Number
Water Sources Not Available on a Consistent Basis		(Water Code § 10631 (c))	
<input checked="" type="checkbox"/>	Describe the reliability of the water supply due to seasonal or climatic shortages	4.7.1	Reference & Section Number
<input checked="" type="checkbox"/>	Describe the vulnerability of the water supply to seasonal or climatic shortages	4.7.1	Reference & Section Number
<input type="checkbox"/>	No unreliable sources	N/A	Reference & Section Number
<input type="checkbox"/>	Describe plans to supplement or replace inconsistent sources with alternative sources or DMMs	N/A	Reference & Section Number
<input type="checkbox"/>	No inconsistent sources	N/A	Reference & Section Number
Transfer or Exchange Opportunities		(Water Code § 10631 (d))	
<input checked="" type="checkbox"/>	Describe short term and long term exchange or transfer opportunities	4.5	Reference & Section Number
<input checked="" type="checkbox"/>	No transfer opportunities	4.5	Reference & Section Number
Water Use Provisions		(Water Code § 10631 (e)(1)(2))	
<input checked="" type="checkbox"/>	Quantify past water use by sector	3.2	Reference & Section Number
<input checked="" type="checkbox"/>	Quantify current water use by sector	3.2	Reference & Section Number
<input checked="" type="checkbox"/>	Project future water use by sector	3.2	Reference & Section Number
<input checked="" type="checkbox"/>	Identify and quantify sales to other agencies	3.2	Reference & Section Number
<input type="checkbox"/>	No sales to other agencies	N/A	Reference & Section Number
<input checked="" type="checkbox"/>	Identify and quantify additional water uses	3.2.1	Reference & Section Number
Demand Management measures		(Water Code § 10631 (f))	
The Checklist for the Demand Management Measures (Water Code § 10631 (f) & (g), is found in last part of checklist.			
Planned Water Supply Projects, Programs and non-implemented DMMs		(Water Code § 10631 (g))	
<input type="checkbox"/>	No future water supply projects or programs	N/A	Reference & Section Number
<input type="checkbox"/>	No non-implemented / not scheduled DMMs	N/A	Reference & Section Number
<input checked="" type="checkbox"/>	Cost-Benefit includes economic and non-economic factors	Chapter 6	Reference & Section Number
<input checked="" type="checkbox"/>	Cost-Benefit analysis includes total benefits and total costs	Chapter 6	Reference & Section Number

District is a CUWCC signatory**(Water Code § 10631 (j))**

Urban suppliers that are CUWCC members may submit the annual reports identifying water demand management measures currently being implemented, or scheduled for implementation, to satisfy the requirements of subdivisions (f) and (g). The supplier's CUWCC Best Management Practices report should be attached to the UWMP.

- Agency is a CUWCC member
- 2003-04 annual updates are attached to plan
- Both annual updates are considered completed by CUWCC website

If Supplier receives or projects receiving water from a wholesale supplier (Water Code §10631 (k))

- | | | | |
|--------------------------|---|-----|----------------------------|
| <input type="checkbox"/> | Agency receives or projects receiving wholesale water | N/A | Reference & Section Number |
| <input type="checkbox"/> | Agency provided written demand projections to wholesaler, 20 years | N/A | Reference & Section Number |
| <input type="checkbox"/> | ALL wholesalers provided written water availability projections, by source, to agency, 20 years | N/A | Reference & Section Number |
| <input type="checkbox"/> | Reliability of wholesale supply provided in writing by ALL wholesale agencies | N/A | Reference & Section Number |

Water Shortage Contingency Plan Section**(Water Code § 10632)****Stages of Action****(Water Code § 10632 (a))**

- | | | | |
|-------------------------------------|--|-------|----------------------------|
| <input checked="" type="checkbox"/> | Provide stages of action | 7.3.1 | Reference & Section Number |
| <input checked="" type="checkbox"/> | Provide the water supply conditions for each stage | 7.3.1 | Reference & Section Number |
| <input checked="" type="checkbox"/> | Includes plan for 50 percent supply shortage | 7.3.1 | Reference & Section Number |

Three-Year Minimum Water Supply**(Water Code §10632 (b))**

- | | | | |
|-------------------------------------|---|-------|----------------------------|
| <input checked="" type="checkbox"/> | Identifies driest 3-year period | 7.3.2 | Reference & Section Number |
| <input checked="" type="checkbox"/> | Minimum water supply available by source for the next three years | 7.3.2 | Reference & Section Number |

