

# **Rio Linda Elverta Community Water District**

## **2010 Urban Water Management Plan**



**December 2012**

**J. CROWLEY GROUP  
WATER RESOURCES PLANNING AND POLICY**

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# 1 Plan Preparation

The Urban Water Management Act (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 California Water Code requires every urban water supplier providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually to adopt and submit an Urban Water Management Plan (UWMP) every five years to the California Department of Water Resources (DWR). The specific planning requirements are in the California Water Code Division 6, Part 2.6 Urban Water Management Planning.

The core requirements for the UWMP include:

- A description of the water service area.
- A description of the existing and planned supply sources.
- Estimates of past, present, and projected water use.
- Analysis of baseline water demands and plans to reduce water demands 20 percent by 2020.
- A description of water conservation Demand Management Measures (DMMs) already in place and planned, and other conservation measures.
- A description of the Water Shortage Contingency Plan.
- Recycled water opportunities.

The Delta Legislation passed in late 2009 resulted in a sweeping change for water management within the state. Although the majority of the legislation addresses new governance structures aimed at improving the health and management of the Delta, some elements also address demand management by water agencies throughout the state. In particular, SB 7X 7 Water Conservation, requires the state to achieve a 20 percent reduction in urban per capita water use by December 31, 2020, known as 20x2020. 20x2020 requirements are now incorporated into the 2010 UWMP requirements. In summary, the UWMP must include the baseline demand analysis, water use target analysis use for 2015 and 2020, and present a compliance plan to achieve the target demand reductions in the UWMP. The Rio Linda / Elverta Community Water District (RL/ECWD) 2010 UWMP presents each required element per the Department of Water Resources (DWR) 2010 Urban Water Management Plan Guidelines.

## 1.1 Coordination

The Sacramento area water agencies have developed a proactive approach to planning and managing water resources throughout the area. The District is a member and actively participates in the two main regional water supplier organizations, Regional Water Authority (RWA) and the Sacramento Groundwater Authority (SGA). The RWA consists of most of the region's water agencies and focuses efforts on regional supply

planning and representation efforts regarding state-wide water issues. The SGA focuses primarily on the area's groundwater basin and helps support proactive management and monitoring of the basin to maintain sustainability. The District is also a signatory to the Water Forum Agreement. The Water Forum is a collaboration of water providers, business interests, and environmental groups that developed a strategy to meet future water supply needs and preserve the lower American River.

The UWMP requires specific coordination efforts as well. The agency must send a notice to all county and city governments within its service area of its intent to develop and adopt a 2010 UWMP. This notice must be sent at least 60 days prior to the public hearing to discuss the UWMP. A notice was sent to Sacramento County Municipal Services District that identified RL/ECWD's plans to update the UWMP as presented in Attachment A.

A public review process was included in the UWMP development. RL/ECWD held a public review of the UWMP to discuss the plan and receive comments from the public. The meeting was conducted at the December 17, 2012 Board Meeting (tentative placeholder, will change based on actual date). Public notice of the meeting was provided prior to the hearing, as is included in Attachment B.

The UWMP was approved at the December 17, 2012 Board meeting (Attachment C). Within 60 days of final submittal to the DWR, RL/ECWD will also submit a copy of the UWMP to Sacramento County. Within 30 days of final submittal to the DWR, RL/ECWD will also submit a copy of the UWMP to California State Library, and make a copy of the UWMP available for public viewing at the District's office during normal business hours located at 730 L Street, Rio Linda, CA 95673. Table 1-1 summarizes the coordination for RL/ECWD's 2010 UWMP development process.

## **1.2 Implementation**

The 2005 UWMP presented RL/ECWD's plans for future water supplies, supply reliability, and water conservation. New surface and recycled water supplies were identified to support the planned development in the Elverta Specific Plan. As the proposed development has not progressed, most of the supply programs were not implemented. The District has continued to maintain and improve its groundwater supply infrastructure by developing new wells and conducting maintenance and improvements on existing wells.

The District has maintained its efforts for the conservation program with positive results evidenced by decreased water demands. All foundational conservation best management practices are implemented. The District will monitor its gallon per capita day (gpcd) water usage and investigate alternative programs based on need. The District is a signatory of the California Urban Water Conservation Council (CUWCC) and may utilize Council programs as necessary.

Implementation of the 2010 UWMP will be tracked through a variety of methods. Supply reliability issues will mostly be tracked through the District's Water Quality

Monitoring Program, well infrastructure program, and production values. Progress and results of the conservation program will continue to be tracked and submitted to the CUWCC and the State as required to for UWMP updates and AB1420 compliance requirements. Compliance with the 20x2020 water demand targets will be tracked through the District's customer billing database and supply production numbers.

**Table 1-1. Coordination With Appropriate Agencies (DWR Table 1)**

Agency	Participated in Developing Plan	Commented on Draft	Attended Public Hearing	Contacted for Information	Sent Copy of Draft	Sent Notice of Intention to Adopt
Sacramento Suburban Water District				X	X	
City of Roseville					X	
City of Sacramento					X	
RWA				X	X	
SGA				X	X	
County of Sacramento					X	X
Sacramento Regional Sanitation District				X		

## 2 District Description

The RL/ECWD was formed in 1948 as an independent publicly-owned special utilities district to serve water to the Rio Linda and Elverta communities. The District is located in north Sacramento County, approximately eight miles north of downtown Sacramento. The District is surrounded by four other water agencies as shown in Figure 2-1.

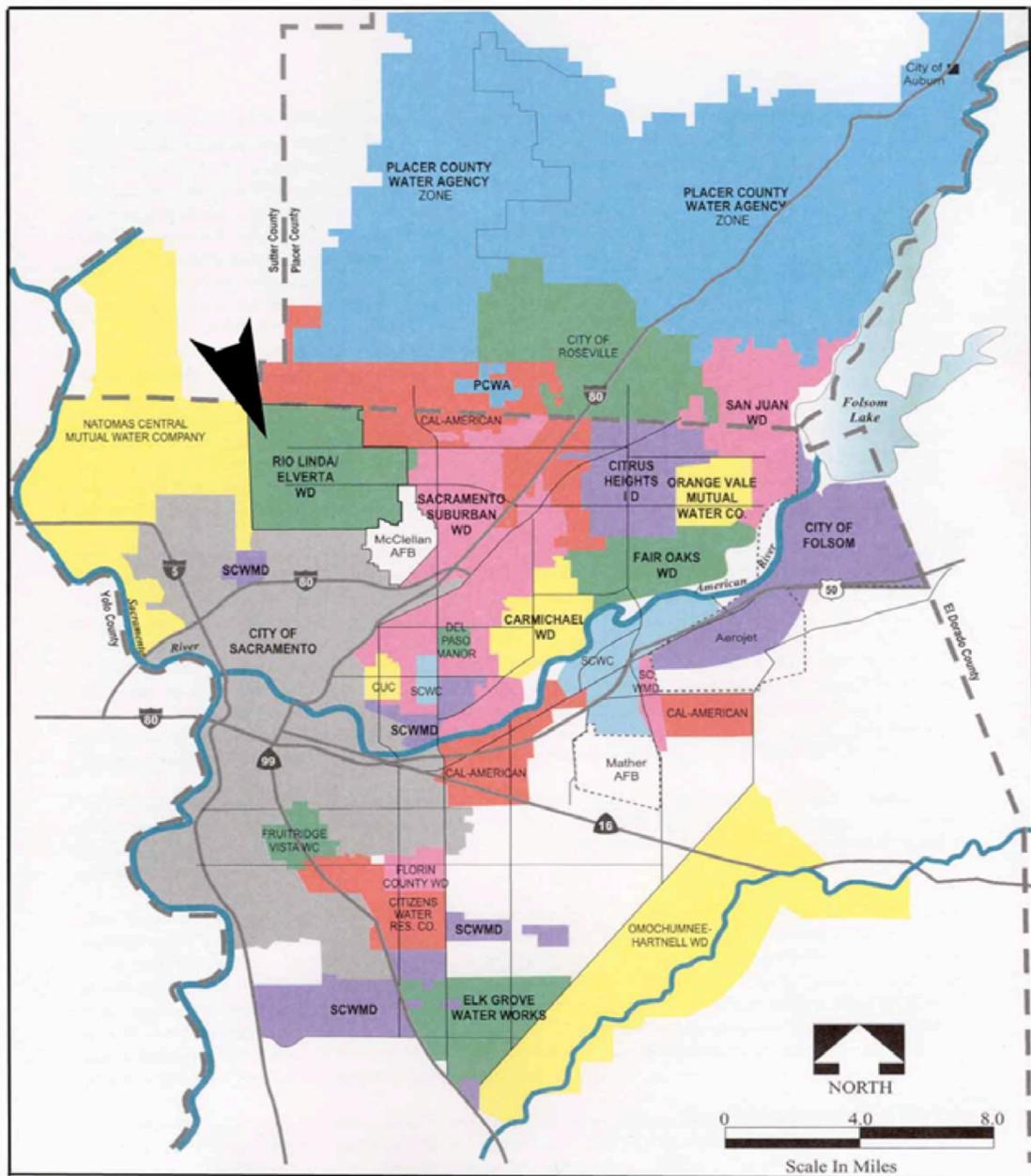


Figure 2-1. Sacramento Region Water Agencies

## 2.1 Service Area Description

The District's boundary area includes areas in and around Rio Linda and Elverta, covering approximately 18 square miles. Not all residences or water users within the District boundary are District customers. The District's service area includes mainly customers in Rio Linda and between Rio Linda and the former McClellan Air Force Base, as shown in Figure 2-2. Customers within the boundary but outside of the service area rely on private wells or other sources for water service.

The service area consists of the small-lot residential development in Rio Linda and the large-lot residential, agricultural, and ranch land uses throughout Rio Linda and Elverta. Irrigation practices for these large lots most likely increase the District's overall gallon per capita day value as compared to strictly small-lot residential demands. Over time, it is expected that some of these larger parcels will be split or subdivided, affecting the water usage and demand pattern.

RL/ECWD service area has cool, rainy winters, and hot, dry summers. The monthly temperature in the Sacramento area ranges from an average low of 39.5 to an average high of 91.5 degrees Fahrenheit (Western Regional Climate Center). In the past, extreme conditions have been recorded at 17 degrees Fahrenheit for the lowest temperature and 114 degrees Fahrenheit for the highest. The historical annual mean precipitation is 18.2 inches with a monthly precipitation as high as 14.2 inches and as low as 0 inches. The average evapotranspiration rate (ET<sub>o</sub>) is 50.5 inches.

## 2.2 Population

The 2010 UWMP Guidelines provide methodologies to use in calculating the service area population. The RL/ECWD service area boundary does not exactly match up with census tract or block group zones boundaries. Population is therefore estimated by applying capita per customer connection factors obtained through combination of census and customer data. The District service area covers all or a portion of 15 census block groups. The block group area in union with the RLECWD service area is estimated and the corresponding percentage is applied to the census data. Block group information from the 2010 Census was obtained to quantify population, housing units, capita per housing unit, and other information. The calculation assumes even distribution across the census area. Results are summarized in Table 2-1.

**Table 2-1. 2010 Population Analysis**

Total Full 2010 Census Block Population	2010 Population in RLECWD Service Area	2010 RLECWD Number of Residential Connections	2010 RLECWD Capita per Residential Connection
24,529	10,932	4,272	2.56

Note: population data from 2010 Census.

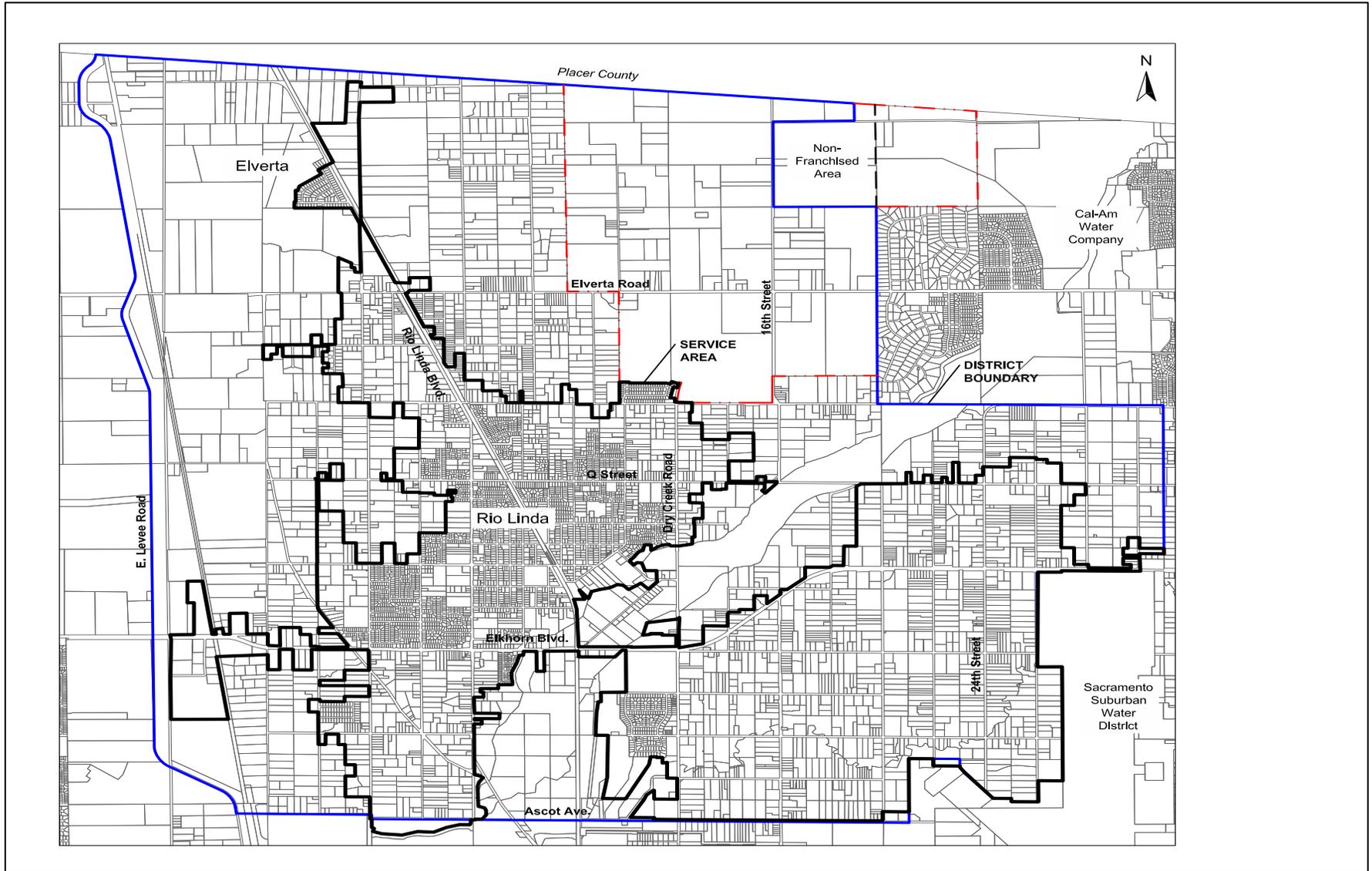


Figure 2-2. Service Area Boundary

The estimated 2010 population value divided by the 2010 residential connection value provides a capita per residential connection of 2.56. Future population served is estimated as the number of residential connections times 2.56. This methodology assumes the capita per connection does not vary significantly over the analysis time period. Future estimated connections are presented in Chapter 3, Water Demands. Resulting population projections are presented below in Table 2-2.

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

	2010	2015	2020	2025	2030	2035
Service Area Population	10,936	11,013	11,141	11,269	11,423	11,525

### **2.3 Department of Public Health Compliance Order**

RL/ECWD is currently under Compliance Order 01-09-09-CO-004 as issued by the California Department of Public Health (DPH). The entire order is included in Appendix D. The RL/ECWD first reported low-pressure incidents in September 2007 as part of its standard water system permit requirements. The DPH issued a compliance order (01-09-07-CO-004) to the District on November 19, 2007 for low-pressure violations and ordered the District to closely monitor its source water pressure and develop solutions to improve operating conditions. The order also included a moratorium on any new connections until the supply volume and pressure issues were resolved per the DPH requirements.

The District originally constructed an interconnection with the Sacramento Suburban Water District (SSWD) in 1995. The District upgraded the connection in 2008 and used the connection to purchase water supply from SSWD that provided increased pressure to increase the District's system pressure. The connection provided immediate relief to the low pressure and supply shortage situation while the District developed plans for new wells and storage.

By March 2009, the District determined it would not meet the original project schedule and scope. The District has decided to abandon plans for Well 14 and its subsequent arsenic treatment as too costly. The District submitted a new compliance schedule on October 30, 2009 that included construction of three new wells by January 1, 2011. The DPH issued the current order (01-09-09-CO-004) on December 28, 2009.

The current compliance order finds that the "District's water system does not have sufficient source and storage capacity from approved water sources to serve its current customers". The compliance order directs the District to:

1. Submit final design plans and specifications for the first new well for DPH approval by March 1, 2010.

2. Submit final design plans and specifications for the second and third new wells for DPH approval by May 1, 2010.
3. The first new well shall be in service by October 1, 2010.
4. The second and third new wells should be in service by March 1, 2011.

The District was not able to meet the new schedule due to financial and other issues. The District applied for and received a State Revolving Fund (SRF) loan for \$7.5 million on June 30, 2011. Initial SRF application efforts resulting from the earlier compliance order required the District to increase its water rates and include a capital replacement fee dedicated to paying the loan. The District passed a new rate structure in February 2009 that included these elements. During the more recent SRF application efforts, a second rate increase was required by DPH to increase operating revenue prior to loan approval. This second rate increase was approved in early 2011.

Funds from the loan allowed the District to develop a new well to be placed on line in late 2012. The District continues to work with DPH to identify and gain approval for additional supply and storage projects.

## **2.4 Elverta Specific Plan Supply Planning and PF-8**

The RL/ECWD service boundary is within the unincorporated area of Sacramento County and falls under the County land use requirements. The County adopted the Policy Plan for the Rio Linda and Elverta Community Plan in 1998. The Policy Plan lists land use, circulation, public infrastructure and services, and natural resources policies to support the guiding principals used to develop the Community Plan. One of the public infrastructure and services policies is PF-8, as listed below.

“In the new growth area in eastern Elverta, and other comprehensively planned development areas, entitlements for urban development shall not be granted until adequate, long term agreements and financing for supplemental water supplies are in place. “Supplemental water supplies” means any water supply (i.e. surface water reclaimed water, etc.) that results in no net increase in groundwater pumping. The land use planning process may proceed, and specific plans and rezoning may be approved, while water plan is being developed.”

It is RL/ECWD’s understanding that for all developments within its boundary area to which it will provide service, a water supply plan needs to be developed that will not result in long-term depletion of the groundwater basin. The Elverta Specific Plan includes area within the District’s service boundary. During the development of the Elverta Specific Plan, the District worked with the landowners, the County, SGA, and other partner water agencies to develop a water supply strategy that would meet PF-8 requirements. The County Board of Supervisors approved the Elverta Specific Plan in 2008. The water supply strategy at that time included a mixture of groundwater, surface water, and recycled water used in a conjunctive manner to provide no net increase in groundwater pumping. With the economic downturn since that time, construction of the

development was delayed and the supply agreements were not finalized. The District will re-evaluate supply strategies and potential agreements when the landowners group seeks to move forward with development and construction of the Elverta Specific Plan.

## **2.5 Water Forum**

The Water Forum Agreement (WFA) was developed by a diverse group of business, agricultural, environmental, local government, and water agency leaders. The purpose of the WFA is to fulfill two co-equal goals:

- Provide a reliable and safe water supply for the region's economic health and planned development to the year 2030; and
- Preserve the fishery, wildlife, recreational, and aesthetic values of the lower American River.

The WFA provides seven major elements that guide water resources management.

1. Increased surface water diversions
2. Actions to meet customers needs while reducing diversion impacts in drier years
3. An improved pattern of fishery flow releases from Folsom Reservoir
4. Lower American River Habitat Management Element which also addresses recreation on the lower American River
5. Water conservation
6. Groundwater management
7. Water Forum successor effort

The WFA impacts surface water availability to the region during certain dry years. Depending on the inflow of water into Folsom Reservoir, water agencies are expected to curtail surface water diversions. The WFA envisions that water agencies will meet customer demands during the dry year cutback's through a mix of conjunctive use and conservation programs to reduce customer demands.

The RL/ECWD is a signatory to the WFA and participates in conjunctive use planning efforts through the Regional Water Authority and the Sacramento Groundwater Authority in efforts to implement the seven major elements of the WFA. The District is also required to implement conservation programs per the WFA purveyor-specific agreement. The entire Water Forum Agreement is available at [www.waterforum.org](http://www.waterforum.org).

### 3 Water Demands

This section presents past and projected water demands. The RL/ECWD serves a wide range of residential customer types from older small lots with little landscape, newer larger rural residential lots with extensive landscaping, to larger undeveloped lots currently used for agriculture or other uses. It is expected over time the larger lots will be divided and/or developed for residential uses. The section also presents the 20x2020 baseline and target analysis. RL/ECWD projects that it will meet its 20x2020 requirements through continued implementation of its conservation program as described in Section 5.

#### 3.1 Past Demands

2005 and 2010 number of accounts and demands are listed in Tables 3-1 and 3-2, respectively. All customers have always been metered and there are no un-metered connections. As the tables indicate, the majority of the District's customers are residential. Although some customers may be using water for agricultural purposes, the District does not maintain an agriculture classification. Irrigated Land accounts are strictly irrigation use such as parks, schools, and small farms. Unaccounted-for water (UAW) is the difference between production and customer sales or other known uses.

**Table 3-1. 2005 Demands (DWR Table 3)**

Customer Category	Metered		Not Metered		Total
	No. Accts	Volume, AFY	No. Accts	Volume, AFY	Volume, AFY
D – Domestic (Single Family)	4,238	2,307	0	--	2,307
M - Multi-Family	12	32	0	--	33
C - Commercial	117	131	0	--	131
Industrial	6	27	0	--	27
I - Institutional/ Government	37	139	0	--	139
IL Irrigated Land (Landscape)	10	23	0	--	23
AG – Agricultural	--	--	0	--	--
P - Parks	--	--	0	--	--
UAW (estimated)	--	550	0	--	548
Total:	4,420	3,209	0	--	3,209

RL/ECWD does not maintain Park or Agricultural account type classifications.

**Table 3-2. 2010 Demands (DWR Table 4)**

Customer Category	Metered		Not Metered		Total
	No. Accts	Volume, AFY	No. Accts	Volume, AFY	Volume, AFY
D – Domestic (Single Family)	4,257	2,116	0	--	2,116
M - Multi-Family	12	32	0	--	32
C - Commercial	114	97	0	--	97
Industrial	4	9	0	--	9
I - Institutional/ Government	37	170	0	--	170
IL Irrigated Land (Landscape)	12	21	0	--	21
AG – Agricultural	--	--	0	--	--
P - Parks	--	--	0	--	--
UAW	--	275	0	--	275
Total:	4,436	2,720	0	--	2,720

RL/ECWD does not maintain Park or Agricultural account type classifications.

### **3.2 2020 Baseline Demand and Target**

The 20x2020 process requires that a baseline demand be calculated from which target water demands are determined. The baseline demand is taken as the 10-year average gallon per day per capita, ending no earlier 2004. The baseline demand calculation is based on total supply into the system, and estimated service population for each year.

The population served, water supplied, and resulting gpcd are summarized in Table 3-3. The 10-year running average for gpcd is indicated in the right column. The UWMP Guidelines list the methodology for 20x2020 requirements, including the baseline demand analysis. The baseline demand is the 10-year or 15-year average for gpcd ending no earlier than 2004. As there is no recycled water use, the 10-year average is used for the baseline calculations. RL/ECWD is selecting the 10-year period from 1995-2004 as its baseline period, with an average gpcd of 298 gpcd.

Per the UWMP Guidelines, the 2020 goal must be no more than 95 percent of a five-year gpcd average ending no earlier than 2007. The 5-year gpcd average is calculated in Table 3-4. The 2008 five-year average of 278 gpcd is selected. Therefore, the 2020 goal must be less than 264 gpcd.

There are four target methodologies defined by the DWR in the 2010 UWMP Guidelines:

1. 20 percent reduction of baseline demand.
2. Maintain demands equal to individual water budgets.
3. 95 percent of 2020 Task Force hydrologic region gpcd goal.
4. Calculated potential savings.

RL/ECWD is selecting Method 1, 20 percent of baseline demand as its 2020 goal. With a baseline demand of 298 gpcd, the 2015 goal is 268 gpcd, and the 2020 goal is 238 gpcd. 238 gpcd is less than 95 percent of the five-year average (264 gpcd), therefore meeting

the minimum reduction requirements. The selected base year information and selected targets are summarized in Tables 3-5 and 3-6, respectively.

**Table 3-3. Base Daily Per Capita Use (DWR Table 14)**

Year	Population Served	Water Supplied, mgal	Annual gpcd	10-year Running gpcd
1995	9,343	970	284	--
1996	9,428	1,080	314	--
1997	9,611	1,146	327	--
1998	9,863	982	273	--
1999	9,897	1,149	318	--
2000	9,997	1,086	298	--
2001	10,031	1,065	291	--
2002	10,116	1,104	299	--
2003	10,335	1,031	273	--
2004	10,019	1,110	304	298
2005	10,888	1,046	263	296
2006	10,926	1,101	276	292
2007	11,049	1,110	275	287
2008	10,900	1,089	274	287
2009	10,921	950	238	279
2010	10,936	886	222	271

Note: Water supplied is metered into system (includes unaccounted-for water)

**Table 3-4. 5-Year Range Base GPCD (DWR Table 15)**

Year	Population Served	Water Supplied, mgal	Annual gpcd	5-year Running gpcd
2003	10,335	1,031	273	--
2004	10,019	1,110	304	--
2005	10,888	1,046	263	--
2006	10,926	1,101	276	--
2007	11,049	1,110	275	278
2008	10,900	1,089	274	278
2009	10,921	950	238	265
2010	10,936	886	222	257

**Table 3-5. Base Period Ranges (DWR Table 13)**

Base	Parameter	Value
10-15-Year Base Period	2008 total water deliveries	3,343 AF
	2008 total volume recycled water delivered	0 AF
	2008 recycled water as percent of total	0 percent
	Years in base period	10 years
	Year beginning base period	1995
	Year ending base period	2004
5-Year Base Period	Years in base period	5 years
	Year beginning base period	2003
	Year ending base period	2007

**Table 3-6. Water Demand Targets**

Year	GPCD Target
2015	268 gpcd
2010	238 gpcd

### **3.3 Projected Water Demands**

Water demands are projected using unit water demand factors and projected connections. The unit water demand factors will change over time as the 20x2020 compliance plan is implemented and results in lowering the water demand factors. The following presents the water demand projection methodology and resulting demand projections.

#### **3.3.1 Customer Account Projections**

The RL/ECWD service area covers mostly residential-type development. Residential growth is expected to come from infill and splitting of the many large lot parcels in the service area. The District is under a moratorium that restricts adding new connections until certain water supply conditions are met per the California Department of Public Health Compliance Order (see Section 2). The District expects these conditions to be met and the moratorium lifted in 2013.

Previously the District has been involved in planning efforts for the Elverta Specific Plan area and other smaller developments. However, with the recent recession, the District has conducted no efforts recently to add these potential customers and obtain the necessary supplies. The District is excluding these development plans from the future customer and demand projections in this UWMP until further details are developed through discussions and planning efforts with the developers and potential water supply partners.

The District projects a growth in customers due to small infill and lot splitting projects. The District assumes that starting in 2014, single-family residential customer accounts will grow by 10 accounts per year. The District does not project any growth in non-residential accounts. These projections will be revisited and updated in the future when development or improved economic conditions indicate a change in growth rates or customer classifications. Past and projected customer accounts are presented in Table 3-7.

**Table 3-7. Projected Customer Category Units (DWR Tables 5-7)**

Customer Category	Projected Accounts						
	2005 (actual)	2010 (actual)	2015	2020	2025	2030	2035
Single-Family	4,238	4,257	4,277	4,327	4,377	4,427	4,477
Multi-Family	12	12	12	12	12	12	12
Commercial	117	114	114	114	114	114	114
Industrial	6	4	4	4	4	4	4
Institutional/ Government	37	37	37	37	37	37	37
Landscape	10	12	12	12	12	12	12
Parks	--	--	--	--	--	--	--
Agricultural	--	--	--	--	--	--	--
Total:	4,420	4,436	4,456	4,506	4,556	4,606	4,656

Note: RL/ECWD does not maintain Park or Agricultural account type classifications.

### 3.3.2 Customer Water Demand Projections

The District utilized standard unit water demand factors in the past to project future water demands. However, the new 20x2020 mandates require that water demand decrease over time to the target levels. Although overall water demands have decreased in the last two years (see Table 3-3), the exact causes are unknown. It is believed that economic conditions, water conservation awareness, hydrologic and climate factors, rate increases, and state-wide and regional drought messaging all contributed to the reduced unit demand factors. As these parameters likely reduced demands, it is expected that the removal of some of these parameters will also influence demands. For conservative planning purposes, it is assumed the unit water demands will increase in the short term as economic conditions improve, hydrologic conditions deliver more rain and snow, and drought messaging is reduced. However, the District will implement measures so that the 2015 and 2020 targets will still be met. The water demand projections per customer class are summarized in Table 3-8. Unaccounted-for water and other uses is assumed to remain constant at twelve percent of total demands. The conservation program and other demand management efforts that will be implemented to meet the 2015 and 2020 gpcd goals are discussed in Chapter 5.

**Table 3-8. Projected Customer Water Demands (DWR Tables 5-7)**

Customer Category	Water Demands, acre-feet per year				
	2015	2020	2025	2030	2035
Single Family	2,489	2,194	2,224	2,254	2,284
Multi-Family	43	43	43	43	43
Commercial	132	132	132	132	132
Industrial	33	33	33	33	33
Institutional/ Government	175	175	175	175	175
Landscape	29	29	29	29	29
Total:	2,901	2,606	2,636	2,666	2,696

Note: All accounts are metered.

New legislation requires an agency to project water demands for low-income housing needs. RL/ECWD’s service area is within the unincorporated Sacramento area that is covered by the 2008-2013 Sacramento County Housing Element. The Housing Element in turn is based on the Sacramento Council of Government’s (SACOG) 2008 Regional Housing Needs Plan. The Housing element does not divide the housing needs into the various community areas and therefore cannot be used for projecting RLECDW water demands. The 2010 US Census American Community Survey for the Rio Linda census defined place was consulted instead. The Survey provides number of households per income category as well as median household income. For the purposes of this UWMP, it is assumed the data is comparable to the RL/ECWD service area. The median household income is \$61,278. 41 percent of the households are at or below the 80 percent-of-median target. This 41 percent is applied to the residential water projections from Table 3-8 to develop the projected low-income water demands shown in Table 3-9.

**Table 3-9. Low-Income Projected Water Demands**

	Low –Income Projected Water Demands, acre-feet per year				
	2015	2020	2025	2030	2035
Residential demands	1,038	917	930	942	954

**3.3.3 Sales to Other Water Agencies**

RL/ECWD maintains an intertie with the Sacramento Suburban Water District (SSWD). This connection allows RL/ECWD to receive water supply from SSWD if needed. The District currently does not plan to use the interties to sell supply to SSWD. Interties could also be constructed with the City of Sacramento on the west side of the service area. However there are no current plans to sell water to Sacramento. Projected sales to other water agencies are summarized in Table 3-10.

**Table 3-10. Sales to Other Water Agencies (DWR Table 9)**

Agency	Sales to Other Water Agencies						
	2005 (actual)	2010 (actual)	2015	2020	2025	2030	2035
None	0	0	0	0	0	0	0

**3.3.4 Additional Water Uses and Losses**

Table 3-11 lists additional past and projected water uses. The District has not, and does not plan to use water for any of the additional uses listed in the table except for system losses. System losses and other uses are assumed to remain constant at twelve percent. This includes losses from leaks and other non-metered uses such as fire flow and flushing.

Groundwater recharge, recycled water, and conjunctive use projects have been discussed in the past with other agencies in the region and as a part of the Elverta Specific Plan. The District will continue to engage in these discussions where appropriate and may pursue these efforts in the future.

The RL/ECWD and SSWD installed an intertie that allows RL/ECWD to purchase supply from SSWD if needed. RL/ECWD also installed a new groundwater production well. With increased production capacity, the SSWD intertie is considered an emergency supply source, and therefore not included in any long-term supply projections.

**Table 3-11. Additional Water Uses and Losses (DWR Table 10)**

	Water Use, acre-feet per year						
	2005 (actual)	2010 (actual)	2015	2020	2025	2030	2035
Saline Barriers	0	0	0	0	0	0	0
Groundwater Recharge	0	0	0	0	0	0	0
Conjunctive Use	0	0	0	0	0	0	0
Raw Water	0	0	0	0	0	0	0
Recycled Water	0	0	0	0	0	0	0
System Losses	550	275	396	355	359	364	368
Total:	550	275	396	355	359	364	368

### 3.3.5 Total Water Demands

Total water demands are summarized in Table 3-12.

**Table 3-12. Total Water Demands (DWR Table 11)**

	Total Water Use, acre-feet per year						
	2005 (actual)	2010 (actual)	2015	2020	2025	2030	2035
Water Deliveries to Customers	2,659	2,445	2,903	2,608	2,638	2,668	2,698
Sales to Other Agencies	0	0	0	0	0	0	0
Additional Use and Losses	550	290	396	355	359	364	368
Total:	3,209	2,720	3,296	2,961	2,995	3,030	3,064

## 4 Water Supplies

The RL/ECWD maintains a groundwater pumping system to supply its customers. The District has recently added new production capacity, and plans to continue increasing capacity as required. The District can purchase water from the Sacramento Suburban Water District (SSWD) through interties for emergency supply purposes. This chapter presents the supply analysis and discussion.

### 4.1 Surface Water

RL/ECWD does not currently use surface water on a regular basis. The District constructed an intertie with SSWD that was initially intended for emergency purposes. The District has increased its groundwater pumping capacity and no longer needs SSWD supply on a regular basis.

The SSWD supply is a mix of groundwater and surface water, depending on the time of year and the specific contract requirements SSWD maintains with its surface water suppliers. The District will maintain the SSWD intertie for emergency purposes and potential conjunctive use strategies in the future. The District has discussed conjunctive use of groundwater and surface water with other agencies throughout the region. Although these discussions have not resulted in any definitive plans for RL/ECWD, the District will continue participating in these discussions as appropriate to ensure future supply reliability.

Projected surface water supplies are summarized in Table 4-1. The table assumes all SSWD water is surface water as it is available through the SSWD purchase of additional surface water. Actual supply is most likely a mix of surface and groundwater from SSWD. The SSWD intertie was designed with a capacity of 2,500 gallons per minute (gpm).

**Table 4-1. Surface Water Supplies (DWR Table 17)**

Source	Projected Surface Water Usage, acre-feet per year					
	2010 (actual)	2015	2020	2025	2030	2035
SSWD	1.7	0	0	0	0	0

### 4.2 Groundwater

The groundwater basin underlying the service boundary is the North American Sub-basin, part of the larger Sacramento River Hydrologic Area. California Department of Water Resources California's Groundwater Update 2003, Bulletin 118, identifies the basin as 5-21.64.

#### 4.2.1 Basin Description

Water bearing formations beneath the service area occur in two major strata. The upper water-bearing units include the geologic formations of the Riverbank (formally known as Victor), Turlock (formally known as Fair Oaks), and Laguna Formations and are typically unconfined. The lower water-bearing unit consists primarily of the Mehrten

Formation, which exhibits confined conditions. The Mehrten Formation is the most productive fresh water-bearing unit in the eastern Sacramento Valley, though some of the permeable layers of the Turlock Lake Formation produce moderate amounts of water. Much of the recharge of these aquifer systems comes from the Sacramento and American Rivers and their tributaries where gravel deposits exist. To a lesser extent, aquifer recharge also occurs where the Merhten Formation reaches the surface in the foothills in eastern Sacramento and western El Dorado County.

Supply wells in the Sacramento Region draw water primarily from the Mehrten and Turlock Lake formations and typically produce 500-1,500 gpm of good to excellent quality water. A portion of the upper aquifer is preferred from a water quality standpoint because the lower formation (Mehrten) contains higher concentrations of iron, manganese, and arsenic. The lower formation also often contains higher concentrations of total dissolved solids, indicating higher salinity. Some RL/ECWD supply wells have exhibited manganese and arsenic. Reliability of the groundwater and water quality issues are discussed further in later sections.

The groundwater basin does contain three significant major groundwater contamination areas. The United Pacific Railroad plume, located in Roseville, the Aerojet plume located around the American River, Fair Oaks, Rancho Cordova, Carmichael, and the Aerojet property areas, and the McClellan Air Force Base plume. The McClellan plume is located immediately south and downstream of RL/ECWD's service area and production wells. Although the McClellan plume is located within a cone of groundwater depression and has not shown significant mobility to date, it could affect the District's water quality, as discussed further in this chapter.

Bulletin 118 does not specifically identify the sub-basin as being in overdraft, but does identify issues with groundwater levels. Groundwater levels have been generally declining in Sacramento County for the last 50 years, with many areas declining at a rate of 1.5 to 2.0 feet per year. A groundwater depression located under the McClellan Air Force Base that was evident in 1968 significantly expanded and deepened by the mid 1990's. The region responded in part through the development of the Sacramento Groundwater Authority Groundwater (SGA) Management Plan and development of multiple conjunctive use projects. As a result of these efforts, SGA reports that groundwater elevation levels have stabilized, or in some cases increased. RL/ECWD is a member of SGA and, through SGA, will continue to track contamination threats and participate in conjunctive use programs or other projects to minimize the risk of the contamination plumes. The comprehensive SGA conjunctive use program and other strategies to mitigate groundwater overdraft on a regional basis are included in the SGA Groundwater Management Plan in Appendix E. SGA also produces a Basin Management Report that summarizes the GWMP activities, results, and basin status. The latest Basin Management Report was issued in 2011, and is also included in Appendix E.

Total usable capacity and safe yield of the basin have not yet been finalized. The DWR Bulletin 118-03 estimates the North American subbasin storage capacity at 4.9 million acre-feet. The region currently relies on sustainable yield analysis efforts conducted for

the Water Forum Agreement. Those efforts estimated a sustainable yield of 131,000 acre-feet per year for the Sacramento County area north of the American River. However, the basin area considered in the analysis is only a fraction of the total basin area. The groundwater basin extends beyond Sacramento County, and also spans the American River, complicating actual basin sustainable yield analysis. The Sacramento Groundwater Authority is developing a groundwater accounting framework. The framework allows for SGA-member agencies to account for groundwater banking and conjunctive use efforts, and includes consideration and monitoring of groundwater levels. This information will be used to proactively manage the basin's storage capacity and available yield to support the conjunctive use strategy.

#### **4.2.2 Groundwater Quality**

The groundwater supplied to RL/ECWD customers meets or exceeds all regulatory water quality parameters. Two known potential contamination sources are present near the District's service boundary. The plume located at the former McClellan Air Force Base is known to contain volatile organic chemicals. The SGA Groundwater Management Plan discusses this plume and its potential impacts to groundwater supplies in more detail. In summary, the plume is located in a groundwater depression that has historically limited movement. The plume is in active remediation overseen by the US EPA, State Department of Toxic Substances Control, and the State Regional Water Quality Control Board. The second potential contaminate area is the nearby rice fields, located north and west of the District's boundary. Rice growing operations have historically used applications containing the non-volatile synthetic organic compounds Molinate and Thiobencarb. These compounds have not been detected in the District's wells, but will continue to be included in the monitoring program.

The RL/ECWD monitoring program was recently updated in 2011. The plan is specifically tailored to the District's groundwater quality needs and infrastructure capabilities. The two known potential contamination sources and respective contaminants are included in the plan. The plan also targets the naturally occurring inorganics arsenic and chromium, as these elements are known to exist in the groundwater basin throughout the region. District monitoring also includes all regulatory required constituent and water quality parameters. The District maintains sentry wells and regular production wells that are used for the sampling program. One production well has been taken offline after the United States Environmental Protection Agency lowered the maximum contaminate level for arsenic to 10 parts per billion. The District continues to monitor all its wells for arsenic and will respond accordingly should levels approach the contaminate level. The District's sampling results are reported to the Department of Public Health and in the Consumer Confidence Report (CCR), distributed to each customer annually. The latest CCR is included in Appendix F.

#### **4.2.3 Groundwater Use**

RL/ECWD maintains nine supply production groundwater wells as of the end of 2010. Since that time, the District has constructed one new well, and reactivated one well. Well production capacity ranges from 350-950 gpm. Past groundwater usage from 2006-2010 is presented in Table 4-2. The District did use some purchased supply from SSWD water

in 2010 when some wells were taken offline and before the new wells were placed into operation. The District has no plans at this time to use SSWD water other than for emergencies. Projected groundwater use is summarized in Table 4-3 and is projected to match the demand projections from Section 3. For comparison purposes, the 2035-projected supply of 3,064 AFY represents two wells operating nonstop at 950 gpm.

**Table 4-2. Past Groundwater Usage (DWR Table 18)**

Basin Name	Metered or Un-metered	Volume of Groundwater Pumped, AFY				
		2006	2007	2008	2009	2010
North American Sub-basin	metered	3,378	3,406	3,341	2,914	2,719
As a percent of total water supply	--	100	100	100	100	99.9

**Table 4-3. Projected Groundwater Usage (DWR Table 19)**

Basin Name	Projected Groundwater Usage, acre-feet per year				
	2015	2020	2025	2030	2035
North American Sub-basin	3,296	2,961	2,995	3,030	3,064

### 4.3 Recycled Water

The Sacramento Regional County Sanitation District (SRCSD), and its companion agency, the Sacramento Area Sewer District, conducts wastewater collection and treatment for the RL/ECWD service area. Wastewater is collected and conveyed approximately 22 miles to the south, near Elk Grove, to the regional wastewater treatment plant.

The regional plant serves most of the entire Sacramento metropolitan area. The treatment plant receives and treats approximately 150 million gallons per day (mgd). The current capacity of the plant to treat dry weather flows is approximately 181 mgd. The treatment plant produces a disinfected secondary effluent that is discharged into the Sacramento River below Freeport. The principal treatment processes are primary sedimentation, pure-oxygen activated sludge, secondary sedimentation, and chlorination/de-chlorination. SRCSD does currently produce 1,000-1,700 acre-feet per year of Title 22 recycled water. The recycled water is mostly used for irrigation demand adjacent at a newer development community near the treatment plant in Elk Grove. There are no recycled water facilities within the RL/ECWD service area.

SRCSDS developed a recycled water opportunities plan in 2007 (Recycled Water Plan). The Recycled Water Plan divided its service area into specific opportunity areas. Each opportunity area was evaluated for recycled water use potential based on many factors such as demand, supply availability, infrastructure requirements, local support, costs, and

others. The process utilized a Water Recycling Advisory Committee that provided a broad stakeholder view and input to the process. The Committee consisted of representatives from cities, water agencies, environmental groups, the State, and business groups.

The RL/ECWD service area is located in the Target Area 3 opportunity area identified in the Recycled Water Plan. The Plan identified the same recycled water strategies listed for the Elverta Specific Plan (Gibson Ranch, Cherry Island, and new development areas). However, the potential opportunities were ranked poorly due to costs and long-term benefits. Based on the analysis and alternative screening procedures in the Plan, SRCSD does not plan on implementing recycled water projects in RL/ECWD's service area in the near future. However, the recycled water strategies in the Elverta Specific Plan were critical to meeting PF-8 requirements for the new development, which was not factored into the SRCSD Recycled Water Plan analysis. In addition, the projected recycled water use was based on an indirect use of recycled water from the City of Roseville wastewater treatment plant, not SRCSD, to replace existing groundwater pumping for irrigation needs. RL/ECWD will coordinate as necessary with future development planning efforts, including supply strategies that may include recycled water.

The 2005 RL/ECWD UWMP projected recycled water use for 2010 versus actual is summarized in Table 4-4. The projected water use was not attained, as the Elverta Specific Plan development area has not yet developed.

**Table 4-4. 2005 to 2010 Recycled Water Use Comparison (DWR Table 24)**

User Type	2010 Actual Use, AF	2005 UWMP Projection for 2010, AF
Agricultural	0	0
Landscape	0	0
Commercial Irrig.	0	0
Golf Course	0	0
Wildlife Habitat	0	0
Wetlands	0	0
Industrial	0	0
Groundwater Recharge	0	0
Seawater Barrier	0	0
Geothermal/Energy	0	0
Indirect Potable Reuse	0	1,500
Other	0	0
Total:	0	1,500

Wastewater from the RL/ECWD service area is collected by SRCSD and treated at the treatment plant located in Elk Grove, approximately 22 miles from RL/ECWD. Many of the District's customers are not served by the wastewater collection system, and instead rely on septic tanks and leach fields. The 2005 UWMP estimated that 30 percent use SRCSD and 70 percent use on-site systems, which is also assumed for this UWMP. Table 4-5 estimates RL/ECWD customer wastewater collected based on the SRCSD unit wastewater generation factor of 138 gpd per capita (Sacramento Regional Wastewater

Treatment Plant 2020 Master Plan, 2001). Table 4-6 illustrates that there are no treatment plants located within the service area and therefore no recycled water supply or wastewater discharge within the service area. The City of Roseville does produce recycled water outside of the RL/ECWD service area, but there are no agreements in place as this time to convey the water for use within the RL/ECWD service area.

**Table 4-5. Wastewater Collection and Treatment (DWR Table 21)**

	Annual Volume, acre-feet per year						
	2005	2010	2015	2020	2025	2030	2035
Wastewater Collected in Service Area	505	507	511	517	523	530	534
Volume Treated to Recycle Water Standard	0	0	0	0	0	0	0

Note: None of the recycled water produced by SRCSD is produced in or near the RL/ECWD service area.

**Table 4-6. Projected Wastewater Disposal Within Service Area (DWR Table 22)**

Disposal Method	Treatment Level	Annual Volume, acre-feet per year					
		2010 (actual)	2015	2020	2025	2030	2035
SRCSD	Title 22	0	0	0	0	0	0
City of Roseville	Title 22	0	0	0	0	0	0

Note: Although both SRCSD and City of Roseville produce recycled water, no recycled water treatment plants are located in the RL/ECWD service area and no infrastructure exists to deliver the supply for use in RL/ECWD service area.

The SRCSD Recycled Water Plan concluded there were no viable opportunities for recycled water use in the RL/ECWD service area. The Elverta Specific Plan identified a recycled water supply strategy to meet PF-8 requirements, but the strategy relies on development funding. At this time, potential recycled water programs are not cost effective for RL/ECWD, and the District does not plan on implementing any programs by its self. However, future basic planning assumptions may change or new issues arise that could result in the identification and development of feasible recycled water programs. Table 4-7 presents the current RL/ECWD feasible potential recycled water uses as zero, but RL/ECWD will continue to monitor its water resources issues, and identify recycled water programs should the opportunity arise.

**Table 4-7. Potential Future Recycled Water Uses (DWR Table 23)**

User Type	Feasibility	2015	2020	2025	2030	2035
Agricultural	Not cost effective	0	0	0	0	0
Landscape	Not cost effective	0	0	0	0	0
Commercial Irrig.	Not cost effective	0	0	0	0	0
Golf Course	Not cost effective	0	0	0	0	0
Wildlife Habitat	Not cost effective	0	0	0	0	0
Wetlands	Not cost effective	0	0	0	0	0
Industrial	Not cost effective	0	0	0	0	0
Groundwater Recharge	Not cost effective	0	0	0	0	0
Seawater Barrier	Not cost effective	0	0	0	0	0
Geothermal/Energy	Not cost effective	0	0	0	0	0
Indirect Potable Reuse	Not cost effective	0	0	0	0	0
Other	Not cost effective	0	0	0	0	0
Total:		0	0	0	0	0

Note: Feasibility based on the SRCSD Recycled Water Plan

Future recycled water use will be part of a regional solution that involves the many entities involved in the RWA Integrated Regional Water Management Plan, SRCSD Water Recycling Plan and/or City of Roseville recycled water efforts. Incentives and methods to encourage recycled water use will depend on SRCSD/Roseville and the regional partners identifying and developing a recycled water program for the north county area. Potential recycled water supply could also come from remediated groundwater if a plume is detected in the service area. RL/ECWD will continue to follow recycled water use issues and will provide input as necessary. When a feasible program is identified through cooperation with the regional efforts, RL/ECWD will investigate and identify incentives and methods to encourage recycled water use within its service area. Table 4-8 lists the current methods and programs to encourage recycled water use as zero as there is no current plans for recycled water supply use in service area.