Preparation for catastrophic water supply interruption**(Water Code §10632 (c))**

- | | | | |
|-------------------------------------|--|-------|----------------------------|
| <input checked="" type="checkbox"/> | Provided catastrophic supply interruption plan | 7.3.3 | Reference & Section Number |
|-------------------------------------|--|-------|----------------------------|

Prohibitions**(Water Code § 10632 (d))**

- | | | | |
|-------------------------------------|---|-------|----------------------------|
| <input checked="" type="checkbox"/> | List the mandatory prohibitions against specific water use practices during water shortages | 7.3.4 | Reference & Section Number |
|-------------------------------------|---|-------|----------------------------|

Consumption Reduction Methods**(Water Code § 10632 (e))**

- | | | | |
|-------------------------------------|---|-------|----------------------------|
| <input checked="" type="checkbox"/> | List consumption reduction methods to reduce water use in the most restrictive stages with up to a 50% reduction. | 7.3.4 | Reference & Section Number |
|-------------------------------------|---|-------|----------------------------|

Penalties**(Water Code § 10632 (f))**

- | | | | |
|-------------------------------------|---|-------|----------------------------|
| <input checked="" type="checkbox"/> | List excessive use penalties or charges for excessive use | 7.3.4 | Reference & Section Number |
|-------------------------------------|---|-------|----------------------------|

Revenue and Expenditure Impacts**(Water Code § 10632 (g))**

- | | | | |
|-------------------------------------|---|-------|----------------------------|
| <input checked="" type="checkbox"/> | Describe how actions and conditions impact revenues | 7.3.5 | Reference & Section Number |
| <input checked="" type="checkbox"/> | Describe how actions and conditions impact expenditures | 7.3.5 | Reference & Section Number |
| <input checked="" type="checkbox"/> | Describe measures to overcome the revenue and expenditure impacts | 7.3.5 | Reference & Section Number |

Water Shortage Contingency Ordinance/Resolution**(Water Code § 10632 (h))**

- | | | | |
|-------------------------------------|--|------------|----------------------------|
| <input checked="" type="checkbox"/> | Attach a copy of the draft water shortage contingency resolution or ordinance. | Appendix D | Reference & Section Number |
|-------------------------------------|--|------------|----------------------------|

Reduction Measuring Mechanism**(Water Code § 10632 (i))**

- | | | | |
|-------------------------------------|---|-------|----------------------------|
| <input checked="" type="checkbox"/> | Provided mechanisms for determining actual reductions | 7.3.6 | Reference & Section Number |
|-------------------------------------|---|-------|----------------------------|

Recycling Plan Agency Coordination**Water Code § 10633**

- | | | | |
|-------------------------------------|---|-----|----------------------------|
| <input checked="" type="checkbox"/> | Describe the coordination of the recycling plan preparation information to the extent available.. | 5.1 | Reference & Section Number |
|-------------------------------------|---|-----|----------------------------|

Wastewater System Description**(Water Code § 10633 (a))**

- | | | | |
|-------------------------------------|---|-----|----------------------------|
| <input checked="" type="checkbox"/> | Describe the wastewater collection and treatment systems in the supplier's service area | 5.2 | Reference & Section Number |
| <input checked="" type="checkbox"/> | Quantify the volume of wastewater collected and treated | 5.2 | Reference & Section Number |

Wastewater Disposal and Recycled Water Uses**(Water Code § 10633 (a - d))**

- | | | | |
|-------------------------------------|---|-----|----------------------------|
| <input checked="" type="checkbox"/> | Describes methods of wastewater disposal | 5.2 | Reference & Section Number |
| <input checked="" type="checkbox"/> | Describe the current type, place and use of recycled water | 5.3 | Reference & Section Number |
| <input checked="" type="checkbox"/> | Describe and quantify potential uses of recycled water | 5.4 | Reference & Section Number |
| <input checked="" type="checkbox"/> | Determination of technical and economic feasibility of serving the potential uses | 5.4 | Reference & Section Number |
| <input type="checkbox"/> | No opportunities for recycled water. | N/A | Reference & Section Number |

Projected Uses of Recycled Water**(Water Code § 10633 (e))**

- | | | | |
|-------------------------------------|--|-----|----------------------------|
| <input checked="" type="checkbox"/> | Projected use of recycled water, 20 years | 5.4 | Reference & Section Number |
| <input checked="" type="checkbox"/> | Compare UWMP 2000 projections with UWMP 2005 actual (10633(e)) | 5.4 | Reference & Section Number |