**Table 4-8. Methods to Encourage Recycled Water Use (DWR Table 25)**

Action	Projected Additional Recycled Water Use, acre-feet per year					
	2010	2015	2020	2025	2030	2035
Financial Incentive	0	0	0	0	0	0

#### 4.4 Transfer Opportunities

RL/ECWD relies on its own produced groundwater for its supply. The District does not transfer or exchange any of its groundwater to other water agencies. Conjunctive use strategies involving transfers or exchanges with RL/ECWD have been investigated in the past. The District will continue to investigate these conjunctive use strategies with other regional partners as necessary and may develop transfer or exchange opportunities in the future. At this time, RL/ECWD does not plan on any transfer or exchanges as shown in Table 4-9.

**Table 4-9. Transfers and Exchange Opportunities (DWR Table 20)**

Transfer Agency	Transfer or Exchange	Short Term or Long Term	Proposed Volume, acre-feet per year
None	--	--	0

RL/ECWD maintains an interconnection with the Sacramento Suburban Water District. Although originally planned as supply source, the RL/ECWD has consequently increased its groundwater production capacity and does not rely on SSWD for long-term supply. The interconnection will remain and be available for emergency purposes. The District Use of these not considered transfers or exchanges that provide additional supply on a regular basis.

#### **4.5 Desalinated Water Opportunities**

RL/ECWD does not foresee any desalinated water opportunities to provide additional supply. The service area is not located near any sea or brackish water supply sources, and there are no known brackish groundwater supplies nearby. Future issues and opportunities may provide for RL/ECWD to exchange water supplies with another agency through conjunctive use that does have desalination opportunities. RL/ECWD will continue to monitor potential opportunities and develop programs and alternatives as identified.

#### **4.6 Future Water Supply Projects**

The RL/ECWD has been expanding its groundwater production capacity in response to the DPH Compliance Order and to increase its supply reliability. The District has constructed one new well in 2012, with a total capacity of 2,500 gpm, and reactivated one well with a capacity of 600 gpm. These wells are expected to provide complete supply reliability during normal and multiple-dry year conditions, as shown in Table 4-10. Due to financial constraints within the District, new supply projects are only planned one year in advance of implantation and rely on budget approval. The District continues to coordinate its supply and storage projects with DPH.

**Table 4-10. Future Water Supply Projects (DWR Table 26)**

Project	Start-Online Date	Supply Volume, acre-feet per year				
		Normal Year Supply	Single Dry Year Supply	Multiple Dry Year - Year 1 Supply	Multiple Dry Year - Year 2 Supply	Multiple Dry Year - Year 3 Supply
Well 15	2012	4,030	4,030	4,030	4,030	4,030
Well 3	2012	960	960	960	960	960

#### **4.7 Supply Reliability**

The RL/ECWD groundwater supply is considered reliable throughout dry years and climatic variations. The District has not experienced a reduction in supply due to climatic conditions, mostly due to the fact that the groundwater is less affected than

surface water during dry periods. Per the UWMP Guidelines, the following analysis assumes historic time periods reflective of a single-year dry event, and multi-year dry event as summarized in Table 4-11.

**Table 4-11. Basis of RL/ECWD Supply Year Data (DWR Table 27)**

Water Year Type	Base Year(s)
Singly Dry-Water Year	1976-1977
Multiple Dry-Water Years	1987-1992

RL/ECWD’s projected supply reliability per the UWMP Guidelines is presented in Table 4-12. Because the basin is not adjudicated, the RL/ECWD is not assigned an available supply. The District pumped sufficient supply to meet the demands during each of the single and multiple dry year scenarios, without requiring a reduction in demand or supplemental supplies.

**Table 4-12. RL/ECWD Water Supply Reliability (DWR Table 28)**

Source	Average Water Year, acre-feet	Single Dry-Water Year, acre-feet	Multiple Dry-Water Years, acre-feet			
			Year 1	Year 2	Year 3	Year 4
Groundwater	100 percent of demand	100 percent of demand	100 percent of demand	100 percent of demand	100 percent of demand	100 percent of demand
Percent of Average Water Year:	100	100	100	100	100	100

Note: The groundwater basin is not adjudicated, RL/ECWD is able to pump enough supply to meet demand during both single and multiple dry-year scenarios.

Environmental, climatic, and water quality issues could impact RL/ECWD groundwater supplies in the future as presented in Table 4-13. Legal restrictions through basin adjudication are not expected at this time. The regional surface water supply could be reduced during a Water Forum Conference year. This may require other local agencies to increase groundwater pumping. There is a possibility that RL/ECWD would be asked by the Water Forum or RWA/SGA to reduce it’s pumping if the increased pumping from other agencies was expected to negatively affect the groundwater basin. The groundwater supply sustainability can also be affected by the SGA’s management of the groundwater basin through the groundwater banking program that is under development. Once finalized, the groundwater banking program may impact how the RL/ECWD utilizes groundwater supplies in coordination with other water agencies in the region. The groundwater reliability from specific wells could also be impacted if the water quality exceeds regulatory standards.

**Table 4-13. Factors Resulting in Inconsistency of Supply (DWR Table 29)**

Source	Limitation Quantification	Environmental	Water Quality	Climatic
Groundwater	Reduced pumping	Water Forum conference year	--	Water Forum conference year
Groundwater	Loss of production well	--	Samples exceed water quality standards	--

Table 4-14 lists the estimate water quality impacts to supply volume. Although the District may lose a production well due to water quality issues, it is assumed a new well can be constructed, or treatment can be provided, that prevents on overall loss in supply volume. Therefore, the table indicates there are no projected impacts to overall supply volume due to water quality issues.

**Table 4-14. Current and Projected Water Quality Supply Impacts (DWR Table 30)**

Source	Quality Issue	Potential Impact to Supply Total, acre-feet					
		2010 (actual)	2015	2020	2025	2030	2025
GW	Contaminant level exceeded	0	0	0	0	0	0

Note: Projections assume the District can replace affected volume through a new well or providing the necessary treatment.

Projected supply reliability for the next three years is summarized in Table 4-15. As there are no projected groundwater supply constraints, the supply is estimated in line with demand projections.

**Table 4-15. Supply Reliability (DWR Table 31)**

Source	Average Water Year, acre-feet	Multiple Dry-Water Years, acre-feet		
		2011	2012	2013
GW	3,000	3,000	3,000	3,000
Percent of Average Water Year:	100	100	100	100

Note: supply volume is set equal to actual or projected well production capacity.

### 4.8 Supply Summary

RL/ECWD projected regular water supplies are summarized in Table 4-16. As indicated, the District plans to rely only on groundwater for future supplies. The supply is set equal to the projected demand. These projections do not include any potential large-scale developments that would enact PF-8 requirements. If such a development is requesting

the District to provide water service, the District will work with the appropriate agencies and conduct the necessary supply studies and agreements for compliance with PF-8.

**Table 4-16. Current and Projected Supplies (DWR Table 16)**

Source	Annual Volume, acre-feet					
	2010 (Actual)	2015	2020	2025	2030	2035
Sacramento Suburban Water District	1.7	0	0	0	0	0
Supplier Produced Groundwater	2,720	3,296	2,961	2,995	3,030	3,064
Supplier Produced Surface Water	0	0	0	0	0	0
Transfers In	0	0	0	0	0	0
Exchanges In	0	0	0	0	0	0
Recycled Water	0	0	0	0	0	0
Desalinated Water	0	0	0	0	0	0
Total:	2,720	3,296	2,961	2,995	3,030	3,064

## 5 Conservation and Demand Management

The District is a member of the California Urban Water Conservation Council (CUWCC). The CUWCC maintains a memorandum of understanding (MOU) that lists required water conservation best management practices (BMPs). Members agree to implement the MOU and provide annual progress reports to the CUWCC. The California Department of Water Resources (DWR) accepts these approved CUWCC annual reports as meeting the Urban Water Management Plan (UWMP) conservation program requirements, simplifying UWMP compliance.

The CUWCC divides the BMPs into two groups. Foundational BMPs are internal operational practices that all agencies should implement. Programmatic BMPs are customer-focused efforts. The descriptions of all the CUWCC BMPs are provided in Appendix G.

There are three options for MOU compliance:

1. An agency can implement all the BMPs per the required schedule (foundational plus programmatic).
2. An agency can reduce its gallon per capita day (gpcd) water usage 18 percent by 2018.
3. An agency can implement alternative BMPs that achieve equal or better water savings than the programmatic BMPs.

Regardless of compliance option selected, all foundational BMPs must be implemented. The District selected CUWCC compliance through the gpcd Option 1. The 2009 and 2010 CUWCC coverage reports are included in Appendix G.

The District is currently on track to meet the 2015 and 2020 gpcd goals as described in Section 3. However, water demands fluctuate and the District anticipates the need for a proactive conservation and demand management program to ensure the gpcd goals are met as required. The current conservation and demand management program is described below. Additional CUWCC BMPs will be added to the program to maintain gpcd compliance or to meet other District goals.

### **Foundational BMP 1.1. Conservation Coordinator**

The District's General Manager acts as the conservation coordinator to ensure the program's BMPs are implemented, tracks progress and results, follows CUWCC requirements, and is responsible for budgeting and maintaining the conservation program.

### **Foundational BMP 1.1. Water Waste Prevention**

The District maintains and updates as necessary a water waste prevention ordinance as part of the Water Shortage Contingency Plan (Appendix H). The ordinance prohibits

water waste and establishes terms of service for water customers including violation response measures.

**Foundational BMP 1.2. Water Loss Control**

The District's water loss control program is designed to minimize water loss and increase understanding of all water uses. The program is divided into leak repair and data analysis. The leak detection and repair program identifies and repairs distribution system leaks. The data analysis program collects leak and water use data to run the AWWA Water Loss model as required in the MOU. Results from the Water Loss model are used to inform and support additional efforts to reduce water loss.

**Foundational BMP 1.3. Metering with Commodity Rates**

All district customer connections are metered and billed based on volume of usage. This effort also includes a meter maintenance and replacement plan to ensure long-term meter accuracy.

**Foundational BMP 1.4. Retail Conservation Pricing**

The MOU requires an agency to set rates such that 70 percent of its customer revenue is from volumetric charges within 10 years of signing the MOU. The District cannot meet this requirement for a variety of reasons. As a condition of the SRF loan to improve supply reliability, the State Department of Public Health (DPH) required a fixed fee be added to the rate structure, impacting the percent revenue from volumetric charges. The District is also experiencing financial restrictions due to the current economic conditions, asset maintenance and replacement requirements, and operational issues. The District has provided this information to the CUWCC per the MOU. Many CUWCC members are experiencing similar financial constraints and the CUWCC has begun to investigate potential modifications to this BMP.

**Foundational BMP 2.1. Public Information Programs**

The District's public information program includes the District's own efforts in addition to regional programs provided by the Regional Water Authority (RWA). The District maintains a conservation section of its website that includes water use, irrigation, and water conservation information and links to other sites for additional information. RWA maintains the Water Efficiency Program (WEP). The WEP provides regional public outreach and education efforts that meet the CUWCC BMP requirements. Typical efforts include message and branding development, media contacts, media advertising, and technical information and presentations. The program is funded by the member water agencies to provide an efficient and collaborative strategy for a compliant public information program.

**Foundational BMP 2.2. School Education Programs**

This BMP is met through participation in the RWA WEP. WEP provides water conservation curriculum materials for grades K-6, offers technical support and guidance for teachers and instructors, in-class presentation support, and school marketing outreach efforts.

## 6 Demand to Supply and Contingency Planning

Projected demands are compared to projected supplies in this section. The RL/ECWD maintains a water shortage contingency plan to address instances when supplies are reduced. The Water Shortage Contingency Plan covers both short-term emergency shortages and long-term supply reductions.

### 6.1 Demand to Supply Analysis

Normal year and dry year supply and demand scenarios are presented in Tables 6-1 through 6-3. The groundwater supply is set equal to the projected demands as described in previous sections. As the tables indicate, there is no expected impact to the groundwater supply during a single-year or multiple-year drought scenario. RL/ECWD does not anticipate any supply reductions except under extreme circumstances, such as a Water Forum Conference year, or catastrophic failure of supply infrastructure. RL/ECWD may decide to reduce its demands and supply delivery during certain future conditions to assist in regional water shortage issues and good stewardship of the groundwater basin.

**Table 6-1. Normal Year Supply to Demand (DWR Table 32)**

	Volume, acre-feet				
	2015	2020	2025	2030	2035
Supply Total	3,296	2,961	2,995	3,030	3,064
Demand Total	3,296	2,961	2,995	3,030	3,064
Difference	0	0	0	0	0
Difference as % of Supply	0	0	0	0	0
Difference as % of Demand	0	0	0	0	0

**Table 6-2. Single Dry-Year Supply to Demand (DWR Table 33)**

	Volume, acre-feet				
	2015	2020	2025	2030	2035
Supply Total	3,296	2,961	2,995	3,030	3,064
Demand Total	3,296	2,961	2,995	3,030	3,064
Difference	0	0	0	0	0
Difference as % of Supply	0	0	0	0	0
Difference as % of Demand	0	0	0	0	0

**Table 6-3. Multiple Dry-Year Supply to Demand (DWR Table 34)**

		Volume, acre-feet				
		2015	2020	2025	2030	2035
First Year Supply	Supply Total	3,296	2,961	2,995	3,030	3,064
	Demand Total	3,296	2,961	2,995	3,030	3,064
	Difference	0	0	0	0	0
	Difference as % of Supply	0	0	0	0	0
	Difference as % of Demand	0	0	0	0	0
Second Year Supply	Supply Total	3,296	2,961	2,995	3,030	3,064
	Demand Total	3,296	2,961	2,995	3,030	3,064
	Difference	0	0	0	0	0
	Difference as % of Supply	0	0	0	0	0
	Difference as % of Demand	0	0	0	0	0
Third Year Supply	Supply Total	3,296	2,961	2,995	3,030	3,064
	Demand Total	3,296	2,961	2,995	3,030	3,064
	Difference	0	0	0	0	0
	Difference as % of Supply	0	0	0	0	0
	Difference as % of Demand	0	0	0	0	0

## 6.2 Water Shortage and Drought Contingency Plan

The RL/ECWD Water Shortage and Drought Contingency Plan is summarized below and presented in Appendix H. The District applies a five-stage rationing plan during declared water shortages. The rationing plan also applies to catastrophic loss of water. The rationing plan determines a consumption reduction up to 50 percent of the normal consumption depending of causes, severity, and anticipated duration of the water supply shortage. Table 6-4 summarizes the rationing plan stages of action.

**Table 6-4. Water Supply Shortage Stages and Conditions (DWR Table 35)**

Stage No.	Water Supply Condition	Percent Reduction
1. Normal Water Supply	Normal or wet year supply conditions.	0%
2. Water Warning	A reasonable probability exists that supply may be reduced up to 15 percent.	15%
3. Water Shortage	Water supply reduced by up to 20 percent	20%
4. Water Crisis	Water supply reduced by up to 40 percent	40%
5. Water Shortage Emergency	Water supply reduced by 50 percent or more	At least 50%

RL/ECWD assigns requirements and actions to apply in each stage designed to achieve the necessary demand reduction. The District will monitor monthly or weekly production values for each of its wells, depending on shortage conditions. The District will also compare production to actual customer usage to determine demand reduction results. Based on production and demand trends, the District will act to adjust the water shortage

stage declaration as necessary. Actions for each stage are summarized in Table 6-5 and water shortage demand reduction measures are summarized in Table 6-6. A more complete and detailed list is included in Appendix H.

**Table 6-5. Water Shortage Mandatory Prohibitions (DWR Table 36)**

Prohibitions	Mandatory Prohibitions Water Supply Shortage				
	Stage 1 Normal Water Supply	Stage 2 Water Warning	Stage 3 Water Shortage	Stage 4 Water Crisis	Stage 5 Water Shortage Emergency
Unnecessary and wasteful uses of water.	X	X	X	X	X
Allowing water to leave customer property.	X	X	X	X	X
Failing to repair a water leak.	X	X	X	X	X
Using water to wash down pavement	X	X	X	X	X
Landscape irrigation restrictions according to day of week and time of day schedule.		X	X	X	X
Open hoses must be equipped with automatic shutoff nozzles.		X	X	X	X
All pools, spas, and fountains use recirculating pump.		X	X	X	X
Water customers read water meter at least once per month to monitor.		X	X	X	X
Private vehicle/equipment washing conducted with a hose must include an automatic shutoff nozzle.		X	X		
Fire hydrant water use restricted to fire fighting and District-specific maintenance needs		X	X	X	X
Restaurants serve water only on request		X	X	X	X
Water customers read water meter at least once per week to monitor.			X	X	X
Private vehicle/equipment washing conducted according to day of week and time of day schedule.			X		
Overfilling of pools/spas prohibited.			X	X	X
Filling of ponds, streams prohibited.			X	X	X
Operation of ornamental fountain prohibited.			X	X	X
No additional construction meters issued.			X	X	
Pasture and landscape irrigation limited to minimal survival of trees and shrubs.				X	
All outdoor irrigation of lawns and groundcovers prohibited with exception for rare/endangered plantings.				X	

**Table 6-5 continued. Water Shortage Mandatory Prohibitions (DWR Table 36)**

Vehicle/equipment washing prohibited except at commercial facilities.				X	X
Use of water for cooling mists prohibited.				X	X
Commercial/Industrial use of process water limited by Board.				X	X
No new construction meters.					X
No construction water use for earthwork, dust control, others.				X	X
No new building permits, some exceptions.				X	X
No outdoor irrigation with potable water allowed.					X
No new connections allowed.					X

Note: See Appendix H for a complete listing of prohibitions.

**Table 6-6. Water Shortage Demand Reduction Measures (DWR Table 37)**

Consumption Reduction Methods	Stage When Method Takes Effect					Projected Reduction
	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	
District staff responding to reports of water wasting incidents.	X	X	X	X	X	Up to 4%
Education program.	X	X	X	X	X	Up to 4%
Distribute educational information regarding water shortage stage and requesting water conservation.		X	X	X	X	5 – 10%
Cooperate with RWA and others a regional media outreach program.		X	X	X	X	5 – 10%
Mandatory compliance with Stage 2 requirements.		X				11 – 15%
Mandatory compliance with Stage 3 requirements.			X			16 – 20%
Mandatory compliance with Stage 4 requirements.				X		21 – 40%
Mandatory compliance with Stage 5 requirements.					X	40 – 50+%

Note: See Appendix H for a complete listing of demand reduction measures.

Water shortages can result from long-term supply effects from climatic or water quality issues. Shortages can also result from short-term interruptions due to natural disasters and/or equipment failure. The District includes a system-wide Catastrophic Supply Interruption Plan in the current policy and procedure manual. Potential catastrophic events and responses are summarized in Table 6-7.

**Table 6-7. Potential Events and Responses for Water Supply Catastrophe**

<b>Type of Event</b>	<b>Potential Impacts</b>	<b>Potential Responses</b>
Localized short term power failure	Well power supply interrupted. Distribution system pressure reduction.	Emergency generators at selected wells start up to maintain system pressure. Request customers to reduce water uses with announcements via radio, television and internet. Coordinate with SMUD.
Regional long term power failure	Well power supply interrupted. Distribution system pressure loss.	Emergency generators at selected wells operate until fuel supply is exhausted. Back up fuel requested. Order customers to curtail water uses with direct phone calls, and announcements via radio, television and internet. Issue boil water order. Coordinate with SMUD.
Malicious Act or Major explosion near facilities.	Severe structural damage to storage tank or transmission pipe.	Valve off tank or pipelines. Utilize additional wells to maintain system pressure. Request use of emergency connection with neighboring utilities. Request customers to reduce water uses with announcements via radio, television and internet. Request assistance from Office of Emergency Services.
Flood from Dry Creek or breach of levee along Natomas East Main Drainage Canal	Inundation and potential contamination of wells. Access reduced and power interrupted to pumps.	Wells removed from service. Other wells used to pump water. Possible "boil water" order. Order customers to curtail water use. Request use of emergency connection with neighboring utilities. Alert customers with direct phone calls, and announcements via radio. Coordinate with SAFCA.
Earthquake - Calif. Seismic Safety Commission map "Earthquake Shaking Potential for California" dated Spring 2003, shows that the District's service area is located in a "region far from known active faults and will experience low levels of shaking less frequently. In most earthquakes, only weaker masonry buildings would be damaged.	Rare high magnitude earthquakes could cause significant shaking in Rio Linda resulting in leaks to water mains, services and storage tanks.	District staff would be responsible for control and repair of damage. Help from Northern CA. utilities is unlikely since they would be responding to their own situations and aiding water suppliers closest to the epicenter.

The ordinance prescribing the water shortage rules and regulations also contains provisions for enforcement, penalty assessment, and variances. The District sends a notification to a customer for a first violation of the water shortage requirements. If deemed necessary by the District manager, a flow-restricting device may be installed on the customer's service line. For subsequent violations of the ordinance, the District manager may order the installation of a flow-restricting device on the customer's service line or discontinue service to the customer. The customer will be fined for the

installation and removal of the flow-restrictor device, and fined for the disconnection and re-connection of the water service when conducted. Violation of the water shortage ordinance is a misdemeanor subject to imprisonment in county jail and a fine. The Board can also impose other penalties as determined by the Board in accordance with the California Water Code and District policy manual. Water shortage penalties and charges are summarized in Table 6-8.

**Table 6-8. Water Shortage Penalties and Charges (DWR Table 38)**

Violation	Stage When Penalty Takes Effect	Penalty and Fine
First violation of any portion of the Water Shortage Ordinance	All stages	Installation of flow-restrictor device. Customer to pay fine for installation and removal of device. Customer subject to misdemeanor charges if pursued by Board.
Second and subsequent violations of any portion of the Water Shortage Ordinance	All stages	Installation of flow-restrictor device or service is disconnected. Customer to pay fine for installation and removal of device or service disconnection and re-connection. Customer subject to misdemeanor charges if pursued by Board.

The District water rates were recently updated and include a base rate, three-tier volumetric rate, and a capital improvement surcharge. The base rate and capital improvement surcharge are not affected by water shortage conditions, and the District will continue to collect revenue associated with those charges. The volumetric revenue will be affected by water shortage conditions. However, the base rate does include up to 600 cubic feet of water, which minimizes impacts to revenues during water shortage conditions.

District energy expenses are expected to decrease slightly with reduced water demands as less water will be pumped, reducing electrical costs. Other District operating costs are not expected to change significantly during water shortage conditions. However, if the supply shortage is projected to last longer, the District will investigate and implement as necessary water crisis/emergency pricing to offset potential revenue reductions.

**Appendix A**  
**2010 UWMP 60-day Notification**

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# RIO LINDA/ELVERTA COMMUNITY WATER DISTRICT



P.O. BOX 400 • 730 L STREET  
RIO LINDA, CALIFORNIA 95673  
Phone: (916) 991-1000 • Fax: (916) 991-6616  
[www.rlecwd.com](http://www.rlecwd.com)

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June 4, 2012

Rob Leonard  
Chief Deputy County Executive  
Sacramento County Municipal Services Agency  
700 H Street Room 7650  
Sacramento, CA 95814

Subject: Rio Linda/Elverta Community Water District 2010 Urban Water Management Plan Notice

Dear Mr. Leonard,

The Rio Linda/Elverta Community Water District is preparing its 2010 Urban Water Management Plan (UWMP). The UWMP is required to be submitted to the California Department of Water Resources every five years (Water Code Sections 10610-10657). The law requires a water agency notify the county and city in which it serves water of its UWMP update. The District is updating its UWMP for 2010 and intends to present its findings at a public hearing later this year. If you have any questions or comments regarding this process please contact me at (916) 991-1000.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Mary Henrici'. The ink is dark and the signature is fluid.

Mary Henrici  
General Manager  
Rio Linda/Elverta Community Water District

---

**DIRECTORS:**

Gerald H. Trautman Jr / President  
Cathy Hood / Vice President  
Vivien Spicer-Johnson  
Courtney Caron  
Frank Caron

**GENERAL MANAGER / SECRETARY:**

MARY HENRICI

**Appendix B**  
**2010 UWMP Public Hearing Notification**

# PROOF OF PUBLICATION

(2015.5 CCP)

STATE OF CALIFORNIA

S.S.