Plan to Optimize Use of Recycled Water**(Water Code § 10633 (f))**

- | | | | |
|-------------------------------------|---|-----|----------------------------|
| <input checked="" type="checkbox"/> | Describe actions that might be taken to encourage recycled water uses | 5.5 | Reference & Section Number |
| <input checked="" type="checkbox"/> | Describe projected results of these actions in terms of acre-feet of recycled water used per year | 5.5 | Reference & Section Number |
| <input checked="" type="checkbox"/> | Provide a recycled water use optimization plan which includes actions to facilitate the use of recycled water | 5.5 | Reference & Section Number |

Water quality impacts on availability of supply**(Water Code §10634)**

- | | | | |
|-------------------------------------|---|-----|----------------------------|
| <input checked="" type="checkbox"/> | Discusses water quality impacts (by source) upon water management strategies and supply reliability | 4.4 | Reference & Section Number |
| <input checked="" type="checkbox"/> | No water quality impacts projected | 4.4 | Reference & Section Number |

Provision of Water Service Reliability section to cities/counties		(Water Code § 10635(b))	
<input checked="" type="checkbox"/>	Provided Water Service Reliability section of UWMP to cities and counties ... of UWMP submission to DWR	1.2	Reference & Section Number
Does the Plan Include Public Participation and Plan Adoption		(Water Code § 10642)	
<input checked="" type="checkbox"/>	Attach a copy of adoption resolution	Appendix B	Reference & Section Number
<input checked="" type="checkbox"/>	Encourage involvement of social, cultural & economic community groups	1.2	Reference & Section Number
<input checked="" type="checkbox"/>	Plan available for public inspection	1.2	Reference & Section Number
<input checked="" type="checkbox"/>	Provide proof of public hearing	Appendix A	Reference & Section Number
<input checked="" type="checkbox"/>	Provided meeting notice to local governments	Appendix A	Reference & Section Number
Review of implementation of 2000 UWMP		(Water Code § 10643)	
<input checked="" type="checkbox"/>	Reviewed implementation plan and schedule of 2000 UWMP	1.1	Reference & Section Number
<input checked="" type="checkbox"/>	Implemented in accordance with the schedule set forth in plan	1.1	Reference & Section Number
<input type="checkbox"/>	2000 UWMP not required	N/A	Reference & Section Number
Provision of 2005 UWMP to local governments		(Water Code § 10644 (a))	
<input checked="" type="checkbox"/>	Provide 2005 UWMP to DWR, and cities and counties within 30 days of adoption	1.2	Reference & Section Number
Proof plan is available for public review		(Water Code § 10645)	
<input checked="" type="checkbox"/>	Does UWMP or correspondence accompanying it show where it is available for public review	1.2	Reference & Section Number

2005 Urban Water Management Plan Checklist (DMMs)

Because the District is a CUWCC MOU signatory, the following section is not applicable. See Appendix C for all relevant information.

DMM 1 -Water Survey Programs for Single-Family and Multi-Family Residential Customers (10631 f(1)(A))

Implementation		(Section 10631 (f) & (h))
<input type="checkbox"/>	Describe DMM currently being implemented or scheduled for implementation (10631 (f) (1)(2))	_____ Reference & Section Number
<input type="checkbox"/>	Describes steps necessary to implement measure	_____ Reference & Section Number
<input type="checkbox"/>	Describe the methods, if any, used to evaluate the effectiveness of this DMM (10631 (f)(3))	_____ Reference & Section Number
<input type="checkbox"/>	Provide estimates, if available, of existing conservation savings on water use and the effect of such savings on the supplier's ability to further reduce demand (10631(f)(4))	_____ Reference & Section Number
Provided an evaluation for this DMM if it is not implemented		(Section 10631 (g))
<input type="checkbox"/>	Evaluate legal authority (10631(g)(4))	_____ Reference & Section Number
<input type="checkbox"/>	Evaluate economic and non-economic factors (10631(g)(1))	_____ Reference & Section Number
<input type="checkbox"/>	Evaluate environmental, social, health factors (10631(g)(1))	_____ Reference & Section Number
<input type="checkbox"/>	Evaluate customer impact & technological factors (10631(g)(1))	_____ Reference & Section Number
<input type="checkbox"/>	Describe efforts to work with other relevant agencies to ensure implementation of the measure and to share the cost of implementation (10631 (g)(4))	_____ Reference & Section Number
<input type="checkbox"/>	Describe funding available to implement any planned water supply project that would provide water at a higher unit cost (10631 (g)(3) & (h))	_____ Reference & Section Number
If Another Agency Implementing		
<input type="checkbox"/>	If another Agency is implementing (10631 (g)(4))	_____ Reference & Section Number