I am the principle clerk of the Rio Linda/Elverta News, a newspaper of general circulation in the communities of Rio Linda and Elverta, County of Sacramento, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of Sacramento, State of California, under date of March 21, 1988, Case Number 358073, that the notice, of which the annexed is a printed copy (set in type not smaller than nonpareil) has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

Dec. 7, 2012

Dec 14, 2012

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

*M. Fleisch*

SIGNATURE

DATE

Dec 14, 2012

**The**  
**RIO LINDA NEWS ELVERTA**  
6808 Front Street  
Rio Linda, CA 95673

Phone (916) 991-3000  
Fax (916) 992-6397

This space reserved for the clerk's filing stamp

## Public Hearing Notice 2010 Urban Water Management Plan

Notice is hereby given that on Monday, December 17, 2012 at the Rio Linda/Elverta Community Visitor's Depot Center, 6730 Front Street, Rio Linda, CA 95673, at 7:00 pm, the Board of Directors of the Rio Linda/Elverta Community Water District (District) will conduct a public hearing to consider and receive comments and input on the District's Draft 2010 Urban Water Management Plan (Draft 2010 UWMP).

On or before December 3, 2012, a copy of the Draft 2010 UWMP shall be available for public review during normal business hours at the office of the District at 730 L Street, Rio Linda, CA 95673. In addition, an electronic version of the Draft 2010 UWMP is accessible at [www.rlecwd.com](http://www.rlecwd.com). Any written comments regarding the Draft 2010 UWMP must be submitted by the close of business on December 17, 2012 and should be sent to:

Rio Linda/Elverta Community Water District  
730 L Street Rio Linda, CA 95673  
Attn: Mary Henrici

Public comments can also be made or submitted at the public hearing at the time and place first listed above. Upon conclusion of the public hearing, the Board of Directors of the District may revise, change, modify and/or adopt the 2010 UWMP. Questions regarding the public hearing or the Draft 2010 UWMP should be directed to Mary Henrici at (916) 991-1000.

Published Dec. 7, 14, 2012.

**Appendix C**  
**Board of Directors Acceptance and Approval of UWMP**

**-DRAFT-  
MINUTES OF THE  
DECEMBER 17, 2012  
REGULAR MEETING  
AND  
PUBLIC HEARING  
OF THE BOARD OF DIRECTORS OF  
THE RIO LINDA/ELVERTA  
COMMUNITY WATER DISTRICT**

**CALL TO ORDER AND ROLL CALL**

The December 17, 2012 Regular Meeting of the Board of Directors of the Rio Linda/Elverta Community Water District was called to order at 6:30 p.m. at the Depot/Visitor Center located at 6370 Front Street, Rio Linda, Ca. General Manager, Mary Henrici took roll call of the Board of Directors. President Brent Dills, Director Duane Anderson, Director Matt Longo, Director Frank Caron and Director Paul Green, Jr. were present.

**PLEDGE OF ALLEGIANCE**

General Manager, Mary Henrici led the pledge of allegiance.

**PUBLIC COMMENT**

Public Member, Mary Harris commented on the cost of the Districts legal fees.

Public Member, Robert Blanchard commented on previous Board actions.

**SCHEDULED ITEMS**

- 1.1 **Results of the November 6th, 2012 Election**
  
- 1.2 **Election of Officers**
  
- 1.3 **Committee Appointments and Board Assignments**

**PUBLIC HEARING**

**Public Hearing - 2010 Urban Water Management Plan**

President Dills opened the Public Hearing at 7:00 pm. and turned the floor over to Mr. Jim Crowley.

Mr. Crowley provided a powerpoint presentation of the District's 2010 Urban Water Management Plan.

The Board took public comment from Mary Harris.

*President Dills closed the Public Hearing at 7:35 pm.*

**1.4 2010 Urban Water Management Plan**

*It was moved by Director Anderson and seconded by Director Longo to accept the 2010 Urban Water Management Plan as presented. The motion carried by a unanimous vote of 5-0-0.*

**CONSENT CALENDAR**

**2.A Minutes**

- 1.) November 19, 2012, Regular Meeting

Director

**2.B Expenditures**

Director

**2.C Credit Card Activity**

Director

**SCHEDULED ITEMS (continued)**

**1.4 2010 Urban Water Management Plan**

Director Frank Caron

**1.5 JPIA Insurance Update**

General Manager, Mary Henrici

**1.6 Standby Fee Correspondence**

**Appendix D**  
**California Department of Public Health Compliance Order**

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**STATE OF CALIFORNIA  
DEPARTMENT OF PUBLIC HEALTH**

**RE: Rio Linda / Elverta Community Water District**  
730 L Street  
Rio Linda, CA 95673

**COMPLIANCE ORDER 01-09-09-CO-004  
RIO LINDA / ELVERTA COMMUNITY WATER DISTRICT  
PWS NO. 3410018**

**ISSUED: DECEMBER 28, 2009**

**LEGAL AUTHORITY**

The California Health and Safety Code (CH&SC), Section 116655, authorizes the issuance of an order directing compliance with requirements of Chapter 4 (California Safe Drinking Water Act, commencing with Section 116270 of the Health & Safety Code), whenever the California Department of Public Health (hereinafter, CDPH) determines that any person has violated or is violating Chapter 4 or any permit, regulation, or standard issued or adopted pursuant to Chapter 4.

CDPH hereby issues order number 01-09-09-CO-004 to the Rio Linda / Elverta Community Water District (hereinafter, District) to come into compliance with Health & Safety Code, Section 116555(a), and the California Waterworks Standards, Title 22, California Code of Regulations (CCR), Chapter 16, Articles 1-5.



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3 This Order is also issued to the District to direct implementation of interim measures  
4 until such time that the District is providing an adequate supply of safe and potable  
5 water to its customers.

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7 **FINDINGS OF FACT**  
8

9 The District experienced repeated incidents of low pressure in its distribution system  
10 during the month of September 2007. On November 19, 2007 the Department  
11 issued Compliance Order 01-09-07-CO-004 to the District for water source capacity  
12 and low system pressure violations and directed the District to study solutions to  
13 resolve the violations and to take measures to closely monitor the system pressure  
14 and flow rates from its sources. On April 1, 2008, the District began monitoring its  
15 pressure at all pressure recording stations. Specific and recent low pressure events  
16 reported by the District are listed below:  
17

Event	Date	Location	Pressure	Comment
1	April 4, 2008	Well 5	18 psi	
2	April 14, 2008	Well 5	11 psi	
3	May 5, 2008	Well 5	16 psi	
4	June 17, 2008	Well 5	20 psi	
5	June 19, 2008	Well 2A	19 psi	
6	August 1, 2008	Well 5	~19 psi	
7	September 5, 2008	Well 8	~0 psi	
8	September 15, 2008	Well 9	0 psi	
9	October 16, 2008	All Wells	0 psi	
10	October 25, 2008	All Wells	0 psi	An explained event happened



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				here that caused all pressure stations to read 0 psi
11	October 26, 2008	All Wels	0 psi	
12	December 9, 2008	Well 5	0 psi	
13	December 25 – 28, 2008	All Wells	0 psi	No data appears to have been recorded in this period
14	December 29, 2008	All Wells except Well 5	0 psi	
15	January 12, 2009	Wells 7 & 8	~ 0 – 1 psi	
16	January 13, 2009	Wells 6, 7 & 8	~ 0 – 4 psi	
17	January 14, 2009	Wells 6, 7, & 8	~ 3 – 7 psi	
18	January 15, 2009	Wells 6, 7, & 8	~ 0 psi	
19	January 16, 2009	Well 6	~ 5 psi	
20	May 8, 2009	Well 6	~ 6 psi	
21	May 17, 2009	Well 5	~ 14 psi	
22	August 4, 2009	Well 10	0 psi	District staff performed maintenance on tank
23	August 25, 2009	Well 6	~ 14 psi	District staff performed maintenance on tank

22  
23 In response to the Order, the District submitted a study titled “Evaluation of Source  
 24 Capacity and Compliance Plan” in compliance with Directive 6 of Compliance Order  
 25 01-09-07-CO-004, proposing that the District construct three new wells in the Rio  
 26 Linda area to provide additional source capacity to the water system. The new wells  
 27 are to be designated Wells 14, 15 and 16. At the time it received the study the

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Department deemed the recommendations as appropriate and an acceptable means of returning the District to compliance.

On March 5, 2009 a meeting was held at the District to discuss the status of the completion of the Compliance Order's Directives. Consulting engineers Camp Dresser and McKee had completed another study for the District, which reinforced and confirmed the previous Study's evaluation of the current Source Capacity. The Interim General Manager, Mr. Gilbert Tafoya, also stated that the District intended to construct a 1.5-million gallon storage tank in addition to providing arsenic treatment at Well 14. At this point it appeared that the District would continue following the recommendation to construct three new wells (Wells 14, 15 and 16).

On August 18, 2009 a meeting was held at CDPH Sacramento District Office to again discuss the District's plan for satisfying the Compliance Order. Due to many delays the submitted Technical Report and schedule were no longer possible for the District and they wanted to discuss changes in water source projects. The District had decided to no longer continue using Well 14 with the addition of arsenic treatment due to operation and maintenance costs. The District still planned to construct three wells to meet current and future water demands, and to return the District to compliance. The three wells were designated as Well 15, 16, and Well 17.

On October 30, 2009 the District submitted a final schedule for the project to construct Wells 15, 16, and 17, and to place them in service by January 1, 2011.

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On December 2, 2009 during a brief conference call with the District, and during a meeting at the District office on December 17, 2009, the District reiterated they planned to construct three new wells, Wells 15, 16 and 17, in the Rio Linda area.

**REQUIREMENTS OF LAW**

California Waterworks Standards, Chapter 16, Title 22, California Code of Regulations (CCR), Section 64554(a), requires that "At all times, a public water system water source(s) shall have the capacity to meet the system's maximum day demand (MDD)." Section 64554(a)(1) and (3) requires that "For systems with 1,000 service connections, the system shall be able to meet four hours of peak hourly demand (PHD) with source capacity, storage capacity, and/or emergency source connections." "Both the MDD and PHD requirements shall be met in the system as a whole and in each individual pressure zone."

California Waterworks Standards, Chapter 16, Title 22, California Code of Regulations (CCR), Section 64562(c)(1) states that "Requirements for an entire public water system shall be determined from the total source capacity, total storage volume and the total number of service connections."

California Waterworks Standards, Chapter 16, Title 22, California Code of Regulations (CCR) Section 64602(a), requires that "Each distribution system shall be operated in a manner to assure that the minimum operating pressure in the water main at the user service line connection throughout the distribution system is not less than 20 pounds per square inch (psi) at all times."

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Health and Safety Code, Section 116555 requires in part that:

“(a) Any person who owns a public water system shall ensure that the system does all of the following ... (3) Provides a reliable and adequate supply of pure, wholesome, healthful, and potable water.”

Section 116655 of the Health and Safety Code authorizes issuance of an order directing compliance, including “Directing that appropriate preventive action be taken in the case of a threatened violation” and further provides:

“(b) An order issued pursuant to this section may include, but shall not be limited to, any or all of the following requirements:

- (1) That the existing plant, works, or system be repaired, altered, or added to.
- (2) That purification or treatment works be installed.
- (3) That the source of the water supply be changed.
- (4) That no additional service connection be made to the system.
- (5) That the water supply, the plant, or the system be monitored.
- (6) That a report on the condition and operation of the plant, works, system, or water supply be submitted to the Department.”



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**CONCLUSIONS OF LAW**

Based on the above Findings of Fact and Requirements of Law, CDPH has determined that the District continues to violate Sections 64562(a) and 64602(a), Chapter 16, Title 22, of the CCR. The system continues to exhibit inadequate source capacity and inadequate pressure in its distribution system. In addition, CDPH has determined that the District is violating, Section 116555(a)(3) of the CHSC. Specifically, the District is not providing a reliable and adequate supply of water at minimum operating pressure (20 psi in the distribution system) to ensure that the water delivered to its customers is at all times pure, wholesome healthful and potable.

CDPH has determined that the District's water system does not have sufficient source and storage capacity from approved water sources to serve its current customers.

**ORDER**

Pursuant to Section 116655 of the Health and Safety Code, CDPH hereby directs the following:

1. The District shall submit final design plans and specifications for Well 15 and well site to the Department for approval by March 1, 2010.

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2. The District shall submit final design plans and specifications for Wells 16 and 17 and their respective well sites to the Department for approval by May 1, 2010.

3. The District shall complete construction and have Well 15 in service by October 1, 2010.

4. The District shall complete construction and have Well 16 and 17 in service by March 1, 2011.

The Directives in Compliance Order 01-09-07-CO-004 remain in effect.

All submittals required pursuant to this order shall be addressed to:

David R. Lancaster, P.E.  
Sacramento District Engineer  
Drinking Water Field Operations  
California Department of Public Health  
1616 Capitol Avenue, MS 7407  
P.O. Box 997377  
Sacramento, CA 95899-7377

If the District is unable to comply with Directives 1 through 4 of this Order due to occurrence of any event(s) or situation(s), whether within or beyond its control, the District shall notify DCPH in writing within five days after occurrence of any such event or situation. Upon request from the District, CDPH may, in its sole discretion, extend the time for District's compliance with the directives of this Order. The

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District's failure to fully and timely comply with any directive of this Order shall be deemed a violation of this Order and may result in additional enforcement action against the District, including but not limited to, civil penalties as specified in Sections 116665 and/or 116725 of the California Health and Safety Code.

The State of California shall not be liable for any injuries to persons or damage to property resulting from acts or omissions by the District, its employees, agents, or contractors in carrying out activities pursuant to this Order; nor shall the State of California be held as a party to any contract entered into by the District or its agents in carrying out activities pursuant to this Order.

By issuance of this Order, CDPH does not waive any further enforcement action.

**PARTIES BOUND**

This Order shall apply to and be binding upon the District, its officers, directors, employees, agents, contractors, successors, and assignees.

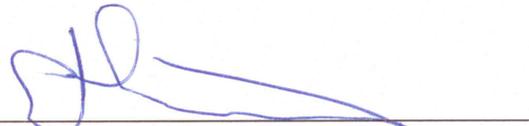
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**SEVERABILITY**

The requirements of this Order are severable, and the District shall comply with each and every provision thereof, notwithstanding the effectiveness of any of its provisions.

12-28-2009

Date



David R. Lancaster, P.E.  
Sacramento District Engineer  
Drinking Water Field Operations



**Appendix E**  
**SGA Groundwater Management Plan**

*Also available at [www.sgah2o.org](http://www.sgah2o.org)*

**Appendix F**  
**Consumer Confidence Report**

**Rio Linda/Elverta Community Water District**  
 730 L Street, P.O. Box 400  
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**Board of Directors**  
 Courtney Caron, President  
 Martin Smith, V.P.  
 Frank Caron  
 Vivien Johnson  
 Cathy Nelson-Hood

## Rio Linda/Elverta Community Water District 2011 Consumer Confidence Report

2010 Water Quality Information

**Este informe contiene informacion muy impotante sobre su agua beber.  
 Traduzcalo o hable con alguien que lo entienda bien.**

**Dear Rio Linda/Elverta Community Water District Customer:**

Water quality is an important issue with us. Providing water that meets state and federal drinking water standards is our number one priority. The District provides water quality information each year to customers in conformance with these state and federal regulations. The Districts water supply is obtained from nine wells located throughout the community. The District is required to test weekly for coliform bacteria in the distribution system and annually at the production wells. An assessment of the Districts drinking water sources was completed in December 2004 and can be obtained at the District office. The sources are considered most vulnerable to the following activities associated with contaminants detected in the water supply; high and low density septic systems. In addition, the sources are considered most vulnerable to these activities; Illegal activities/ unauthorized dumping, sewer collection systems, wells/agriculture/irrigation, dry cleaners, airports/maintenance/fueling, fleet/truck/bus terminals, plastic/synthetics producers, automobile/repair shops, electrical/electronic manufacturing, chemical/petroleum processing/storage, and automobile/gas stations.

**Microbiological Quality of Water.**

Monitoring for bacteriological constituents in the distribution system is required of all water systems. If you have consumers such as renters or workers who do not get water bills, we can send you additional copies upon request to make this report available to those who use water at your facility. If you have any questions about this report, contact the District office during regular business hours (7:00 am – 4:00 pm Monday thru Friday) at (916) 991-1000. The District has test sample sites in various locations in the system approved by the California Department of Public Health. Of the 208 required test samples taken last year, 0 were found to contain coliform bacteria.

**Monthly Board meetings are held the third Monday of every month.**

Microbiological Contaminants	No. of Detections	Months in violation	MCL	MCLG	Typical Source of Contaminants		
Total Coliform Bacteria	Detections this year: 0	0	No more than 1 positive monthly sample	0	Naturally present in the environment		
Fecal Coliform and E. Coli	Detections This year: 0	0		0	Human and animal fecal waste		
DETECTED PRIMARY STANDARDS							
PARAMETER	UNITS	PHG (MCLG)	MCL	DLR	AVERAGE	RANGE	Typical Source of Contaminants
*Barium (2008)	PPB	2	1	100	56	ND - 140	Erosion of natural deposits
*Fluoride (2008)	PPM	1	2	0.1	0.27	.19 - .40	Erosion of natural deposits
*Arsenic (2008)	PPB	0.004	10	2	5.88	3.3 - 9.6	Erosion of natural deposits
*Chromium (2008)	PPB	(100)	50	10	6	ND - 15	Erosion of natural deposits
*Radium 228 (2007)	pCi/L	0.019	5	1	0.39	<1 - 1.46	Erosion of natural deposits
Nitrate (as NO3) (2010)	PPM	45	45	2	5.3	3.1 - 11	Leaching from fertilizer use; leaching from septic tanks / sewage; erosion of natural deposits

**Arsenic** above 5 ppb up to 10 ppb: While your drinking water meets the current federal and state standard for arsenic, it does contain low levels of arsenic. The standard balances the current understanding of arsenic's possible health effects against the cost of removing arsenic from drinking water. The U.S Environmental Protection Agency continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

DETECTED SECONDARY STANDARDS							
PARAMETER	UNITS	PHG (MCLG)	MCL	DLR	AVERAGE	RANGE	Typical Source of Contaminants
*Total Dissolved Solids	PPM	No Standard	1000	N/A	214.4	180 - 250	Runoff/leaching from natural deposits
*Sulfate	PPM	No Standard	500	0.5	5.09	2.1 - 9.1	Runoff/leaching from natural deposits; industrial wastes
*Iron	PPB	No Standard	300	100	30	ND - 270	Leaching from natural deposits; industrial wastes
*Sodium	PPM	No Standard	N/A	N/A	23.1	18 - 30	Naturally occurring organic materials
DETECTED UNREGULATED STANDARDS							
PARAMETER	UNITS	PHG (MCLG)	MCL	DLR	AVERAGE	RANGE	Typical Source of Contaminants
*Hardness	PPM	No Standard	N/A	N/A	92.67	58 - 130	Naturally occurring organic materials
*Chromium Hexavalent (2007)	PPB	No Standard	N/A	1	3.3	3.3	Erosion of natural deposits

LEAD AND COPPER ACTION LEVELS			
CHEMICAL	ACTION LEVEL (Mg/L)	SOURCE WATER (Mg/L)	AT THE TAP 90 <sup>TH</sup> PERCENTILE (mg/L)
*Copper (2008)	1.3	ND	0.13
*Lead (2008)	15	ND	0.0025

\* Data reported is from most current samples for these constituents'. Some contaminants are not required to be monitored for each year because the concentration of these contaminants does not change frequently. Some of our data reported, though representative is more than one year old. In addition to these constituents the District tested for many other organic and inorganic chemicals, none of which were detected in the water.

**Abbreviations and Definitions**

**Regulatory Action Level (AL)** – The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements, which a water system must follow.

**Non-Detects (ND)** – laboratory analysis indicates that the constituent is not present.

**ppm** – Parts per million or Milligrams per Liter

**ppb** – Parts per billion or Micrograms per Liter

**pCi/L** – Pico curies per Liter (a measure of radioactivity in water)

**mg/L** – Milligram per Liter, same as parts per million

**µg/L** – Micrograms per Liter, same as parts per billion

**MFL** – Million fibers per Liter (a measure of asbestos fibers longer than 10 micrometers)

**NTU: Nephelometric Turbidity Unit** – Measure of the clarity of water

**TT Treatment Technique** – A required process intended to reduce the level of a contaminant in drinking water

**MCL: Maximum Contaminant Level** – The highest level of a contaminant that is allowed in drinking water in accordance with state and federal regulations

**MCLG: Maximum Contaminant Level Goal** – The level of a contaminant in drinking water below which there is no known or expected risk to health. These goals are established by the Federal Environmental Protection Agency

**MRDL: Maximum Residual Disinfectant Level** – The level of a disinfectant added for water treatment that may not be exceeded at the consumers tap.

**MRDLG: Maximum Residual Disinfectant Level Goal** – The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLG's are set by the U.S. Environmental Protection Agency.

**DLR:** Detection limit for Reporting purposes; set by DHS.

**Primary Drinking Water Standards** – These standards define surface water treatment requirements, and the monitoring and reporting requirements for constituents required by regulations. State and federal regulators establish the Maximum Contaminant Level (MCL) for constituents that affect health

**PHG: Public Health Goal** – The level of a contaminant in drinking water below which there is no known or expected risk to health. These goals are established by the California Environmental Protection Agency

**TON:** Threshold Odor Number

**N/A:** Not Applicable

**At the Tap 90<sup>th</sup> Percentile** – Not Representative of source water, representative of testing on a select group of homes using Department of Health Services guidelines. These tests determine whether household plumbing have affected the Water Quality.

**<:** Less than

**•:** An accurate measurable average could not be determined with the current test data.

The source of drinking water provided by the District is derived solely from wells (ground water). As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife;
- Inorganic contaminants, such as salts and metals, that can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil/gas production, mining, or farming;
- Pesticides and herbicides, that may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses;
- Organic chemical contaminants, including synthetic and volatile organic chemicals, that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, agricultural application, and septic systems;
- Radioactive contaminants, that can be naturally occurring, or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) and the California Department of Public Health prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Department regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline at 1-800-426-4791, or visit their website at [www.epa.gov/safewater](http://www.epa.gov/safewater).

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

The Rio Linda/Elverta Community Water District staff can be reached at 916-991-1000 to discuss any questions you may have on this report.

The Rio Linda/Elverta Community Water District purchased water from Sacramento Suburban Water District and supplied the purchased water to customers in the distribution system in 2008. In accordance with regulations the following water quality data was provided by Sacramento Suburban Water District for the purchased water. This water quality report includes the upper MCL range for the reported constituents.

# Sacramento Suburban Water District Water Quality Data for 2010

DETECTED PRIMARY DRINKING WATER CONSTITUENTS regulated to protect your health							
CONSTITUENT	UNITS	MCL [MRDL]	(MCLG) or	NORTH SERVICE AREA		MAJOR SOURCES	
				RANGE	AVERAGE		SAMPLE DATE
Arsenic	PPB	10	0.004	ND - 4.1	ND	2010	Erosion of natural deposits
Barium	PPB	1000	200	ND - 180	ND	2010	Erosion of natural deposits
Chromium (total)	PPB	50	(100)	ND - 13	ND	2010	Erosion of natural deposits
Fluoride	PPM	2	1	ND - 0.31	0.2	2010	Erosion of natural deposits
Nitrate (as NO <sub>3</sub> )	PPM	45	45	1.8 - 30.0	10.5	2010	Leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Tetrachloroethylene (PCE)	PPB	5	0.06	ND - 1.2	ND	2010	Discharge from factories, dry cleaners, and auto shops (metal degreaser)
Trichloroethylene (TCE)	PPB	5	0.8	ND - 1.7	ND	2010	Discharge from metal degreasing sites and other factories
Uranium	pCi/L	20	0.43	ND - 2.68	ND	2005 - 2007	Erosion of natural deposits
Radium 226	pCi/L	5 (combined Ra -226 and - 228)	0.05	ND - 1.1	ND	2005 - 2007	Erosion of natural deposits
Radium 228	pCi/L		0.019	ND - 1.07	ND	2005 - 2007	
DETECTED SECONDARY DRINKING WATER CONSTITUENTS regulated for aesthetic qualities							
CONSTITUENT	UNITS	MCL	PHG OR (MCLG)	NORTH SERVICE AREA		MAJOR SOURCES	
				RANGE	AVERAGE		SAMPLE DATE
Chloride	PPM	500	NONE	8.0 - 65	32	2010	Runoff/leaching from natural deposits
Color	UNITS	15	NONE	ND - 5	ND	2010	Naturally - occurring organic materials
Iron	PPB	300	NONE	ND - 420	20	2010	Leaching from natural deposits
Manganese	PPB	50	NONE	ND - 63	5	2010	Naturally - occurring organic materials
Odor	TON	3	NONE	ND - 1	ND	2010	Naturally occurring organic materials
Specific Conductance	µmhos	1600	NONE	200 - 600	223	2010	Substances that form ions when in water
Sulfate	PPM	500	NONE	2.3 - 22.0	7.9	2010	Runoff/leaching from natural; deposits; industrial wastes
Total Dissolved Solids	PPM	1000	NONE	170 - 430	254	2010	Runoff/leaching from natural deposits
Turbidity	NTU	5	NONE	ND - 0.78	0.07	2010	Soil runoff and leaching
DETECTED UNREGULATED DRINKING WATER CONSTITUENTS {A}							
CONSTITUENT	UNITS	MCL	PHG OR (MCLG)	NORTH SERVICE AREA		MAJOR SOURCES	
				RANGE	AVERAGE		SAMPLE DATE
Calcium	PPM	NO STANDARD	NONE	14 - 54	23	2010	Erosion of natural deposits
Chloroform {B}	PPB	NO STANDARD	(70)	ND - 0.52	ND	2004 - 2008	By-product of drinking water chlorination or other sources
Dichlorodifluoromethane	PPB	NL=1000	NONE	ND - 24	ND	2004 - 2009	Used in electrical insulation, as a propellant and refrigerant, pesticide
Hardness	PPM	NO STANDARD	NONE	75 - 240	112	2010	Hardness is the sum of polyvalent cations present in the water, generally naturally occurring magnesium and calcium.
Magnesium	PPM	NO STANDARD	NONE	8.9 - 26.0	13.6	2010	Erosion of natural deposits
Sodium	PPM	NO STANDARD	NONE	9.5 - 51	25	2010	Naturally-occurring salt in water

{A} Unregulated contaminant monitoring helps determine where certain contaminants occur and whether they need to be regulated.

{B} This is source / wellhead concentration prior to treatment.

**Sacramento Suburban Water District - North Service Area**  
**Detected Drinking Water Constituents**

CONSTITUENT	UNITS	MCL [MRDL]	PHG OR (MCLG) OR [MRDLG]	RANGE	AVERAGE	SAMPLE DATE
Aluminum	PPM	Primary - 1.0	0.6	ND - 0.58	ND	2006 - 2007
Aluminum	PPM	Secondary - 0.200	0.6	ND - 0.58 {A}	ND	2006 - 2007
Arsenic	PPB	10	0.004	ND - 3.90	ND	2006 - 2007
Barium	PPM	1	2	ND - 0.12	ND	2004 - 2009
Boron	PPB	NL=1000	NONE	ND - 430	ND	2001 - 2004
Bromodichloromethane {B}	PPB	NO STANDARD	(0)	ND - 0.84	ND	2004 - 2008
Chloride	PPM	500	NONE	4.5 - 60.0	31	2004 - 2007
Chloroform {B}	PPB	NO STANDARD	(70)	ND - 6.2	ND	2004 - 2008
Chromium	PPB	50	(100)	ND - 14	ND	2006 - 2007
Color	UNITS	15	NONE	ND - 10	ND	2004 - 2007
Copper	PPM	1	0.17	ND	ND	2004 - 2007
Dichlorodifluoromethane	PPB	NL=1000	NONE	ND - 1.3	ND	2004 - 2009
Fluoride	PPM	2	1	ND - 0.36	ND	2006 - 2007
Foaming Agents [MBAS]	PPB	500	NONE	ND - 0.90	0.03	2004 - 2007
Gross Alpha particle activity	pCi/L	15	(0)	ND	ND	2005 - 2008
Hexavalent Chromium	PPB	50	NONE	ND - 17.0	5.6	2001 - 2004
Iron	PPM	0.3	NONE	ND - 2.2 {C}	0.14	2004 - 2009
Manganese	PPM	0.05	NONE	ND - 1.0 {C}	0.04	2004 - 2009
Nitrate (as NO3)	PPM	45	45	ND - 29.0	9.9	2009
N-Nitrosodimethylamine (NDMA)	PPB	NO STANDARD	0.003	ND - 35 {D}	ND	2008 - 2009
N-Nitroso-di-n-butylamine (NDBA)	PPB	NO STANDARD	NONE	ND - 0.015	ND	2008 - 2009
Odor	UNITS	3	NONE	ND - 1	1	2006 - 2007
Radium 226	pCi/L	5 (combined Ra -226 and -228)	0.05	ND - 1.1	ND	2005 - 2007
Radium 228	pCi/L		0.019	ND - 1.07	ND	2005 - 2007
Selenium	PPB	50	(50)	ND	ND	2004 - 2007
Specific Conductance	uS/cm	1,600	NONE	180 - 640	354	2008
Sulfate	PPM	500	NONE	2.0 - 25.0	7.5	2004 - 2007
Tetrachloroethylene (PCE)	PPB	5	0.06	ND - 1.4	ND	2007 - 2009
Total Dissolved Solids	PPM	1,000	NONE	150 - 340	241	2004 - 2007
Trichloroethylene (TCE)	PPB	5	0.8	ND - 4.3	ND	2007 - 2009
Tritium	pCi/L	20000	400	ND	ND	2006
Turbidity	NTU	5	NONE	ND - 1.40	0.18	2005 - 2007
Uranium	pCi/L	20	0.43	ND - 2.68	ND	2005 - 2007
Vanadium	PPB	NL=50	NONE	ND - 26.0	8.7	2001 - 2004
Zinc	PPM	5	NONE	ND	ND	2006 - 2007

{A} Compliance with the aluminum standard is based on a primary and a lower secondary standard. The primary MCL for aluminum is 1000 µg/l, this is at a level that is associated with short-term health effects with prolonged consumption. A secondary MCL of 200 µg/l is established to protect you against unpleasant aesthetic effects, such as color, taste and odor. Exceeding the secondary MCL does not pose a health risk. Test results from one well in the North Service Area indicate levels that exceed the secondary MCL for aluminum. However, this well is used primarily to meet fire flow requirements and is not a major source of the drinking water.

{B} This is source/wellhead concentration prior to treatment.

{C} Iron and manganese standards have been established as secondary MCLs at 300 and 50 µg/l, respectively. These secondary MCLs were set to address unpleasant aesthetic effects, such as color, taste, odor, staining of plumbing fixtures and clothing, and not associated with health affects. In 2009, three of the District's wells in the North Service Area detected iron and manganese over the secondary standards. The well with the highest levels was immediately removed from service upon notification and is undergoing further investigation to determine its use in the future. The other two wells are not major sources of drinking water and are primarily used to supplement water to meet fire flow requirements.

{D} IN-Nitrosodimethylamine (NDMA) in drinking water has been historically associated with groundwater contamination from liquid rocket fuels such as in eastern Sacramento County. Subsequent investigations by California Department of Public Health (CDPH) suggests detections at very low levels (<0.01 µg/L) may be related to the disinfection processes under certain circumstances. One of the District's wells in the North Service Area detected NDMA in early 2009, at 14 parts per trillion (PPT), which is above the CDPH established Notification Level of 10 PPT (or nanograms/liter). NDMA and other nitrosamines are among the chemicals known to the State to cause cancer pursuant to California's Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) and are identified as possible human carcinogens by the Environmental Protection Agency. Even though CDPH regulations allow for the well's continued use at the detected concentration, the District immediately took the well out of service upon confirmation of the detection.

**Appendix G**  
**CUWCC 2009/2010 Coverage Reports and BMP Descriptions**



# California Urban Water Conservation Council

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## 1. Utility Operations Programs

Water utilities throughout California are implementing water conservation programs and providing services to the customers they serve. There are four subcategories that comprise signatory utility operation program responsibilities.

### 1.1 Operations Practices

This practice will outline several key actions that utilities shall take to better enable conservation program implementation, to supplement conservation incentives with regulations where appropriate, and to assist one another through the wholesaler-retailer relationship.

#### A. Implementation

Implementation shall consist of at least the following actions:

1) Conservation Coordinator (*formerly BMP 12*)

Designate a person as the agency's responsible conservation coordinator for program management, tracking, planning, and reporting on BMP implementation.

2) Water waste prevention (*formerly BMP 13*)

a) New development

Enact, enforce, or support legislation, regulations, ordinances, or terms of service that (1) prohibit water waste such as, but not limited to: single-pass cooling systems; conveyer and in-bay vehicle wash and commercial laundry systems which do not reuse water; non-recirculating decorative water fountains and (2) address irrigation, landscape, and industrial, commercial, and other design inefficiencies.

b) Existing users

Enact, enforce, or support legislation, regulations, ordinances, or terms of service that prohibit water waste such as, but not limited to: landscape and irrigation inefficiencies, commercial or industrial inefficiencies, and other misuses of water.

c) Water shortage measures

Enact, enforce, or support legislation, regulations, ordinances, or terms of service that facilitate implementation of water shortage response measures.

3) Wholesale agency assistance programs (*formerly BMP 10*)

This section addresses assistance relationships between regional wholesale agencies and intermediate wholesale agencies as well as between wholesale agencies and retail agencies.

a) Financial investments and building partnerships

When mutually agreeable and beneficial to a wholesaler and its retail agencies, a wholesaler will provide financial assistance and help build partnerships to accomplish conservation. Wholesale water suppliers will consider avoided capital costs when making financial investments and build regional partnerships to advance water conservation efforts and effectiveness. Where applicable, intermediate wholesale water suppliers that receive conservation-related financial incentives from regional wholesalers will pass through eligible financial incentives to retail agencies operating programs at the retail level.

b) Technical support

When requested, wholesale water agencies will provide conservation-related technical support and information to retail agencies they serve. Support and information will include, but will not be limited to: workshops and support advice addressing conservation program planning, design, implementation, and evaluation.

c) Program management

When mutually advantageous, wholesale and retail water agencies will join together to plan, design, implement, manage, and evaluate regional conservation programs.

When mutually agreeable and beneficial, the wholesale agency or another lead regional agency will operate all or part of the conservation program; if the wholesale agency or other lead regional agency operates all or part of a program, then it may, by mutual consent with the retail agency, assume responsibility for CUWCC reporting for funded BMPs; under this arrangement, a wholesale agency or other lead regional agency may aggregate all or portions of the reporting and coverage requirements of all retail agencies joining into the mutual consent.

d) Water shortage allocations

Wholesale agencies shall pursue water shortage allocation policies or plans which minimize disincentives to long-term water conservation, and encourage and reward investments in long-term conservation shown to advance regional water supply reliability and sufficiency.

e) Non-signatory reporting

To the extent possible, wholesale water agencies will provide reports on BMP implementation within their service area by retail water agencies that are not signatories to the MOU.

f) Encourage CUWCC membership

Wholesale agencies will encourage all of their retail agencies to become MOU signatories, provide information to assist the CUWCC in recruitment targeting, and may assist in paying CUWCC dues for their retail agencies.

## **B. Implementation Schedule**

Implementation shall commence no later than July 1 of the first year following the latter of either: 1) the year the agency signed or became subject to the MOU, or 2) the year this Exhibit is amended.

## **C. BMP 1 Coverage Requirements**

Coverage shall consist of:

### 1) Conservation Coordinator

Staff and maintain the position of trained conservation coordinator, or equivalent consulting support, and provide that function with the necessary resources to implement BMPs.

### 2) Water waste prevention

Water Agency shall do one or more of the following:

- a. Enact and enforce an ordinance or establish terms of service that prohibit water waste
- b. Enact and enforce an ordinance or establish terms of service for water efficient design in new development
- c. Support legislation or regulations that prohibit water waste
- d. Enact an ordinance or establish terms of service to facilitate implementation of water shortage response measures
- e. Support local ordinances that prohibit water waste
- f. Support local ordinances that establish permits requirements for water efficient design in new development.

### 3) Wholesale agency programs

#### a) Financial investments and building partnerships

When mutually agreeable and beneficial to a wholesaler and its retail agencies cost-effectiveness assessments, including avoided cost per acre-foot, will be completed for each BMP the wholesale agency is potentially obligated to support. The methodology used will conform to the Council standards and procedures, and the information reported will be sufficient to permit independent verification of the calculations and of any exemptions claimed on the cost-effectiveness grounds.

#### b) Technical support

When requested provide technical support, incentives, staff or consultant support, and equivalent resources to retail members to assist, or to otherwise support, the implementation of BMPs.

#### c) Program management

When mutually agreeable and beneficial to a wholesaler and its retail agencies offer program management and BMP reporting assistance to its retailers and the results of

the offer will be documented. It is recognized that wholesale agencies have limited control over retail agencies that they serve and must act in cooperation with those retail agencies on implementation of BMPs. Thus, wholesale agencies cannot be held responsible for levels of implementation by individual retailers in their wholesale service areas.

d) Water shortage allocation

Water shortage allocations plans or policies will encourage and reward investments in long-term conservation.

e) Non-signatory reporting

Wholesale water agencies will report on non-signatory BMP implementation, when possible.

f) Encourage CUWCC membership

Wholesale agencies will encourage CUWCC membership and offer recruitment assistance.

#### **D. Requirements for Documenting BMP Implementation**

1) Conservation coordinator Provide the contact information for the conservation coordinator, or consultant assigned, and verification that the position is responsible for implementing the tasks identified in Section A.1.

2) Water waste prevention

Provide the following:

- a) A description of, or electronic link to, any ordinances or terms of service adopted by water agency to meet the requirements of this BMP
- b) A description of, or electronic link to, any ordinances or requirements adopted by local jurisdictions or regulatory agencies with the water agency's service area.
- c) A description of any water agency efforts to cooperate with other entities in the adoption or enforcement of local requirement consistent with this BMP.
- d) A description of agency support positions with respect to adoption of legislation or regulations consistent with this BMP.

3) Wholesale agency assistance programs

a) Financial investments and building partnerships

List the total monetary amount of financial incentives and equivalent resources provided to retail members to assist with, or to otherwise support, implementation of BMPs, subtotaled by BMP. List regional partnerships developed to encourage resource conservation and maximize economies of scale benefits.

b) Technical support

Supply a summary of types of technical support provided to retail agencies.

c) Program management

If the wholesale agency has assumed reporting responsibility, list the programs

managed on behalf of its retail agencies.

d) Water shortage allocation

If a water shortage allocation plan or policy has been developed, provide the date of adoption and electronic link to the document or hard copy.

e) Non-signatory reporting

Receipt of reports.

f) Encourage CUWCC membership

List of efforts to recruit retailers and amount of dues paid on behalf of retail agencies.

## **E. Water Savings Assumptions**

Not quantified. However, water savings may be realized in the following ways:

1) Wholesalers may use the Council's Cost and Savings document to assess the total amount of water savings achieved by each wholesaler-supported BMP. Other statistically validated sources may be also used to demonstrate water savings.

2) Water savings from enforcement of legislation and regulations will be projections developed based on anticipated savings from device(s) applied to the population subject to the regulation(s).

3) Water savings from implementation of water waste prevention measures.

### **1.2 Water Loss Control (formerly BMP 3) as amended September 16, 2009**

The goals of modern water loss control methods include both an increase in water use efficiency in the utility operations and proper economic valuation of water losses to support water loss control activities. In May 2009 the American Water Works Association (AWWA) published the 3<sup>rd</sup> Edition M36 Manual *Water Audits and Loss Control Programs*. BMP 1.2 will incorporate these new water loss management procedures and apply them in California. Agencies are expected to use the AWWA Free Water Audit Software ("AWWA Software") to complete their standard water audit and water balance.

#### **A. Implementation**

**Implementation shall consist of at least the following actions:**

1) Standard Water Audit and Water Balance. All agencies shall quantify their current volume of apparent and real water loss. Agencies shall complete the standard water audit and balance using the AWWA Water Loss software to determine their current volume of apparent and real water loss and the cost impact of these losses on utility operations at no less than annual intervals.

2) Validation. Agencies may use up to four years to develop a validated data set for all

entries of their water audit and balance. Data validation shall follow the methods suggested by the AWWA Software to improve the accuracy of the quantities for real and apparent losses.

3) Economic Values. For purposes of this BMP, the economic value of real loss recovery is based upon the agency's avoided cost of water as calculated by the Council's adopted Avoided Cost Model or other agency model consistent with the Council's Avoided Cost Model.

4) Component Analysis. A component analysis is required at least once every four years and is defined as a means to analyze apparent and real losses and their causes by quantity and type. The goal is to identify volumes of water loss, the cause of the water loss and the value of the water loss for each component. The component analysis model then provides information needed to support the economic analysis and selection of intervention tools. An example is the Breaks and Background Estimates Model (BABE) which segregates leakage into three components: background losses, reported leaks and unreported leaks.

5) Interventions. Agencies shall reduce real losses to the extent cost-effective. Agencies are encouraged to refer to the AWWA's 3<sup>rd</sup> Edition M36 Publication, *Water Audits and Loss Control Programs* (2009) for specific methods to reduce system losses.

6) Customer Leaks. Agencies shall advise customers whenever it appears possible that leaks exist on the customer's side of the meter.

## **B. Implementation Schedule**

1) For agencies signing the MOU prior to December 31, 2008, implementation shall commence no later than July 1, 2009.

a) July 1, 2009 through June 30, 2010 will be the first year of implementation;

b) Agencies shall provide its first full BMP 1.2 report by December 1, 2010 for years 2008-2009 and 2009-2010;

2) Agencies signing the MOU after December 31, 2008, implementation shall commence no later than July 1 of the year following the year the agency signed the MOU.

a) Agencies shall provide a full BMP 1.2 report for the first reporting period after implementation and for each reporting year thereafter.

3) A benchmark for the performance indicator in terms of water loss standards will be determined after the first 4 years data collected based upon the data reported by agencies. The performance indicator and benchmark; will be voted upon by the Council by year 6 of this revision. Ongoing data collection and data reporting requirements will be established as part of this process.

## **C. Coverage Requirements**

1) Agencies to compile the standard water audit and balance annually using the AWWA Software. Beginning in the 2<sup>nd</sup> year of implementation agencies to test source, import, and

production meters annually.

2) Agencies shall improve the data accuracy and data completeness of the standard water balance during the first four years of implementation. Agencies shall achieve a Water Audit Data Validity score of 66 or higher using the AWWA software no later than the end of the first four year period; and shall achieve data validity Level IV no later than the end of the 5th year of implementation. Estimations for data that are not directly measured should be improved using the methods outlined by the AWWA.

3) Agencies shall seek training in the AWWA water audit method and component analysis process (offered by CUWCC or AWWA) during the first four years of BMP implementation. They shall complete a component analysis of real losses by the end of the fourth year, and update this analysis no less frequently than every four years.

4) Beginning in the fifth year of implementation, through the tenth year of implementation, agencies shall demonstrate progress in water loss control performance as measured by the AWWA software real loss performance indicator "gallons per service connection per day;" "gallons per mile of mains per day;" or other appropriate indicator by one of the following:

a) Achieving a performance indicator score less than the agency's score the previous year;

b) Achieving a performance indicator score less than the average of the agency's scores for the previous three years; or

c) Achieving a performance indicator score in the top quintile (20%) of all signatory agencies reporting such performance indicator with a Data Validity Level IV; or ;

d) In year 6 and beyond reducing real losses to or below the benchmark value determined in the Council's process referenced in section B3.

5) Agencies shall repair all reported leaks and breaks to the extent cost effective. By the end of the second year, agencies shall establish and maintain a record-keeping system for the repair of reported leaks, including time of report, leak location, type of leaking pipe segment or fitting, and leak running time from report to repair. By the end of the fourth year, agencies shall include estimated leakage volume from report to repair, and cost of repair (including pavement restoration costs and paid-out damage claims, if any).

6) Agencies shall locate and repair unreported leaks to the extent cost effective.

#### **D. Requirements for Documenting BMP Implementation**

1) Agency shall submit the completed AWWA Standard Water Audit and Water Balance worksheets in the BMP 1.2 report form every reporting period.

2) For each reporting period, agency shall keep and make available validation for any data reported.

3) Agency shall maintain in-house records of audit results, methodologies, and worksheets for each completed audit period.

4) Agency keeps records of each component analysis performed, and incorporates results into future annual standard water balances.

5) Agency, for the purpose of setting the Benchmark:

a) keeps records of intervention(s) performed, including standardized reports on leak repairs, the economic value assigned to apparent losses and to real losses, miles of system surveyed for leaks, pressure reduction undertaken for loss reduction, infrastructure rehabilitation and renewal, volumes of water saved, and costs of intervention(s); and

b) prepares a yearly summary of this information for submission to the Council, during years two through five of implementation, unless extended by the Council.

## **E. Water Savings Assumptions**

To Be Determined

### **1.3 METERING WITH COMMODITY RATES FOR ALL NEW CONNECTIONS AND RETROFIT OF EXISTING CONNECTIONS** *(formerly BMP 4) as amended March 14, 2007*

#### **A. Implementation**

For consistency with California Water Code (Section 525b), this BMP refers to potable water systems. A water meter is defined as a device that measures the actual volume of water delivered to an account in conformance with the guidelines of the American Water Works Association. Implementation shall consist of at least the following actions:

1) Require meters for all new service connections.

2) Establish a program for retrofitting existing unmetered service connections.

3) Read meters and bill customers by volume of use.

a) Establish and maintain billing intervals that are no greater than bi-monthly (every two months) for all customers.

b) For each metered connection, perform at least five actual meter readings (including remotely sensed) per twelve month period.

4) Prepare a written plan, policy or program that includes:

a) A census of all meters, by size, type, year installed, customer class served and manufacturer's warranty accuracy when new;

b) A currently approved schedule of meter testing and repair, by size, type and customer class;

c) A currently approved schedule of meter replacement, by size, type, and customer class; and

5) Identifying intra- and inter-agency disincentives or barriers to retrofitting mixed use commercial accounts with dedicated landscape meters, and conducting a feasibility study(s)

to assess the merits of a program to provide incentives to switch mixed use accounts to dedicated landscape meters.

## **B. Implementation Schedule**

1) Agencies signing the MOU prior to December 31, 1997, shall:

- a) Initiate volumetric billing for all metered customers no later than July 1, 2008; and
- b) Complete meter installation for all connections no later than July 1, 2009.

2) Agencies signing the MOU after December 31, 1997, shall:

- a) Initiate volumetric billing for all metered customers no later than July 1, 2008 or within one year of signing the MOU if later than July 1, 2008; and
- b) Complete meter installation for all service connections no later than July 1, 2012 or within six years of signing MOU, but in no case later than one year prior to the requirements of state law.

3) For unmetered service areas newly acquired or newly operated by otherwise metered agencies, meter installation shall be completed in these service areas within six years of the acquisition or operational agreement.

4) A feasibility study examining incentive programs to move landscape water uses on mixed-use meters to dedicated landscape meters to be completed by the end of Year Four following the date implementation was to commence.

5) A written plan, policy or program to test, repair and replace meters [see [Section A\(4\)](#) above] shall be completed and submitted electronically by July 1, 2008 or within one year of signing the MOU if later than July 1, 2008, whichever is later.

## **C. Coverage Requirements**

100% of existing unmetered accounts to be metered and billed by volume of use within above specified time periods. Service lines dedicated to fire suppression systems are exempt from this requirement.

## **D. Requirements for Documenting BMP Implementation**

1) Confirmation that all new service connections are metered and are being billed by volume of use and provide:

- a) Number of metered accounts;
- b) Number of metered accounts read;
- c) Number of metered accounts billed by volume of use;
- d) Frequency of billing (i.e. six or twelve times per year) by type of metered customer (e.g. single-family residential, multiple-family residential, commercial, industrial, and landscape irrigation); and
- e) Number of estimated bills per year by type of metered customer (e.g. single-family residential, multiple-family residential, commercial, industrial, and landscape irrigation) vs. actual meter readings.

- 2) Number of unmetered accounts in the service area. For the purposes of evaluation, this shall be defined as the baseline meter retrofit target, and shall be used to calculate the agency's minimum annual retrofit requirement.
- 3) Number of unmetered service connections retrofitted during the reporting period.
- 4) Estimated number of CII accounts with mixed-use meters.
- 5) Number of CII accounts with mixed-use meters retrofitted with dedicated irrigation meters during reporting period.