DMM 2 - Residential Plumbing Retrofit (10631 (f)(1)(B))

Implementation		(Section 10631 (f) & (h))
<input type="checkbox"/>	Describe DMM currently being implemented or scheduled for implementation (10631 (f) (1)(2))	_____ Reference & Section Number
<input type="checkbox"/>	Describes steps necessary to implement measure	_____ Reference & Section Number
<input type="checkbox"/>	Describe the methods, if any, used to evaluate the effectiveness of this DMM (10631 (f)(3))	_____ Reference & Section Number
<input type="checkbox"/>	Provide estimates, if available, of existing conservation savings on water use and the effect of such savings on the supplier's ability to further reduce demand (10631(f)(4))	_____ Reference & Section Number
Provided an evaluation for this DMM if it is not implemented		(Section 10631 (g))
<input type="checkbox"/>	Evaluate legal authority (10631(g)(4))	_____ Reference & Section Number
<input type="checkbox"/>	Evaluate economic and non-economic factors (10631(g)(1))	_____ Reference & Section Number
<input type="checkbox"/>	Evaluate environmental, social, health factors (10631(g)(1))	_____ Reference & Section Number
<input type="checkbox"/>	Evaluate customer impact & technological factors (10631(g)(1))	_____ Reference & Section Number
<input type="checkbox"/>	Describe efforts to work with other relevant agencies to ensure implementation of the measure and to share the cost of implementation (10631 (g)(4))	_____ Reference & Section Number
<input type="checkbox"/>	Describe funding available to implement any planned water supply project that would provide water at a higher unit cost (10631 (g)(3) & (h))	_____ Reference & Section Number
If Another Agency Implementing		
<input type="checkbox"/>	If another Agency is implementing (10631 (g)(4))	_____ Reference & Section Number

DMM 3 - System Water Audits, Leak Detection and Repair (10631 (f)(1)(C))

Implementation		(Section 10631 (f) & (h))
<input type="checkbox"/>	Describe DMM currently being implemented or scheduled for implementation (10631 (f) (1)(2))	_____ Reference & Section Number
<input type="checkbox"/>	Describes steps necessary to implement measure	_____ Reference & Section Number
<input type="checkbox"/>	Describe the methods, if any, used to evaluate the effectiveness of this DMM (10631 (f)(3))	_____ Reference & Section Number
<input type="checkbox"/>	Provide estimates, if available, of existing conservation savings on water use and the effect of such savings on the supplier's ability to further reduce demand (10631(f)(4))	_____ Reference & Section Number
Provided an evaluation for this DMM if it is not implemented		(Section 10631 (g))
<input type="checkbox"/>	Evaluate legal authority (10631(g)(4))	_____ Reference & Section Number
<input type="checkbox"/>	Evaluate economic and non-economic factors (10631(g)(1))	_____ Reference & Section Number
<input type="checkbox"/>	Evaluate environmental, social, health factors (10631(g)(1))	_____ Reference & Section Number
<input type="checkbox"/>	Evaluate customer impact & technological factors (10631(g)(1))	_____ Reference & Section Number
<input type="checkbox"/>	Describe efforts to work with other relevant agencies to ensure implementation of the measure and to share the cost of implementation (10631 (g)(4))	_____ Reference & Section Number
<input type="checkbox"/>	Describe funding available to implement any planned water supply project that would provide water at a higher unit cost (10631 (g)(3) & (h))	_____ Reference & Section Number
If Another Agency Implementing		
<input type="checkbox"/>	If another Agency is implementing (10631 (g)(4))	_____ Reference & Section Number

DMM 4 - Metering with Commodity Rates (10631 (f)(1)(D))

Implementation

(Section 10631 (f) & (h))