**E. Criteria to Determine BMP Implementation Status**

- 1) Agency with existing unmetered service connections has completed a meter retrofit plan by the end of Year Two following the date implementation was to commence.
- 2) Agency has completed a feasibility study examining incentive programs to move landscape water uses on mixed-use meters to dedicated landscape meters by the end of Year Two following the date implementation was to commence.
- 3) Agency with existing unmetered service connections is on track to meter these connections during the schedule shown in Section B. An agency will be considered on track if the percent of unmetered accounts retrofitted with meters equals or exceeds the following:

<b>Target Dates for "On Track" Compliance with BMP 4</b>	
<b>Percent of unmetered accounts retrofitted</b>	<b>Agency signed the MOU prior to December 31, 1997</b>
10 percent	December 31, 2000
24 percent	December 31, 2002
42 percent	December 31, 2004
64 percent	December 31, 2006
90 percent	December 31, 2008
100 percent	July 1, 2009

<b>Target Dates for "On Track" Compliance with BMP 4</b>	
<b>Percent of unmetered accounts retrofitted</b>	<b>Agency signed the MOU after 1997</b>
20 percent	December 31, 2004
40 percent	December 31, 2006
60 percent	December 31, 2008

80 percent	December 31, 2010
100 percent	July 1, 2012

- 4) Agency bills metered customers at least as often as bimonthly within four years.
- 5) Agency reads meters and bills metered customers using volumetric rates.
- 6) Agency has completed a written plan, policy or program to test, repair and replace meters.

**F. Water Savings Assumptions**

Assume meter retrofits and volumetric rates combined will result in a 20% reduction in demand for retrofitted accounts.

**G. Commitment to Further Review**

Within three years from the date this BMP revision is adopted, the CUWCC will complete an evaluation of the potential water use efficiency impacts and cost-effectiveness of the following for consideration as future BMP revision(s):

- 1) Criteria for meter testing, repair, replacement and accuracy;
- 2) Transition to installing automated meter reading (AMR) technologies; and
- 3) Transition to monthly billing schedules for all accounts.

**1.4 Retail Conservation Pricing (formerly BMP 11) As Amended June 13, 2007**

**Part I - Retail Water Service Rates**

**A. Implementation**

BMP 11 promotes water conserving retail water rate structures. BMP 11 recognizes that each agency or water enterprise fund has a unique rate setting system and history. When creating a rate case, professional judgments are made to determine whether costs are accounted to a variable or fixed cost center by the staff of the agency. The final water rate case is an accumulation of all the decisions and judgments made by staff and supplemented by the financial projections leading an agency to establish its final water rate recommendation. BMP 11 is not intended to supplant this process, but rather to reinforce the need for Water Agencies to establish a strong nexus between volume-related system costs and volumetric commodity rates.

In *Bighorn-Desert View Water Agency v. Virjil*, the California Supreme Court applied Proposition 218's (approved by CA voters in November 1996) provisions embodied in Articles XIII C and D of the California Constitution to ongoing water service. In addition, Article XIII D, Section 6 imposes procedural and substantive requirements on new or increased fees or charges for on-going water service. The Council considers the conservation principles of BMP 11 to be compatible with the cost of service requirements of Proposition 218. However, should a case arise in which a Water Agency's good faith efforts were unable to meet BMP 11's requirements due to legal constraints (e.g. Proposition 218), this would be grounds for exemption, as specified in MOU Section 4.5.

**Definition:** Conservation pricing provides economic incentives (a price signal) to customers to use water efficiently. Because conservation pricing requires a volumetric rate, metered water service is a necessary condition of conservation pricing. Unmetered water service is inconsistent with the definition of conservation pricing.

Conservation pricing requires volumetric rate(s). While this BMP defines a minimum percentage of water sales revenue from volumetric rates, the goal of this BMP is to recover the maximum amount of water sales revenue from volumetric rates that is consistent with utility costs (which may include utility longrun marginal costs), financial stability, revenue sufficiency, and customer equity. In addition to volumetric rate(s), conservation pricing may also include one or more of the following other charges:

- 1) Service connection charges designed to recover the separable costs of adding new customers to the water distribution system.
- 2) Monthly or bimonthly meter/service charges to recover costs unrelated to the volume of water delivered or new service connections and to ensure system revenue sufficiency.
- 3) Special rates and charges for temporary service, fire protection service, and other irregular services provided by the utility.

The following volumetric rate designs are potentially consistent with the above definition:

- 1) **Uniform rate** in which the volumetric rate is constant regardless of the quantity consumed.
- 2) **Seasonal rates** in which the volumetric rate reflects seasonal variation in water delivery costs.
- 3) **Tiered rates** in which the volumetric rate increases as the quantity used increases.
- 4) **Allocation-based rates** in which the consumption tiers and respective volumetric rates are based on water use norms and water delivery costs established by the utility.

**Adequacy of Volumetric Rate(s):** A retail agency's volumetric rate(s) shall be deemed sufficiently consistent with the definition of conservation pricing when it satisfies at least one of the following two options.

**Option 1: Let V stand for the total annual revenue for the volumetric rate(s) and M stand for total annual revenue from customer meter/service (fixed) charges, then:**  
Let V stand for the total annual revenue from the volumetric rate(s) and M stand for total annual revenue from customer meter/service (fixed) charges, then:

$$V / (V + M) \geq 70\%$$

This calculation shall only include utility revenues from volumetric rates and monthly or bimonthly meter/service charges. It shall not include utility revenues from new service connection charges; revenue from special rates and charges for temporary service, fire protection, or other irregular services; revenue from grants or contributions from external sources in aid of construction or program implementation; or revenue from property or other utility taxes.

**Option 2: Use the rate design model included with the Municipal Water and**

**Wastewater Rate Manual published by the Canadian Water & Wastewater Association** with the signatory's water system and cost information to calculate V', the uniform volum rate based on the signatory's long-run incremental cost of service, and M', the associated meter charge. [Let HCF be annual water delivery (in hundred cubic feet).] A signatory's volumetric rate(s) shall be deemed sufficiently consistent with the definition of conservation pricing if:

$$V / (V + M) \geq V' / (V' + M')$$

The rate design model can be downloaded at <http://www.cuwcc.org/resource-center/technical-resources/bmp-tools.aspx>.

This calculation shall only include utility revenues from volumetric rates and monthly or bimonthly meter/service charges. It shall not include utility revenues from new service connection charges; revenue from special rates and charges for temporary service, fire protection, or other irregular services; revenue from grants or contributions from external sources in aid of construction or program implementation; or revenue from property or other utility taxes.

### **Exemptions and At Least As Effective As**

The exemption provisions in MOU Section 4.5 apply to BMP 11 in the same way they apply to other BMPs. Water supplier signatories meeting at least one of the three exemption conditions in MOU Section 4.5 may submit an exemption to the Council per the requirements of the MOU.

Water supplier signatories may pursue an "At Least As Effective As" implementation of BMP 11 per the Preamble to Exhibit 1 of the MOU. Water supplier signatories adopting an "At Least As Effective As" implementation of BMP 11 may adopt rates that do not meet the requirements of either Option 1 or Option 2 described in Section A provided the resulting water savings are at least as effective as those options. **BMP Refinement**

Within five years of the adoption of this BMP revision, the Council shall reconvene the BMP 11 Revision PAC to

- 1) assess rate of compliance with the revised BMP,
- 2) identify barriers to implementation,
- 3) assess its compatibility with Proposition 218 requirements,
- 4) initiate a water savings assessment appropriate to the data and project resources available to the Council, and
- 5) develop further refinements as needed to improve the BMP's effectiveness.

Within five years of the adoption of this BMP revision, the Council shall reconvene the BMP 11 Revision PAC to

- 1) assess rate of compliance with the revised BMP,
- 2) identify barriers to implementation,
- 3) assess its compatibility with Proposition 218 requirements,
- 4) initiate a water savings assessment appropriate to the data and project resources available to the Council, and
- 5) develop further refinements as needed to improve the BMP's effectiveness.

## **B. Implementation Schedule**

### **Agencies with fully metered service areas**

- 1) Agencies signing the MOU prior to June 13, 2007, implementation shall commence no later than July 1, 2007.
- 2) Agencies signing the MOU after June 13, 2007, implementation shall commence no later than July 1 of the year following the year the Agency signed the MOU.

### **Agencies with partially metered service areas** (*Agencies following this schedule must be on the Council's list of Agencies with partially metered service areas*)

- 1) Agencies signing the MOU prior to December 31, 1997, implementation shall commence no later than July 1, 2010. [One year after Agency is to complete meter installation per BMP 4.]
- 2) Agencies signing the MOU after December 31, 1997, implementation shall commence no later than July 1, 2013, or within seven years of signing the MOU, but in no case later than the metering deadline specified by state law. [One year after Agency is to complete meter installation per BMP 4.]

## **C. Coverage Requirements**

Agency shall maintain a rate structure that satisfies at least one of the options specified in Section A. Conformance to Option 1 or Option 2 will first be assessed using the revenue from the most recent year. If the most recent year does not satisfy the option, the average revenue from the three (3) most recent years will be used.

## **D. Requirements for Documenting BMP Implementation**

- 1) Report the rate structure in effect for each customer class for the reporting period.
- 2) Report the annual revenue derived from volume charges for each retail customer class, as defined in Section A. (Note: Compliance with BMP 11 will be determined based on the Agency's total revenue from all retail customer classes.)
- 3) Report the annual revenue derived from monthly or bimonthly meter/service charges for each retail customer class, as defined in Section A.
- 4) If agency does not comply with Option 1 in Section A, report  $v'$  and  $m'$  as determined by the Canadian Water & Wastewater Association rate design model described in Section A.
- 5) If agency does not comply with Option 1 in Section A, submit to the Council the completed Canadian Water & Wastewater Association rate design model described in Section A.

## **E. Criteria to Determine BMP Implementation Status**

An agency shall be in compliance with BMP 11 provided the following is true for the Agency's total revenue from all retail customer classes within four years after [date of revision]:

For Option 1:  $V > 70\% \times 1.00$

For Option 2:  $V > V' \times 1.00$

The following schedule is intended to guide agencies in implementing this revision in phases:

YEARS AFTER START YEAR	FOR OPTION 1	FOR OPTION 2
1	$V > 70\% \times 0.70$	$V > V' \times 0.70$
2	$V > 70\% \times 0.80$	$V > V' \times 0.80$
3	$V > 70\% \times 0.90$	$V > V' \times 0.90$
4	$V > 70\% \times 1.00$	$V > V' \times 1.00$

An agency shall not be required to increase the volumetric component of the rate structure by more than 10% in any single year until the full implementation is achieved.

#### **F. Water Savings Assumptions**

Not quantified

### **Part II – Retail Wastewater Rates**

#### **A. Implementation**

This section applies to Water Agencies that provide retail sewer service. Water Agencies that do not provide retail sewer service shall make good faith efforts to work with sewer agencies so that those sewer agencies adopt conservation pricing for sewer service. Conservation pricing of sewer service provides incentives to reduce average or peak use, or both. Such pricing includes: rates designed to recover the cost of providing service, and billing for sewer service based on metered water use. Conservation pricing of sewer service is also characterized by one or more of the following components: rates in which the unit rate is the same across all units of service (uniform rates); rates in which the unit rate increases as the quantity of units purchased increases (increasing block rates); rates in which the unit rate is based upon the long-run marginal cost or the cost of adding the next unit of capacity to the sewer system. Rates that charge customers a fixed amount per billing cycle for sewer service regardless of the units of service consumed do not satisfy the definition of conservation pricing of sewer service. Rates in which the typical bill is determined by high fixed charges and low commodity charges also do not satisfy the definition of conservation pricing of sewer service.

#### **B. Implementation Schedule**

1) Agencies signing the MOU prior to December 31, 1997, implementation shall commence no later than July 1, 1998.

2) Agencies signing the MOU or becoming subject to the MOU after December 31, 1997, implementation shall commence no later than July 1 of the first year following the year the agency signed or became subject to the MOU.

**C. Coverage Requirements**

Agency shall maintain rate structure for sewer service consistent with definition of conservation pricing for sewer service in Part II, Section A.

**D. Requirements for Documenting BMP Implementation**

- 1) Report annual revenue requirement for sewer service by customer class for the reporting period.
- 2) Report annual revenue for sewer service from commodity charges by customer class for the reporting period.
- 3) Report rate structure by customer class for sewer service.

**E. Criteria to Determine BMP Implementation Status**

Agency rate design for sewer service shall be consistent with definition of conservation pricing for sewer service in Section A.

**F. Water Savings Assumptions**

Not quantified.

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# California Urban Water Conservation Council

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## **2. EDUCATION PROGRAMS**

California water agencies have played a major role in stressing the need for their customers to conserve water through both public information and school education programs. The specifics of how these programs are to be implemented are detailed below.

### **2.1 PUBLIC INFORMATION PROGRAMS** *(formerly BMP 7)*

This section addresses opportunities to use public information programs as an effective tool to inform customers about the need for water conservation and ways they can conserve, and to influence customer behavior to conserve.

#### **A. Implementation**

Implement a public information program to promote water conservation and water conservation-related benefits. Implementation shall consist of at least the following actions:

- 1) The program should include, when possible, but is not limited to, providing speakers to employees, community groups and the media; using paid and public service advertising; using bill inserts; providing information on customers' bills showing use for the last billing period compared to the same period the year before; providing public information to promote water conservation measures; and coordinating with other government agencies, industry groups, public interest groups, and the media.
- 2) The program should include, when possible, social marketing elements which are designed to change attitudes to influence behavior. This includes seeking input from the public to shape the water conservation message; training stakeholders outside the utility staff in water conservation priorities and techniques; and developing partnerships with stakeholders who carry the conservation message to their target markets.
- 3) When mutually agreeable and beneficial, the wholesale agency or another lead regional agency may operate all or part of the public information program. If the wholesale agency operates the entire program, then it may, by mutual consent with the retail agency, assume responsibility for CUWCC reporting for this BMP. Under this arrangement, a wholesale

agency may aggregate all or portions of the reporting and coverage requirements of the retail agencies joining into the mutual consent.

## **B. Implementation Schedule**

Implementation shall commence no later than July 1 of the first year following the latter of either: 1) the year the agency signed or became subject to the MOU, or 2) the year this Exhibit is amended.

## **C. Coverage Requirements**

Agencies shall maintain an active public information program to promote and educate customers about water conservation.

At minimum a public information program shall consist of the following components:

- 1) Contacts with the public (minimum = 4 times per year, i.e., at least quarterly).
- 2) Water supplier contacts with media (minimum = 4 times per year, i.e., at least quarterly).
- 3) An actively maintained website that is updated regularly (minimum = 4 times per year, i.e., at least quarterly).
- 4) Description of materials used to meet minimum requirement.
- 5) Annual budget for public outreach program.
- 6) Description of all other outreach programs (List follows in Section D).

## **D. Requirements for Documenting BMP Implementation**

**Agencies may report on all of the following activities, although agencies are only expected to meet the minimum requirements in section C. Coverage Requirements.**

### **Public Information Programs List**

- 1) Newsletter articles on conservation
- 2) Flyers and/or brochures (total copies), bill stuffers, messages printed on bill, information packets
- 3) Landscape water conservation media campaigns
- 4) General water conservation information
- 5) Website
- 6) Email messages
- 7) Website - provide link to or list of qualified landscape professionals (WaterSense, California Landscape Contractors Association, Irrigation Association, etc.) and other helpful sites
- 8) Direct mail - seasonal postcards noting irrigation requirement changes
- 9) Direct mail or other notification to customer if water use is significantly higher than neighbors with similarly-sized lots
- 10) Customer notification when neighbor reports runoff or runoff is noticed by employees or meter reads show rise in use of 20% or more from same time previous year
- 11) Dedicated phone line or "on hold" messages with recorded conservation information
- 12) Booths at local fairs/events
- 13) Monthly water use reports provided with comparison of water use to water budget

14) Presentations

15) Point of purchase pieces, including internet point of purchase by type: high-efficiency clothes washers, weather based irrigation controller, high-efficiency toilets, plant palette information, other.

16) Media outreach: news releases, editorial board visits, written editorials, newspaper contacts, television contacts, radio contacts, articles or stories resulting from outreach. Provide names of local media markets: newspaper, TV stations, radio stations reached via media outreach program during the reporting period

17) Adult Education/Training Programs: Topic(s) \_\_\_\_\_: number of presentations, number of attendees

18) Water Conservation Gardens: involvement in a garden that promotes and educates the public about water-efficient landscaping and conservation techniques. May include "Corporate" or "business" sponsorship or membership.

19) Sponsor or co-sponsor landscape workshops/training for homeowners and/or homeowners associations: number of presentations; number in attendance

20) Landscape watering calculator and watering index to assist with weekly irrigation scheduling

21) Additional program(s) supported by agency but not mentioned above

22) Total reporting period budget expenditure for public outreach/training/adult education programs (include all agency costs)

## **Social Marketing Programs List**

### **Developing the Conservation Message:**

1) Does your agency have a water conservation "brand," "theme" or mascot: If so briefly describe: \_\_\_\_\_

2) Have you sponsored or participated in market research to refine your message? If so topic: \_\_\_\_\_ Message of above brand? Mission Statement?

3) Do you have a community conservation committee? If yes, its focus is on:

- a. Conservation in general;
- b. Landscape;
- c. Education;
- d. Commercial/industrial/institutional;
- e. Other: \_\_\_\_\_

4) Training for stakeholders who help support programs or educate others about conservation:

- a. Professional landscapers: number of sessions/classes; number of attendees: on irrigation equipment; other
- b. Plumbers: number of sessions/classes; number of attendees
- c. Homeowners: number of sessions/classes; number of attendees: on irrigation equipment; other

5) Additional program(s) supported by agency but not mentioned above.

6) Total reporting period budget expenditure for social marketing programs (include all agency costs)

### **Partnering programs:**

1) Master Gardeners; Type of program: \_\_\_\_\_

- 2) CLCA; Type of program: \_\_\_\_\_
- 3) Cooperative Extension; Type of program: \_\_\_\_\_
- 4) Retail and wholesale outlets Name(s): \_\_\_\_\_ Type of program: \_\_\_\_\_
- 5) Local Colleges; Type of program: \_\_\_\_\_
- 6) Green Building Programs; Type of program: \_\_\_\_\_
- 7) Other \_\_\_\_\_
- 8) Newsletter articles published in other entities' newsletters:

- a. HOAs: number per year to number of customers
- b. City materials: number per year to number of customers
- c. Non-profits: number per year to number of customers
- d. Other: number per year to number of customers

- 9) Other utilities, including electric utilities
- 10) Water conservation gardens at utility or other high traffic areas or new homes
- 11) Water wise landscape contest or awards program

### **E. Water Savings Assumptions**

Not quantified.

## **2.2 SCHOOL EDUCATION PROGRAMS (formerly BMP 8)**

School education programs have been implemented to reach the youngest water users at an early age and enforce the need to engage in water conservation as a life-long behavior. This section provides specifics on how school education programs are to be implemented.

### **A. Implementation**

Implementation shall consist of at least the following actions:

- 1) Implement a school education program to promote water conservation and water conservation-related benefits.
- 2) Programs shall include working with school districts and private schools in the water suppliers' service area to provide instructional assistance, educational materials, and classroom presentations that identify urban, agricultural, and environmental issues and conditions in the local watershed. Educational materials shall meet the state education framework requirements and grade-appropriate materials shall be distributed.
- 3) When mutually agreeable and beneficial, the wholesale agency or another lead regional agency will operate all or part of the education program; if the wholesale agency operates all or part of the retail agency's school education program, then it may, by mutual consent with the retail agency, assume responsibility for CUWCC reporting of this BMP; under this arrangement, a wholesale agency may aggregate all or portions of the reporting and coverage requirements of the retail agencies joining into the mutual consent.

### **B. Implementation Schedule**

Implementation shall commence no later than July 1 of the first year following the latter of either: 1) the year the agency signed or became subject to the MOU, or 2) the year this

Exhibit is amended.

### **C. Coverage Requirements**

Agencies shall maintain an active school education program to educate students in the agency's service area about water conservation and efficient water use. An agency may participate in a mutual arrangement as described in Section A.

At minimum a school information program shall consist of the following:

- 1) Curriculum materials developed and/or provided by agency (including confirmation that materials meet state education framework requirements and are grade-level appropriate).
- 2) Materials distributed to K-6 students. When possible, school education programs will reach grades 7-12 as well.
- 3) Description of materials used to meet minimum requirement.
- 4) Annual budget for school education program.
- 5) Description of all other water supplier education programs (Lists follow in Section D).

### **D. Requirements for Documenting BMP Implementation**

Agencies may report on all of the following activities, although they are only expected to meet the minimum requirements in section C. Coverage Requirements.

#### **School Education Program List**

- 1) Classroom presentations: number of presentations, number of attendees, topics covered: conservation, recycled water, water sources, pollution prevention, etc.
- 2) Large group assemblies: number of presentations, number of attendees
- 3) Children's water festivals or other events: number of presentations, number of attendees
- 4) Cooperative efforts with existing science/water education programs (various workshops, science fair awards or judging) and follow-up: number of presentations, number of attendees
- 5) Other methods of disseminating information (i.e. themed age-appropriate classroom loaner kits); Description \_\_\_\_\_; number distributed
- 6) Staffing children's booths at events & festivals: number of booths, number of attendees
- 7) Water conservation contests such as poster and photo; Description \_\_\_\_\_; number of participants
- 8) Offer monetary awards/funding or scholarships to students: number offered; total funding
- 9) Teacher training workshops: number of presentations, number of attendees
- 10) Fund and/or staff student field trips to treatment facilities, recycling facilities, water conservation gardens, etc.: number of tours or field trips, number of participants
- 11) College internships in water conservation offered: number of internships; total funding
- 12) Career fairs/workshops: number of presentations, number of attendees
- 13) Additional program(s) supported by agency but not mentioned above; Description: \_\_\_\_\_; number of events (if applicable); number of participants
- 14) Total reporting period budget expenditures for school education programs (include all agency costs)

## **E. Water Savings Assumptions**

Not quantified.

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# California Urban Water Conservation Council

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## 3. RESIDENTIAL

Residential water users throughout California depend on a reliable and safe supply of water for their homes. This BMP will define the best and most proven water conservation methods and measures those residents, working in conjunction with water agencies, can implement. By implementing these methods and measures homeowners, multi-family property owners, and tenants will increase water use efficiency and reliability. Credit for prior activities, as reported through the BMP database, will be given for documented water savings achieved through 2008.

### A. Implementation

Retail water agencies shall implement a water use efficiency program that consists of either the coverage goals listed below or achieving the water savings goals by implementing measures on the Flex Track Menu in Section F below.

#### 1) Residential assistance program (*formerly BMPs 1 & 2*)

Provide site-specific leak detection assistance that may include, but is not limited to, the following: a water conservation survey, water efficiency suggestions, and/or inspection. Provide showerheads and faucet-aerators that meet the current water efficiency standard as stipulated in the WaterSense Specifications (WSS) as needed.

#### 2) Landscape water survey (*formerly BMP 1*)

Perform site-specific landscape water surveys that shall include, but are not limited to, the following: check irrigation system and timers for maintenance and repairs needed; estimate or measure landscaped area; develop customer irrigation schedule based on precipitation rate, local climate, irrigation system performance, and landscape conditions; review the scheduling with customer; provide information packet to customer; and provide customer with evaluation results and water savings recommendations.

#### 3) High-efficiency clothes washers (HECWs) (*formerly BMP 6*)

Provide incentives or institute ordinances requiring the purchase of high-efficiency clothes washing machines (HECWs) that meet an average water factor value of 5.0. If the WaterSense specification is less than 5.0, then the average water factor value will decrease to that amount.

4) WaterSense Specification (WSS) toilets (*formerly BMP 14*)

Provide incentives or ordinances requiring the replacement of existing toilets using 3.5 or more gpf (gallons per flush) with a toilet meeting WSS.

5) WaterSense Specifications for residential development

Provide incentives such as, but not limited to, rebates, recognition programs, or reduced connection fees, or ordinances requiring residential construction meeting WSS for single-family and multi-family housing until a local, state or federal regulation is passed requiring water efficient fixtures.

**B. Implementation Schedule**

Implementation shall commence no later than July 1 of the first year following the latter of either:

- 1) the year the agency signed or became subject to the MOU, or
- 2) the year this exhibit is amended.