- Describe DMM currently being implemented or scheduled for implementation (10631 (f) (1)(2)) _____ Reference & Section Number
- Describes steps necessary to implement measure _____ Reference & Section Number
- Describe the methods, if any, used to evaluate the effectiveness of this DMM (10631 (f)(3)) _____ Reference & Section Number
- Provide estimates, if available, of existing conservation savings on water use and the effect of such savings on the supplier's ability to further reduce demand (10631(f)(4)) _____ Reference & Section Number

Provided an evaluation for this DMM if it is not implemented

(Section 10631 (g))

- Evaluate legal authority (10631(g)(4)) _____ Reference & Section Number
- Evaluate economic and non-economic factors (10631(g)(1)) _____ Reference & Section Number
- Evaluate environmental, social, health factors (10631(g)(1)) _____ Reference & Section Number
- Evaluate customer impact & technological factors (10631(g)(1)) _____ Reference & Section Number
- Describe efforts to work with other relevant agencies to ensure implementation of the measure and to share the cost of implementation (10631 (g)(4)) _____ Reference & Section Number
- Describe funding available to implement any planned water supply project that would provide water at a higher unit cost (10631 (g)(3) & (h)) _____ Reference & Section Number

If Another Agency Implementing

- If another Agency is implementing (10631 (g)(4)) _____ Reference & Section Number

DMM 5 - Large Landscape Conservation Programs and Incentives (10631 (f)(1)(E))

Implementation

(Section 10631 (f) & (h))

- Describe DMM currently being implemented or scheduled for implementation (10631 (f) (1)(2)) _____ Reference & Section Number
- Describes steps necessary to implement measure _____ Reference & Section Number
- Describe the methods, if any, used to evaluate the effectiveness of this DMM (10631 (f)(3)) _____ Reference & Section Number
- Provide estimates, if available, of existing conservation savings on water use and the effect of such savings on the supplier's ability to further reduce demand (10631(f)(4)) _____ Reference & Section Number

Provided an evaluation for this DMM if it is not implemented

(Section 10631 (g))

- Evaluate legal authority (10631(g)(4)) _____ Reference & Section Number
- Evaluate economic and non-economic factors (10631(g)(1)) _____ Reference & Section Number
- Evaluate environmental, social, health factors (10631(g)(1)) _____ Reference & Section Number
- Evaluate customer impact & technological factors (10631(g)(1)) _____ Reference & Section Number
- Describe efforts to work with other relevant agencies to ensure implementation of the measure and to share the cost of implementation (10631 (g)(4)) _____ Reference & Section Number
- Describe funding available to implement any planned water supply project that would provide water at a higher unit cost (10631 (g)(3) & (h)) _____ Reference & Section Number

If Another Agency Implementing

- If another Agency is implementing (10631 (g)(4)) _____ Reference & Section Number

DMM 6 - High-Efficiency Washing Machine Rebate Programs (10631 (f)(1)(F))

Implementation

(Section 10631 (f) & (h))

- Describe DMM currently being implemented or scheduled for implementation (10631 (f) (1)(2)) _____ Reference & Section Number
- Describes steps necessary to implement measure _____ Reference & Section Number
- Describe the methods, if any, used to evaluate the effectiveness of this DMM (10631 (f)(3)) _____ Reference & Section Number
- Provide estimates, if available, of existing conservation savings on water use and the effect of such savings on the supplier's ability to further reduce demand (10631(f)(4)) _____ Reference & Section Number

Provided an evaluation for this DMM if it is not implemented

(Section 10631 (g))

- Evaluate legal authority (10631(g)(4)) _____ Reference & Section Number
- Evaluate economic and non-economic factors (10631(g)(1)) _____ Reference & Section Number
- Evaluate environmental, social, health factors (10631(g)(1)) _____ Reference & Section Number
- Evaluate customer impact & technological factors (10631(g)(1)) _____ Reference & Section Number
- Describe efforts to work with other relevant agencies to ensure implementation of the measure and to share the cost of implementation (10631 (g)(4)) _____ Reference & Section Number
- Describe funding available to implement any planned water supply project that would provide water at a higher unit cost (10631 (g)(3) & (h)) _____ Reference & Section Number

If Another Agency Implementing

- If another Agency is implementing (10631 (g)(4)) _____ Reference & Section Number

DMM 7 - Public Information Programs (10631 (f)(1)(G))

Implementation

(Section 10631 (f) & (h))

- _____

DMM 8 - School Education Programs (10631 (f)(1)(H))

Implementation

(Section 10631 (f) & (h))