**C. Coverage Requirements**

Coverage shall consist of:

1) Residential Assistance

Provide leak detection assistance to an average of 1.5 percent per year of current single-family accounts and 1.5 percent per year of current multi-family units during the first ten years after signing the MOU. After completing the ten-year 15 percent target, agencies will maintain a program at the level of high-bill complaints or not less than 0.75 percent per year of current single-family accounts and 0.75 percent per year of current multi-family units. Showerhead distribution will be considered complete when 75 percent market saturation is achieved.

2) Landscape Water Survey

Provide landscape water surveys to an average of 1.5 percent per year of current single-family accounts during the first ten years after signing the MOU. After completing the ten-year 15 percent target, agencies will maintain a program at the level of high-bill complaints or no less than 0.75 percent per year of current single-family accounts.

3) High efficiency clothes washers

Provide financial incentives for the purchase of HECWs that meet an average water factor value of 5.0. If the WaterSense Specification is less than 5.0, then the water factor value will decrease to that amount. Incentives shall be provided to 0.9 percent of current single-family accounts during the first reporting period following BMP implementation, rising to 1.0 percent per year of current single-family accounts for the remainder of ten year period following signing of the MOU. An alternative method is to demonstrate 1.4 percent per year of the market penetration during the first ten years after signing the MOU.

#### 4) WaterSense Specification (WSS) toilets

A financial incentive shall continue to be offered for toilets meeting the current WSS and updated standard whenever a more efficient toilet is identified by WSS. Compliance will entail demonstrating a number of toilet replacements of 3.5 gpf or greater, toilets at or above the level achieved through a retrofit on resale ordinance until 2014, or a market saturation of 75% is demonstrated, whichever is sooner.

#### 5) WSS for new residential development

An incentive shall continue to be offered until a water agency, or local, state or federal regulation is in effect meeting at a minimum, WSS for water efficient single-family homes. Multi-family housing shall also meet the WSS in all applicable criteria regardless of the total number of stories in the building.

### **D. Requirements for Documenting BMP Implementation**

#### 1) Residential assistance

Provide reports, disaggregated by single-family and multi-family units, identifying: the number of residential assistance/leak detection survey visits completed; number of WSS showerheads distributed; and number of WSS faucet aerators distributed during the reporting period.

#### 2) Landscape Water Surveys

Provide the number of single-family account landscape water surveys completed during the reporting period.

#### 3) High efficiency clothes washers

The number of installations credited to the agency's replacement program for HECWs with an average water factor value of 5.0. If the WaterSense Specification is less than 5.0, then the water factor value will decrease to that amount.

#### 4) WaterSense Specification (WSS) toilets

A description of the program along with the number of WSS toilet installations credited to the agency's replacement program disaggregated by single-family or multi-family units.

## 5) WSS for new residential development

Provide a copy of the new development ordinance currently adopted by the reporting unit or provide the following incentive program details: number of new single-family and multi-family units built in service area during the reporting period; description of incentives offered; list of incentive amounts; number of WSS fixtures installed; and number of participating single-family home and multi-family units.

### **E. Water Savings Assumptions**

Water savings assumptions will be based on the type and number of actions implemented.

### **F. Flex Track Menu**

In addition to the measures above, the Flex Track Menu may be implemented in part or any combination to meet the savings goal for this BMP. Agencies choosing the Flex Track Menu are responsible for achieving water savings greater than or equal to that which they would have achieved using only the BMP

[Flex Track Menus](#)

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# California Urban Water Conservation Council

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## 4. COMMERCIAL, INDUSTRIAL, AND INSTITUTIONAL (*formerly BMP 9*)

Commercial, industrial, and institutional (CII) water demands make up a large percentage of total demand for California. CII water use varies dramatically between business sectors as well as within a given water agency's territory. The goal of this BMP is to implement comprehensive yet flexible best management practices, allowing each water agency to tailor the implementation of each practice to fit local needs and opportunities. The end result is a practice that is successful and will produce the greatest amount of cost-effective water savings.

### A. Implementation

Implement measures to achieve the water savings goal for CII accounts of 10% of the baseline water use over a 10-year period. Baseline water use is defined as the water consumed by CII accounts in the agency's service area in 2008. Credit for prior activities, as reported through the BMP database, will be given for up to 50% of the goal; in this case, coverage will consist of reducing annual water use by CII accounts by an amount equal to the adjusted percentage goal within 10 years. Implementation shall consist of item 1) or 2) or both in order to reach the agency's water savings goals.

1) Implement measures on the CII list with well-documented savings that have been demonstrated for the purpose of documentation and reporting. The full list and their associated savings are included in the "Demonstrated Savings Measure List" in Section E below.

2) Implement unique conservation measures to achieve the agency's water savings goals. Sample measures include, but are not limited to: industrial process water use reduction, industrial laundry retrofits, car wash recycling systems, water-efficient commercial dishwashers, and wet cleaning. Water use reduction shall be calculated on a case-by-case basis. Agencies will be required to document how savings were realized and the method and calculations for estimating savings. See the CII Flex Track Menu list in the attachment to Exhibit 1, as updated in the MOU Compliance Policy and BMP Guidebook.

### B. Implementation Schedule

Implementation shall commence not later than July 1 of the first year following the latter of either: 1) the year the agency signed or became subject to the MOU, or 2) the year this Exhibit is amended.

### **C. Coverage Requirements**

Coverage shall consist of meeting the annual water savings goal in Section A. Although it is not one of the criteria in meeting implementation, agencies will be considered on track if estimated savings as a percent of baseline water use equals or exceeds the following:

0.5% by the end of first reporting period (year two), 2.4% by the end of year four, 4.3% by the end of year six, 6.4% by the end of year eight, and 9% by the end of year ten. Percentages will be adjusted proportionally for up to 50% past credit referred to in the Implementation section.

### **D. Requirements for Documenting BMP Implementation**

Each reporting period agencies are required to report the estimated reduction in annual water use for all CII accounts.

#### 1) CII List

For measures on the CII list with demonstrated savings, agencies shall report the measure type and quantity installed, as well as savings attributed to water shortage measures, intervention and actions.

#### 2) Flex Track Menu

For measures on the Flex Track Menu, agencies shall use one of three methods of measurement listed below to track savings. Agencies shall report the type of measure implemented, the industry in which the measure was implemented, and estimated savings as well as the measure life. Agencies shall keep detailed usage data on file and report the annual and lifetime savings.

##### a) Point of Retrofit Metering

Usage data collected from meters installed at the point of retrofit.

##### b) Customer Bill Analysis

Pre- and post-program usage from utility bills from the appropriate meters related to the measures implemented. For mixed-use meters, a minimum of 12 months pre-retrofit and 12 months post-retrofit usage data shall be used to calculate savings. The data shall be normalized for weather. For dedicated meters, a minimum of 6 months pre-retrofit and 6 months post-retrofit data shall be used to calculate savings

##### c) Agency-Provided Calculation

If an agency is unable to provide point of retrofit metering or customer bill analysis, the agency must document how savings were realized and the method and calculations for estimated savings. The calculation and assumptions are subject to approval by the Council on a case-by-case basis.

## **E. Water Savings Assumptions**

The Demonstrated Savings Measure List is found in the [MOU Compliance Policy](#). For assistance in calculating savings from unique measures used in the Flex Track Menu approach, see the BMP Guidebook.

## **F. Flex Track Menu**

In addition to the measures above, the Flex Track Menu options may be implemented in part or any combination for CII customers to meet the water savings goal of this BMP. Agencies may choose to implement any alternative with measurable water savings. Agencies choosing the Flex Track Menu option are responsible for achieving water savings greater than or equal to that which they would have achieved using only the BMP list items. Water savings estimates for the Flex Track Menu items will be maintained and regularly updated in the MOU Compliance Policies and BMP Guidebook.

Custom measures shall be calculated on a case-by-case basis. Agencies will be required to provide documentation on how savings were realized and the method and calculations for estimating savings.

### [Flex Track Menus](#)

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# California Urban Water Conservation Council

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## 5. LANDSCAPE (formerly BMP 5)

Irrigation accounts for a large portion of urban water use in California. Irrigation water use varies dramatically depending on water pricing and availability, plant choice, geographic locations, seasonal conditions, and the level of commitment to sound water efficiency practices. The goal of this BMP is that irrigators, with assistance from signatories, will achieve a higher level of water use efficiency consistent with the actual irrigation needs of the plant materials. Reaching this goal would reduce overall demands for water, reduce demands during the peak summer months, and still result in a healthy and vibrant landscape for California.

### A. Implementation

Agencies shall provide non-residential customers with support and incentives to improve their landscape water use efficiency. Credit for prior activities, as reported through the BMP database, will be given for documented water savings achieved through 2008. This support shall include, but not be limited to, the following:

#### 1) Accounts with Dedicated Irrigation Meters

a) Identify accounts with dedicated irrigation meters and assign ETo-based water use budgets equal to no more than an average of 70% of ETo (reference evapotranspiration) of annual average local ETo per square foot of landscape area in accordance with the schedule below.

Recreational areas (portions of parks, playgrounds, sports fields, golf courses, or school yards in public and private projects where turf provides a playing surface or serves other high-use recreational purposes) and areas permanently and solely dedicated to edible plants, such as orchards and vegetable gardens, may require water in addition to the water use budget. (These areas will be referred to as “recreational” below.) The water agency must provide a statement designating those portions of the landscape to be used for such purposes and specifying any additional water needed above the water use budget, which may not exceed 100% of ETo on an annual basis. If the California Model Water Efficient Landscape Ordinance is revised

to reduce the water allowance, this BMP will be revised automatically to reflect that change.

b) Provide notices each billing cycle to accounts with water use budgets showing the relationship between the budget and actual consumption.

c) Offer site-specific technical assistance to reduce water use to those accounts that are 20% over budget in accordance with the schedule given in Section B; agencies may choose not to notify customers whose use is less than their water use budget.

## 2) Commercial/Industrial/Institutional (CII) Accounts without Meters or with Mixed-Use Meters

a) Develop and implement a strategy targeting and marketing large landscape water use surveys to commercial/industrial/institutional (CII) accounts with mixed-use meters.

b) In un-metered service areas, actively market landscape surveys to existing accounts with large landscapes, or accounts with landscapes which have been determined by the purveyor not to be water efficient.

3) Offer financial incentives to support 1) and 2) above.

### **B. Implementation Schedule**

1) Implementation shall commence no later than July 1 of the first year following the latter of either: 1) the year the agency signed or became subject to the MOU, or 2) the year this Exhibit is amended.

2) Per year at least 9% of accounts with dedicated meters and 1.5% of all mixed-use or non-metered accounts will receive the assistance detailed in Section A. 1) and 2) above. At least 90% of all dedicated meters and 15% of all mixed-use and non-metered accounts will receive the assistance over a ten year period.

### **C. Coverage Requirements**

Coverage shall consist of:

1) ETo-based water use budgets developed for 90% of CII accounts with dedicated irrigation meters at an average rate of 9% per year over 10 years.

2) Offer site-specific technical assistance annually to all accounts that are 20% over budget within six years of the date implementation was to commence.

3) Complete irrigation water use surveys for not less than 15% of CII accounts with mixed-use meters and un-metered accounts within 10 years of the date implementation is to commence. (Note: CII surveys that include both indoor and outdoor components can be credited against coverage requirements for both the Landscape and CII BMPs.)

An agency will be considered on track if the percent of CII accounts with mixed-use meters receiving a landscape water use survey equals or exceeds the following: 1.5% by the end of

the first reporting period (year two) following the date implementation is to commence; 3.6% by the end of year four; 6.3% by the end of year six; 9.6% by the end of year eight; and 13.5% by the end of year ten.

Agency may credit 100% of the number of landscape water use surveys for CII accounts with mixed-use meters completed prior to July 1, 2007 that have received a follow-up inspection against the coverage requirement; agency may credit 50% of surveys that have not received follow-up inspections. Agency may credit 100% of the number of landscape water use surveys completed for CII accounts with mixed-use meters after July 1, 2007 against the coverage requirement.

4) Agency will implement and maintain a customer incentive program(s) for irrigation equipment retrofits.

#### **D. Requirements for Documenting BMP Implementation**

##### 1) Dedicated Landscape Irrigation Accounts

Agencies shall preserve water use records and budgets for customers with dedicated landscape irrigation accounts for at least four years. This information may be used by the Council to verify the agency's reporting on this BMP.

- a) Number of dedicated irrigation meter accounts.
- b) Number of dedicated irrigation meter accounts with water budgets.
- c) Aggregate water use for dedicated non-recreational landscape accounts with budgets.
- d) Aggregate acreage assigned water budgets and average ET for dedicated non-recreational landscape accounts with budgets.
- e) Number of Accounts 20% over-budget.
- f) Number of accounts 20% over-budget offered technical assistance.
- g) Number of accounts 20% over-budget accepting technical assistance
- h) Aggregate acreage of recreational areas assigned water budgets and average ET for dedicated recreational landscape accounts with budgets.

##### 2) CII Accounts without Meters or with Mixed-Use Meters

- a) Number of mixed use and un-metered accounts.
- b) Number, type, and dollar value of incentives, rebates, and no- or low-interest loans offered to, and received by, customers.
- c) Number of surveys offered.
- d) Number of surveys accepted.
- e) Estimated annual water savings by customers receiving surveys and implementing recommendations.

#### **E. Water Savings Assumptions**

Assume landscape BMP will result in a 15%-20% reduction in demand for landscape irrigation by affected accounts, as defined in Section C: Coverage Requirements.

#### **F. Flex Track Menu**

In addition to the measures above, the Flex Track Menu options may be implemented in part or any combination to meet the savings goal for this BMP. Agencies choosing the Flex Track Menu option are responsible for achieving water savings greater than or equal to that which they would have achieved using only the BMP list items. Water savings estimates for the Flex Track Menu items will be maintained and regularly updated in the MOU Compliance Policies and BMP Guidebook.

### [Flex Track Menus](#)

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## CUWCC BMP Coverage Report 2011

278 Rio Linda / Elverta Community Water District

**Baseline GPCD (1997-2006): 292.2**

GPCD in 2010: 222.1

**GPCD Target for 2018: 239.6**

**On Track**

Biennial GPCD Compliance Table

Year	Report	Target		Highest Acceptable Bound	
		% Base	GPCD	% Base	GPCD
2010	1	96.4%	<b>281.7</b>	100%	<b>292.2</b>
2012	2	92.8%	<b>271.1</b>	96.4%	<b>281.7</b>
2014	3	89.2%	<b>260.6</b>	92.8%	<b>271.1</b>
2016	4	85.6%	<b>250.1</b>	89.2%	<b>260.6</b>
2018	5	82.0%	<b>239.6</b>	82.0%	<b>239.6</b>



# CUWCC BMP Retail Coverage Report 2009

## Foundational Best Management Practices for Urban Water Efficiency

### Foundational BMPs

#### BMP 1.1 Operation Practices

278 Rio Linda / Elverta Community Water District

**1. Conservation Coordinator provided with necessary resources to implement BMPs?**

Name:	Mary Henrici
Title:	General Manager
Email:	mhenrici@rlecwd.com

**On Track**

#### 2. Water Waste Prevention Documents

WW Document Name	WWP File Name	WW Prevention URL	WW Prevention Ordinance Terms Description
Enact and enforce an ordinance or establish terms of service that prohibit water waste	RLECWD Ordinance 2008-01.pdf		
Enact and enforce an ordinance or establish terms of service for water efficient design in new development	RLECWD Ordinance 2008-01.pdf		
Support legislation or regulations that prohibit water waste	RLECWD Ordinance 2008-01.pdf		
Enact an ordinance or establish terms of service to facilitate implementation of water shortage response measures	RLECWD Ordinance 2008-01.pdf		
Support local ordinances that prohibit water waste	RLECWD Ordinance 2008-01.pdf		
Support local ordinances that establish permits requirements for water efficient design in new	RLECWD Ordinance 2008-01.pdf		

**On Track**



# CUWCC BMP Retail Coverage Report 2010

## Foundational Best Management Practices for Urban Water Efficiency

### Foundational BMPs

#### BMP 1.1 Operation Practices

278 Rio Linda / Elverta Community Water District

**1. Conservation Coordinator provided with necessary resources to implement BMPs?**

Name:	Mary Henrici
Title:	General Manager
Email:	mhenrici@rlecwd.com

**On Track**

#### 2. Water Waste Prevention Documents

WW Document Name	WWP File Name	WW Prevention URL	WW Prevention Ordinance Terms Description
Enact and enforce an ordinance or establish terms of service that prohibit water waste	RLECWD Ordinance 2008-01.pdf		
Enact and enforce an ordinance or establish terms of service for water efficient design in new development	RLECWD Ordinance 2008-01.pdf		
Support legislation or regulations that prohibit water waste	RLECWD Ordinance 2008-01.pdf		
Enact an ordinance or establish terms of service to facilitate implementation of water shortage response measures	RLECWD Ordinance 2008-01.pdf		
Support local ordinances that prohibit water waste	RLECWD Ordinance 2008-01.pdf		
Support local ordinances that establish permits requirements for water efficient design in new	RLECWD Ordinance 2008-01.pdf		

**On Track**

**BMP 1.2 Water Loss Control**

	2009	
Complete a prescreening Audit	Yes	
Metered Sales	2,602	
Verifiable Other Uses	0	
Total Supply	2,915	
(Metered Sales + System uses)/ Total Supply >0.89	0.89	
If ratio is less than 0.9, complete a full scale Audit in 2009?	Yes	On Track
Verify Data with Records on File?	Yes	On Track
Operate a system Leak Detection Program?	No	



**CUWCC BMP Coverage Report 2010**  
**Foundational Best Management Practices for Urban Water Efficiency**

**Foundational BMPs**

**BMP 1.2 Water Loss Control**

278 Rio Linda / Elverta Community Water District

Complete Standard Water Audit using AWWA software? Yes

**On Track**

AWWA file provided to CUWCC?

Yes

RL 2010 AWWA WaterAudit .xlsx

AWWA Water Audit Validity Score?

74

Complete Training in AWWA Audit Method?

No

Info only until 2013

Complete Training in Component Analysis Process?

No

Info only until 2013

CompComponent Analysis?

No

Info only until 2013

Repaired all leaks and breaks to the extent cost effective?

Yes

**On Track**

Locate and repair unreported leaks to the extent cost effective?

No

Info only until 2013

Maintain a record-keeping system for the repair of reported leaks, including time of report, leak location, type of leaking pipe segment or fitting, and leak running time from report to repair.

No

Info only until 2013

Provided 7 types of Water Loss Control Info

Leaks Repairs	Value Real Losses	Value Apparent Losses	Miles Surveyed	Press Reduction	Cost of Interventions	Water Saved (AF)
80						

**On Track**



# CUWCC BMP Coverage Report 2009

## Foundational Best Management Practices for Urban Water Efficiency

### Foundational BMPs

#### BMP 1.3 Metering With Commodity

278	Rio Linda / Elverta Community Water District
-----	--

Numbered Unmetered Accounts	No	<b>On Track</b>
Metered Accounts billed by volume of use	Yes	<b>On Track</b>
Number of CII Accounts with Mixed Use Meters	156	
Conducted a feasibility study to assess merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters?	No	Info until 20113
Feasibility Study provided to CUWCC?	No	Info until 20113
Completed a written plan, policy or program to test, repair and replace meters	No	Info until 20113



# CUWCC BMP Coverage Report 2010

## Foundational Best Management Practices for Urban Water Efficiency

### Foundational BMPs

#### BMP 1.3 Metering With Commodity

278	Rio Linda / Elverta Community Water District
-----	--

Numbered Unmetered Accounts	No	<b>On Track</b>
Metered Accounts billed by volume of use	Yes	<b>On Track</b>
Number of CII Accounts with Mixed Use Meters	158	
Conducted a feasibility study to assess merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters?	No	Info until 2013
Feasibility Study provided to CUWCC?	No	Info until 2013
Completed a written plan, policy or program to test, repair and replace meters	No	Info until 2013



**CUWCC BMP Coverage Report 2009**  
**Foundational Best Management Practices for Urban Water Efficiency**

**Foundational BMPs**

**BMP 1.4 Retail Conservation Pricing**

278 Rio Linda / Elverta Community Water District

Implementation (Water Rate Structure)

Customer Class	Water Rate Type	Conserving Rate?
Single-Family	Increasing Block	Yes
Multi-Family	Increasing Block	Yes
Commercial	Increasing Block	Yes
Institutional	Increasing Block	Yes
Industrial	Increasing Block	Yes
Dedicated Irrigation	Increasing Block	Yes

**On Track**

Customer Class	Water Rate Type	(V) Total Revenue Commodity Charges	(M) Total Revenue Fixed Charges
Single-Family	Increasing Block	387464	835070
Multi-Family	Increasing Block	6668	8316
Commercial	Increasing Block	20737	37364
Institutional	Increasing Block	35917	33086
Industrial	Increasing Block	1162	4284
Dedicated Irrigation	Increasing Block	15958	6050
		<b>467906</b>	<b>924170</b>

**Calculate:  $V / (V + M)$  34 %**

Implementation Option: Use Annual Revenue As Reported

Agency Provide Sewer Service: No

**On Track**



**CUWCC BMP Coverage Report 2010**  
**Foundational Best Management Practices for Urban Water Efficiency**

**Foundational BMPs**

**BMP 1.4 Retail Conservation Pricing**

278 Rio Linda / Elverta Community Water District

Implementation (Water Rate Structure)

Customer Class	Water Rate Type	Conserving Rate?
Single-Family	Increasing Block	Yes
Multi-Family	Increasing Block	Yes
Commercial	Increasing Block	Yes
Institutional	Increasing Block	Yes
Industrial	Increasing Block	Yes
Dedicated Irrigation	Increasing Block	Yes

**On Track**

Customer Class	Water Rate Type	(V) Total Revenue Commodity Charges	(M) Total Revenue Fixed Charges
Single-Family	Increasing Block	853375	376527
Multi-Family	Increasing Block	8211	6433
Commercial	Increasing Block	37201	18749
Institutional	Increasing Block	31091	34419
Industrial	Increasing Block	4284	1617
Dedicated Irrigation	Increasing Block	5351	4950
		<b>939513</b>	<b>442695</b>

**Calculate: V / (V + M) 68 %**

Implementation Option: Use Annual Revenue As Reported

Agency Provide Sewer Service: No

**On Track**







**CUWCC BMP Coverage Report 2009**  
**Foundational Best Management Practices for Urban Water Efficiency**

**Foundational BMPs**

**BMP 2.2 School Education Programs**

278 Rio Linda / Elverta Community Water District

Retail Only

Does a wholesale Agency implement School Education Programs? Yes

List of wholesale Agencies

Agencies Name	ID number
Regional Water Authority	

Materials meet state education framework requirements and are grade-level appropriate? Yes

Curriculum materials developed and/or provided by Agency:

Student supplements, written by an award-winning environmental educator and edited by water agency personnel. Teaching materials, online Be Water Smart teacher guides and activities California Waterways map Student contests for K-4th grades and 5th-8th grades Subscription to Sacramento Bee newspaper

Materials Distributed to K-6? Yes

Describe K-6 Materials

Student supplements, written by an award-winning environmental educator and edited by water agency personnel. Teaching materials, online Be Water Smart teacher guides and activities California Waterways map K-4 will receive a class set of "Water Conservation and You booklets" Student contests for K-

Materials distributed to 7-12 students? Yes (Info Only)

Annual budget for school education program:

Description of all other water supplier education programs

Student supplements, written by an award-winning environmental educator and edited by water agency personnel. Teaching materials, online Be Water Smart teacher guides and activities California Waterways map Student contests for K-4th grades and 5th-8th grades Subscription to Sacramento Bee newspaper Student supplements, written by an award-winning environmental educator and edited by water agency personnel. Teaching materials, online Be Water Smart teacher guides and activities California Waterways map K-4 will receive a class set of "Water Conservation and You booklets" Student contests for K- Be Water Smart contest for grades K-4 students. Students are asked to review water saving tips with their parents, choose three that they will do at home. Forms are signed by both student and parent, and then returned to the teacher to be entered into a drawing to win a classroom visit with Mr. Le

**On Track**



**CUWCC BMP Coverage Report 2010**  
**Foundational Best Management Practices for Urban Water Efficiency**

**Foundational BMPs**

**BMP 2.2 School Education Programs**

278 Rio Linda / Elverta Community Water District

Retail Only

Does a wholesale Agency implement School Education Programs?