- Describe DMM currently being implemented or scheduled for implementation (10631 (f) (1)(2)) _____ Reference & Section Number
- Describes steps necessary to implement measure _____ Reference & Section Number
- Describe the methods, if any, used to evaluate the effectiveness of this DMM (10631 (f)(3)) _____ Reference & Section Number
- Provide estimates, if available, of existing conservation savings on water use and the effect of such savings on the supplier's ability to further reduce demand (10631(f)(4)) _____ Reference & Section Number

Provided an evaluation for this DMM if it is not implemented

(Section 10631 (g))

- Evaluate legal authority (10631(g)(4)) _____ Reference & Section Number
- Evaluate economic and non-economic factors (10631(g)(1)) _____ Reference & Section Number
- Evaluate environmental, social, health factors (10631(g)(1)) _____ Reference & Section Number
- Evaluate customer impact & technological factors (10631(g)(1)) _____ Reference & Section Number
- Describe efforts to work with other relevant agencies to ensure implementation of the measure and to share the cost of implementation (10631 (g)(4)) _____ Reference & Section Number
- Describe funding available to implement any planned water supply project that would provide water at a higher unit cost (10631 (g)(3) & (h)) _____ Reference & Section Number

If Another Agency Implementing

- If another Agency is implementing (10631 (g)(4)) _____ Reference & Section Number

DMM 9 - Conservation Programs for Commercial, Industrial and Institutional (10631 (f)(1)(I))

Implementation

(Section 10631 (f) & (h))

- Describe DMM currently being implemented or scheduled for implementation (10631 (f) (1)(2)) _____ Reference & Section Number
- Describes steps necessary to implement measure _____ Reference & Section Number
- Describe the methods, if any, used to evaluate the effectiveness of this DMM (10631 (f)(3)) _____ Reference & Section Number
- Provide estimates, if available, of existing conservation savings on water use and the effect of such savings on the supplier's ability to further reduce demand (10631(f)(4)) _____ Reference & Section Number

Provided an evaluation for this DMM if it is not implemented

(Section 10631 (g))

- Evaluate legal authority (10631(g)(4)) _____ Reference & Section Number
- Evaluate economic and non-economic factors (10631(g)(1)) _____ Reference & Section Number
- Evaluate environmental, social, health factors (10631(g)(1)) _____ Reference & Section Number
- Evaluate customer impact & technological factors (10631(g)(1)) _____ Reference & Section Number
- Describe efforts to work with other relevant agencies to ensure implementation of the measure and to share the cost of implementation (10631 (g)(4)) _____ Reference & Section Number
- Describe funding available to implement any planned water supply project that would provide water at a higher unit cost (10631 (g)(3) & (h)) _____ Reference & Section Number

If Another Agency Implementing

- If another Agency is implementing (10631 (g)(4)) _____ Reference & Section Number

DMM 10 - Wholesale Agency Programs (10631 (f)(1)(J))

Implementation

(Section 10631 (f) & (h))

- Describe DMM currently being implemented or scheduled for implementation (10631 (f) (1)(2)) _____ Reference & Section Number
- Describes steps necessary to implement measure _____ Reference & Section Number
- Describe the methods, if any, used to evaluate the effectiveness of this DMM (10631 (f)(3)) _____ Reference & Section Number
- Provide estimates, if available, of existing conservation savings on water use and the effect of such savings on the supplier's ability to further reduce demand (10631(f)(4)) _____ Reference & Section Number

Provided an evaluation for this DMM if it is not implemented

(Section 10631 (g))

- Evaluate legal authority (10631(g)(4)) _____ Reference & Section Number
- Evaluate economic and non-economic factors (10631(g)(1)) _____ Reference & Section Number
- Evaluate environmental, social, health factors (10631(g)(1)) _____ Reference & Section Number
- Evaluate customer impact & technological factors (10631(g)(1)) _____ Reference & Section Number
- Describe efforts to work with other relevant agencies to ensure implementation of the measure and to share the cost of implementation (10631 (g)(4)) _____ Reference & Section Number
- Describe funding available to implement any planned water supply project that would provide water at a higher unit cost (10631 (g)(3) & (h)) _____ Reference & Section Number

If Another Agency Implementing

- If another Agency is implementing (10631 (g)(4)) _____ Reference & Section Number

DMM 11 - Conservation Pricing (10631 (f)(1)(K))

Implementation

(Section 10631 (f) & (h))

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DMM 12 - Water Conservation Coordinator (10631 (f)(1)(L))

Implementation

(Section 10631 (f) & (h))

- Describe DMM currently being implemented or scheduled for implementation (10631 (f) (1)(2)) _____ Reference & Section Number
- Describes steps necessary to implement measure _____ Reference & Section Number
- Describe the methods, if any, used to evaluate the effectiveness of this DMM (10631 (f)(3)) _____ Reference & Section Number
- Provide estimates, if available, of existing conservation savings on water use and the effect of such savings on the supplier's ability to further reduce demand (10631(f)(4)) _____ Reference & Section Number

Provided an evaluation for this DMM if it is not implemented

(Section 10631 (g))

- Evaluate legal authority (10631(g)(4)) _____ Reference & Section Number
- Evaluate economic and non-economic factors (10631(g)(1)) _____ Reference & Section Number
- Evaluate environmental, social, health factors (10631(g)(1)) _____ Reference & Section Number
- Evaluate customer impact & technological factors (10631(g)(1)) _____ Reference & Section Number
- Describe efforts to work with other relevant agencies to ensure implementation of the measure and to share the cost of implementation (10631 (g)(4)) _____ Reference & Section Number
- Describe funding available to implement any planned water supply project that would provide water at a higher unit cost (10631 (g)(3) & (h)) _____ Reference & Section Number

If Another Agency Implementing

- If another Agency is implementing (10631 (g)(4)) _____ Reference & Section Number

DMM 13 - Waste Water Prohibition (10631 (f)(1)(M))

Implementation

(Section 10631 (f) & (h))

- Describe DMM currently being implemented or scheduled for implementation (10631 (f) (1)(2)) _____ Reference & Section Number
- Describes steps necessary to implement measure _____ Reference & Section Number
- Describe the methods, if any, used to evaluate the effectiveness of this DMM (10631 (f)(3)) _____ Reference & Section Number
- Provide estimates, if available, of existing conservation savings on water use and the effect of such savings on the supplier's ability to further reduce demand (10631(f)(4)) _____ Reference & Section Number

Provided an evaluation for this DMM if it is not implemented

(Section 10631 (g))

- Evaluate legal authority (10631(g)(4)) _____ Reference & Section Number
- Evaluate economic and non-economic factors (10631(g)(1)) _____ Reference & Section Number
- Evaluate environmental, social, health factors (10631(g)(1)) _____ Reference & Section Number
- Evaluate customer impact & technological factors (10631(g)(1)) _____ Reference & Section Number
- Describe efforts to work with other relevant agencies to ensure implementation of the measure and to share the cost of implementation (10631 (g)(4)) _____ Reference & Section Number
- Describe funding available to implement any planned water supply project that would provide water at a higher unit cost (10631 (g)(3) & (h)) _____ Reference & Section Number

If Another Agency Implementing

- If another Agency is implementing (10631 (g)(4)) _____ Reference & Section Number

DMM 14 - Residential Ultra-Low-Flush Toilet Replacement Programs (10631 (f)(1)(N))

Implementation

(Section 10631 (f) & (h))

- Describe DMM currently being implemented or scheduled for implementation (10631 (f) (1)(2)) _____ Reference & Section Number
- Describes steps necessary to implement measure _____ Reference & Section Number
- Describe the methods, if any, used to evaluate the effectiveness of this DMM (10631 (f)(3)) _____ Reference & Section Number
- Provide estimates, if available, of existing conservation savings on water use and the effect of such savings on the supplier's ability to further reduce demand (10631(f)(4)) _____ Reference & Section Number

Provided an evaluation for this DMM if it is not implemented

(Section 10631 (g))

- Evaluate legal authority (10631(g)(4)) _____ Reference & Section Number
- Evaluate economic and non-economic factors (10631(g)(1)) _____ Reference & Section Number
- Evaluate environmental, social, health factors (10631(g)(1)) _____ Reference & Section Number
- Evaluate customer impact & technological factors (10631(g)(1)) _____ Reference & Section Number
- Describe efforts to work with other relevant agencies to ensure implementation of the measure and to share the cost of implementation (10631 (g)(4)) _____ Reference & Section Number
- Describe funding available to implement any planned water supply project that would provide water at a higher unit cost (10631 (g)(3) & (h)) _____ Reference & Section Number

If Another Agency Implementing

- If another Agency is implementing (10631 (g)(4)) _____ Reference & Section Number