Yes

List of wholesale Agencies

Agencies Name	ID number
Regional Water Authority	

Materials meet state education framework requirements and are grade-level appropriate?

Yes

Curriculum materials developed and/or provided by Agency:

Student supplements, written by an award-winning environmental educator and edited by water agency personnel. Teaching materials, online Be Water Smart teacher guides and activities California Waterways map Student contests for K-4th grades and 5th-8th grades Subscription to Sacramento Bee newspaper

Materials Distributed to K-6?

No

Describe K-6 Materials

Student supplements, written by an award-winning environmental educator and edited by water agency personnel. Teaching materials, online Be Water Smart teacher guides and activities California Waterways map K-4 will receive a class set of "Water Conservation and You booklets" Student contests for K-

Materials distributed to 7-12 students?

Yes

(Info Only)

Annual budget for school education program:

Description of all other water supplier education programs

Student supplements, written by an award-winning environmental educator and edited by water agency personnel. Teaching materials, online Be Water Smart teacher guides and activities California Waterways map Student contests for K-4th grades and 5th-8th grades Subscription to Sacramento Bee newspaper Student supplements, written by an award-winning environmental educator and edited by water agency personnel. Teaching materials, online Be Water Smart teacher guides and activities California Waterways map K-4 will receive a class set of "Water Conservation and You booklets" Student contests for K- Be Water Smart contest for grades K-4 students. Students are asked to review water saving tips with their parents, choose three that they will do at home. Forms are signed by both student and parent, and then returned to the teacher to be entered into a drawing to win a classroom visit with Mr. Le

**On Track**

**Appendix H**  
**Water Shortage Contingency Ordinance**

**ORDINANCE NO. 2008-01**

**AN ORDINANCE OF THE RIO LINDA/ELVERTA COMMUNITY WATER  
DISTRICT PRESCRIBING RULES AND REGULATIONS GOVERNING  
WATER SERVICE DURING A WATER SHORTAGE**

**WHEREAS**, California Constitution article X, section 2 provides that because of conditions prevailing in the state of California (the "State"), the water resources of the State shall be put to beneficial use to the fullest extent of which they are capable, the waste or unreasonable use of water shall be prevented, and the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and the public welfare; and

**WHEREAS**, pursuant to California Water Code section 106, it is the declared policy of the State that the use of water for domestic use is the highest use of water and that the next highest use is for irrigation; and

**WHEREAS**, pursuant to California Water Code sections 350 and 31020, and Section 4.15.010 of Chapter 4.15 of the Rio Linda/Elverta Community Water District Policy Manual, the Board of Directors (the "Board") of the Rio Linda/Elverta Community Water District (the "District") is authorized to declare (i) a water shortage when it determines that it will or may not be able to meet all of the water demands of its customers; and (ii) a water shortage emergency when it determines that the District will not be able to or cannot meet the ordinary demands and requirements of water consumers without depleting the water supply of the District to the extent that there would be insufficient water for human consumption, sanitation, and fire protection, and as more fully set forth in this Ordinance (a "Water Shortage"); and

**WHEREAS**, on September 10, 2007, by Resolution 2007-05, the Board declared that a water capacity shortage exists in the District; and

**WHEREAS**, on November 19, 2007, the State Department of Public Health issued Compliance Order 01-09-07-CO-004, requiring the District to implement a water rationing plan by April 1, 2008; and

**WHEREAS**, the District hereby finds and determines that a water capacity shortage continues to exist; and declares a Water Conservation Stage 2. It is necessary for the District to adopt and implement drought response measures and a water conservation and regulatory program to regulate the water consumption activities of within the District and ensure that the water delivered in the District is put to beneficial use for the greatest public benefit, with particular regard to domestic use, including

human consumption, sanitation, and fire protection, and that the waste or unreasonable use of water is prevented; and

**WHEREAS**, pursuant to California Water Code sections 375, 31020, 31026-31028, the District is authorized to prescribe and define by ordinance restrictions, prohibitions, and exclusions for the use of water during a threatened or existing water shortage and adopt and enforce a water conservation and regulatory program to: (i) prohibit the wastage of District water or the use of District water during such period; (ii) prohibit use of water during such periods for specific uses which the District may from time to time find nonessential; and (iii) reduce and restrict the quantity of water used by those persons within the District for the purpose of conserving the water supplies of the District; and

**WHEREAS**, the District hereby finds and determines that pursuant to the provisions of this Ordinance and Chapter 4.15 of the District Policy Manual the District shall: (i) implement drought response and water conservation measures; (ii) regulate the water consumption activities of persons within the District for the purposes of conserving and protecting the District's water supplies, reducing the quantity of water consumed, and deterring and preventing the waste or unreasonable use or unreasonable method of use of valuable water resources; and (iii) establish and collect regulatory fees as set forth herein to accomplish these purposes and recover the costs of the District's water conservation and regulatory program; and

**WHEREAS**, the Board of Directors hereby finds and determines that it is desirable to codify the rules and regulations governing its actions, and the actions of persons within the District during declared water shortages, the current Water Shortage, and any future Water Shortage.

**NOW, THEREFORE, BE IT ORDAINED** by the Board of Directors of the Rio Linda/Elverta Community Water District as follows:

**Section 1. Recitals.** The District hereby finds and determines that the above recitals are true and correct and incorporated herein.

**Section 2. Declaration of Policy.**

(a) The Board finds and determines that during periods of drought, water shortages, and Water Shortage Emergencies the general welfare requires that the District maximize the beneficial use of its available water resources to the extent that it is capable, and that the waste or unreasonable use, or unreasonable method of use of water shall be prevented and the conservation of water is to be extended with the view to the reasonable and beneficial use thereof in the interests of the people of the District and for the public welfare.

(b) This Ordinance establishes water conservation and drought response measures and regulations to be implemented during declared water conservation stages.

(c) This ordinance establishes five stages of water conservation and drought response measures to be implemented by the District, with increasing restrictions on water use in response to worsening drought conditions and decreasing water supplies.

**Section 3. Definitions.** For the purposes of this Ordinance, the following words, terms, and phrases shall have the following meanings:

(a) "Greywater" means household wastewater other than toilet waste.

(b) "Person" means any natural person, firm, joint venture, joint stock company, partnership, public or private association, club, company, corporation, business trust, organization, public or private agency, government agency or institution, school district, college, university, any other user of water provided by the City, or the manager, lessee, agent, servant, officer or employee of any of them or any other entity which is recognized by law as the subject of rights or duties.

(c) "Property owner" means the record owner of real property based on the County Assessor's records.

(d) "Water customer" or "customer" means a person who, according to the District's records, receives water service to a parcel of property.

**Section 4. Application.**

(a) The provisions of this Ordinance shall apply to all persons and property served by the District wherever situated.

(b) Nothing in this Ordinance is intended to affect or limit the ability of the District to respond to an emergency, including an emergency that affects the ability of the District to supply water.

**Section 5. Water Conservation.**

(a) It is unlawful for any person to make, cause, or use or permit the use of water from the District for residential, commercial, industrial, agricultural, governmental, or any other purpose in a manner contrary to any provisions of this Ordinance, or in an amount in excess of that use permitted by the following water conservation stages which are in effect pursuant to action taken by the Board in accordance with this Ordinance.

(b) It is unlawful at any time for any person to waste water or to use it unreasonably. Unreasonable uses of water shall include, but are not limited to, the following practices:

(1) allowing water to leave the customer's property by drainage onto adjacent properties or public or private roadways or streets due to excessive irrigation and/or uncorrected leaks;

(2) failing to repair a water leak; and

(3) using water to wash down sidewalks, driveways, parking areas, tennis courts, patios or other paved areas, except to alleviate immediate safety or sanitation hazards.

(c) A water conservation stage shall be determined by the Board in accordance with the provisions of this Ordinance and shall remain in full force and effect until otherwise determined or discontinued by the Board. The provisions of sections 4.14.010 through 4.14.2 of Chapter 4.14 of the District Policy Manual are hereby incorporated by reference into this Ordinance and are applicable during any water conservation stage.

(d) During Water Conservation Stage 1, the water conservation and drought response measures are voluntary and will be enforced through local and regional public education and awareness measures by the District.

(e) During Water Conservation Stages 2 through 5, the water conservation and drought response measures are mandatory and violations are subject to criminal, civil, and administrative penalties and remedies as specified in this Ordinance and the District Policy Manual.

**Section 6. Water Conservation Stage 1. – Normal Water Supply.**

Water Conservation Stage 1 is also referred to as a "Normal Water Supply" and applies during periods when the District is able to meet all of the water demands of its customers. Water is a limited natural resource and must be used efficiently and economically to meet the health and safety needs of the community. All normal water efficiency programs and water conservation regulations of the District will be in full force and effect during Water Conservation Stage 1. All water conservation measures and elements of Water Conservation Stage 2 shall apply on a voluntary basis during Water Conservation Stage 1.

**Section 7. Water Conservation Stage 2. - Water Warning.**

(a) Water Conservation Stage 2 is also referred to as a "Water Warning" and applies during periods when a reasonable probability exists that the

District will not be able to meet all of the water demands of its customers. Water Conservation Stage 2 may be caused by, but is not limited to, any or all of the following circumstances or events: (i) a regional water supply shortage exists and a regional public outreach campaign is being implemented asking customers to reduce water use; (ii) groundwater wells are inoperable or unusable (such as by power outages, mechanical failure, or contamination); (iii) alternative water supplies are unavailable; and (iv) groundwater levels or groundwater quality is approaching levels which may require augmentation of the groundwater basin or other actions necessary to protect the groundwater basin as prescribed by the Sacramento Groundwater Authority, Sacramento County, or some other regulatory body.

(b) The objective of the measures undertaken in Water Conservation Stage 2 is to reduce water system consumption within the District by fifteen percent.

(c) Except as otherwise provided herein, all water conservation and drought response measures of Water Conservation Stage 1 shall be in full force and effect during Water Conservation Stage 2. Upon declaration of a Water Conservation Stage 2 by the Board, implementation by the District and publication of notice, the following water conservation and drought response measures shall apply:

(1) The District shall determine the total amount of water delivered to the property of each District customer in the prior fiscal year (the "Base Year Consumption Amount"). Water customers shall reduce their water consumption by fifteen percent from the Base Year Consumption Amount for the duration of Water Conservation Stage 2. Provided, however, the Base Year Consumption Amount for subsequent fiscal years shall be determined by the District as appropriate in the event that the District is required to continue Water Conservation Stage 2 for more than twelve months.

(2) Lawns and/or ground covers may be watered and landscaping/pastures may be irrigated, including construction meter irrigation, only during the following designated hours and designated days:

(A) lawns and/or ground cover may be watered and landscaping/pastures may be irrigated for properties with odd number street addresses only on Saturdays, Mondays, and Wednesdays;

(B) lawns and/or ground cover may be watered and landscaping/pastures may be irrigated for properties with even number street addresses only on Sundays, Tuesdays, and Thursdays; and

(C) watering lawns and/or ground cover and irrigating landscaping/pastures is prohibited on Fridays and on any day of the week from 6:00 a.m. to 9:00 a.m. and 6:00 p.m. to 9:00 p.m.

(3) All irrigation timers shall be adjusted to comply with the provisions of Section 7(c)(2) hereof.

(4) Notwithstanding the provisions of Section 7(c)(2) herein, the use of greywater to irrigate fruit trees, lawns and ground covers, and ornamental trees and shrubs is permitted on any day and at any time. Provided, however, greywater may only be used in accordance with Health Department regulations.

(5) All open hoses shall be equipped with automatic, positive shut-off nozzles.

(6) All swimming pools, spas, ponds, and fountains shall be equipped with recirculating pumps.

(7) All plumbing leaks, improperly adjusted sprinklers, or other water conduits/fixtures that require repair or adjustment shall be corrected to the satisfaction of the District.

(8) No person shall use water to wash down sidewalks, driveways, parking areas, tennis courts, patios, or other paved areas, except to alleviate immediate fire or sanitation hazards.

(9) No person shall allow water to leave his or her property by drainage onto adjacent properties or public or private roadways or streets due to excessive irrigation and/or uncorrected leaks.

(10) Water customers shall read their water meters at least once each month to monitor their water consumption.

(11) The washing of automobiles, trucks, trailers, boats, airplanes and other types of mobile equipment, is permitted at any time with a hand-held bucket or a hand-held hose equipped with an automatic, positive shut-off nozzle for quick rinses. Washing may be done at any time on the immediate premises of a commercial car wash or commercial service station, or by a mobile car wash or on-site car wash using high pressure washing equipment. Further, such washings are exempted from these regulations where the health, safety, and welfare of the public is contingent upon frequent vehicle cleanings, such as garbage trucks and vehicles to transport food and perishables.

(12) Use of water from fire hydrants shall be limited to fire fighting, related activities or other activities necessary to maintain the health, safety, and welfare of the citizens of District.

(13) All restaurants are prohibited from serving water to their customers except when specifically requested by the customers.

(14) Construction operations receiving water from a construction meter or water truck shall not use water unnecessarily for any purpose other than those required by regulatory agencies. Construction projects requiring watering for new landscaping materials shall adhere to the designated irrigation hours set forth in Section 7(c)(2)(A) and (C) hereof.

**Section 8. Water Conservation Stage 3. - Water Shortage.**

(a) Water Conservation Stage 3 is also referred to as a "Water Shortage" and applies during periods when the District will not be able to meet all of the water demands of its customers. Water Conservation Stage 3 may be caused by, but is not limited to, any or all of the following circumstances or events: (i) a regional water supply shortage exists and a regional public outreach campaign is being implemented asking customers to reduce water use; (ii) groundwater wells are inoperable or unusable (such as by power outages, mechanical failure, or contamination); (iii) alternative water supplies are unavailable; and (iv) groundwater levels or groundwater quality is approaching levels which may require augmentation of the groundwater basin or other actions necessary to protect the groundwater basin as prescribed by the Sacramento Groundwater Authority, Sacramento County, or some regulatory body.

(b) The objective of the measures undertaken in Water Conservation Stage 3 is to reduce water system consumption within the District by twenty percent.

(c) Except as otherwise provided herein, all water conservation and drought response measures of Water Conservation Stages 1 and 2 shall be in full force and effect during Water Conservation Stage 3. Upon declaration of a Water Conservation Stage 3 by the Board, implementation by the District and publication of notice, the following water conservation and drought response measures shall apply:

(1) Water customers shall reduce their water consumption by twenty percent from the Base Year Consumption Amount for the duration of Water Conservation Stage 3. Provided, however, the Base Year Consumption Amount for subsequent fiscal years shall be determined by the District as appropriate in the event that the District is required to continue Water Conservation Stage 3 for more than twelve months.

(2) Lawns and/or ground cover may be watered and landscaping/pastures may be irrigated, including construction meter irrigation, only during the following designated hours and designated days:

(A) lawns and/or ground cover may be watered and landscaping/pastures may be irrigated for properties with odd number street addresses only on Saturdays and Wednesdays;

(B) lawns and/or ground cover may be watered and landscaping/pastures may be irrigated for properties with even number street addresses only on Sundays and Thursdays; and

(C) watering lawns and/or ground cover and irrigating landscaping/pastures is prohibited on Mondays and Fridays and on any day of the week from 6:00 a.m. to 9:00 a.m. and 6:00 p.m. to 9:00 p.m.

(3) Notwithstanding the provisions of Section 8(d)(2) herein, the use of greywater to irrigate fruit trees, lawns and ground covers, and ornamental trees and shrubs is permitted on any day and at any time. Provided, however, greywater may only be used in accordance with Health Department regulations.

(4) Irrigation timers shall be adjusted to comply with the provisions of Section 8(d)(2) hereof.

(5) Customers shall read their water meters at least once each week to monitor their water consumption.

(6) The washing of automobiles, trucks, trailers, boats, airplanes and other types of mobile equipment is permitted only during the hours of 9:00 a.m. to 6:00 p.m. on Saturdays, Sundays, and Mondays with a hand-held bucket or a hand-held hose equipped with an automatic, positive shut-off nozzle for quick rinses. Washing is permitted at any time on the immediate premises of a commercial car wash. The use of water by all types of commercial car washes not using partially reclaimed or recycled water shall be reduced in volume by an amount determined by the Board. Further, such washings are exempt from these regulations where the health, safety, and welfare of the public is contingent upon frequent vehicle cleanings, such as garbage trucks and vehicles to transport food and perishables.

(7) The overfilling of swimming pools and spas is prohibited. The filling or refilling of ponds, streams, and artificial lakes is prohibited.

(8) The operation of any ornamental fountain or similar structure is prohibited except for short periods of time to prevent damage.

(9) The number of new construction meters shall not exceed the existing number of currently authorized meters. A new meter shall be issued only when an old meter is returned. Construction projects requiring water from a construction meter or a water truck shall not use water unnecessarily for any purposes other than those required by regulatory agencies. Construction projects requiring water for new landscapes shall adhere to the designated days and times as set forth in Section 8(d)(2)(A) and (C) hereof. Further, construction projects necessary to maintain the health, safety, and welfare of the public are exempt from these regulations.

**Section 9. Water Conservation Stage 4. - Water Crisis.**

(a) Water Conservation Stage 4 is also referred to as a "Water Crisis" and applies during periods when the District will not be able to meet all of the water demands of its customers. Water Conservation Stage 4 may be caused by, but is not limited to, any or all of the following circumstances or events: (i) a regional water supply shortage exists and a regional public outreach campaign is being implemented asking customers to reduce water use; (ii) groundwater wells are inoperable or unusable (such as by power outages, mechanical failure, or contamination); (iii) alternative water supplies are unavailable; (iv) groundwater levels or groundwater quality is approaching levels which may require augmentation of the groundwater basin or other actions necessary to protect the groundwater basin as prescribed by the Sacramento Groundwater Authority, Sacramento County, or some regulatory body; and (v) a major failure of any supply or distribution facility, whether temporary or permanent, occurs in the water distribution system of the State or District water facilities.

(b) The objective of the measures undertaken in Water Conservation Stage 4 is to reduce water consumption within the District by forty percent.

(c) Except as otherwise provided herein, all water conservation and drought response measures of Water Conservation Stages 1, 2, and 3 shall be in full force and effect during Water Conservation Stage 4. Upon declaration of a Water Conservation Stage 4 by the Board, implementation by the District and publication of notice, the following water conservation and drought response measures shall apply:

(1) Water customers shall reduce their water consumption by forty percent from the Base Year Consumption Amount for the duration of Water Conservation Stage 4. Provided, however, the Base Year Consumption Amount for subsequent fiscal years shall be determined by the District as appropriate in the event that the District is required to continue Water Conservation Stage 4 for more than twelve months.

(2) Irrigation of landscaping and pastures shall be limited to supporting minimal survival of trees and shrubs. Landscaping and/or pastures may be irrigated, including construction meter irrigation, only during the following designated hours and designated days:

(A) properties with odd number street addresses may irrigate landscaping and pastures only on Saturdays;

(B) properties with even number street addresses may irrigate landscaping and pastures only on Sundays; and

(C) irrigating landscaping and pastures is prohibited on Mondays, Tuesdays, Wednesdays, Thursdays, and Fridays and on any day of the week from 6:00 a.m. to 9:00 a.m. and 6:00 p.m. to 9:00 p.m.

(3) Notwithstanding the provisions of Section 9(e)(2) herein, the use of greywater to irrigate fruit trees, lawns and ground covers, and ornamental trees and shrubs is permitted on any day and at any time. Provided, however, greywater may only be used in accordance with Health Department regulations.

(4) All outdoor watering and irrigation of lawns and ground covers is prohibited with the exception of plant materials classified and determined by the District General Manager to be rare, exceptionally valuable, or essential to the well being of the public at large or rare animals, and as otherwise provided in Section 9(e)(3).

(5) The washing of automobiles, trucks, trailers, boats, airplanes and other types of mobile equipment is prohibited. Washing is permitted at any time on the immediate premises of a commercial car wash. Commercial car washes shall only use partially reclaimed or recycled water for washing automobiles, trucks, trailers, boats, airplanes and other types of mobile equipment. Further, such washings are exempt from these regulations where the health, safety and welfare of the public is contingent upon frequent vehicle cleanings, such as garbage trucks and vehicles to transport food and perishables.

(6) The filling, refilling, or adding of water to swimming pools, spas, ponds, streams, and artificial lakes is prohibited.

(7) The operation of any ornamental fountain, pond, or similar structure is prohibited except for short periods of time to prevent damage.

(8) The use of water for cooling mists is prohibited.

(9) The use of water for commercial, manufacturing or processing purposes shall be reduced in volume by an amount determined by the Board.

(10) No new construction meters will be issued. Construction water shall not be used for earth work, road construction purposes, dust control, compaction, or trenching jetting. Construction projects necessary to maintaining the health, safety, and welfare of the public are exempt from these regulations.

(11) Except as to property for which a building permit has been heretofore issued, no new building permit(s) shall be provided, except in the following circumstances:

(A) for projects necessary to protect the public's health, safety, and welfare;

(B) when using reclaimed water;

(C) when the recipient of the building permit can demonstrate that no net increase in water use will occur; or

(D) where the recipient of the building permit provides a conservation offset. For purposes of this Section, "conservation offset" shall mean the implementation of proven conservation techniques which, when installed, will result in a reduction equal to demand of the proposed use. A conservation offset may be effected by paying a fee established by the District in an amount necessary to cover the cost of implementing such conservation techniques. The fee will be based on the conservation offset required for an equivalent dwelling unit. Such fee shall apply to residential as well as commercial and industrial buildings, and may be adjusted from time to time as determined by the District.

**Section 10. Water Conservation Stage 5. – Water Shortage Emergency.**

(a) Water Conservation Stage 5 is also referred to as a Water Shortage Emergency and applies during periods when the District will not be able to meet all of the water demands of its customers. Water Conservation Stage 5 may be caused by, but is not limited to, any or all of the following circumstances or events: (i) a regional water supply shortage exists and a regional public outreach campaign is being implemented asking customers to reduce water use; (ii) groundwater wells are inoperable or unusable (such as by power outages, mechanical failure, or contamination); (iii) alternative water supplies are unavailable; (iv) groundwater levels or groundwater quality is approaching levels which may require augmentation of the groundwater basin or other actions necessary to protect the groundwater basin as prescribed by the Sacramento Groundwater Authority, Sacramento County, or some regulatory body; and (v) a major failure of any supply or distribution facility, whether temporary or permanent, occurs in the water distribution system of the State or District water facilities and the District cannot meet all of the water demands of its customers.

(b) The objective of the measures undertaken in Water Conservation Stage 5 is to reduce water consumption by fifty percent.

(c) Except as otherwise provided herein, all water conservation and drought response measures of Water Conservation Stages 1, 2, 3, and 4 shall be in full force and effect during Water Conservation Stage 5. Upon declaration of a Water Conservation Stage 5 by the Board, implementation by the District and publication of notice, the following water conservation and drought response measures shall apply:

(1) Water customers shall reduce their water consumption by fifty percent from the Base Year Consumption Amount for the duration of Water Conservation Stage 5. Provided, however, the Base Year Consumption Amount for subsequent fiscal years shall be determined by the District as appropriate in the event that the District is required to continue Water Conservation Stage 5 for more than twelve months.

(2) All outdoor watering and irrigation of lawns and ground cover, and landscaping and pastures is prohibited with the exception of the use of greywater to irrigate fruit trees, lawns and ground covers, and ornamental trees and shrubs is permitted on any day and at any time. Provided, however, greywater may only be used in accordance with Health Department regulations.

(3) The District shall not allow any new connections to the water system during Water Conservation Stage 5.

**Section 11. Mandatory Conservation Phase Implementation.** The District General Manager, or his or her designee, shall monitor the projected supply and demand for water by its customers on a daily basis during periods of a water shortage or drought and shall recommend to the Board the extent of the conservation required through the implementation and/or termination of particular water conservation stages to prudently plan and supply water to its customers. Thereafter, the Board may order the implementation or termination of the appropriate water conservation stage. The declaration of any stage beyond Water Conservation Stage 1 shall be made by public announcement and shall be published a minimum of one (1) time for three (3) consecutive days in a daily newspaper of general circulation. Such declaration and notice shall provide the extent, terms, and conditions respecting the use and consumption of water in accordance with the applicable water conservation stage as provided in this Ordinance. Upon such declaration and publication of such notice, due and proper notice shall be deemed to have been given each and every person supplied water within the District. The water conservation stage designated shall become effective immediately upon announcement.

**Section 12. Enforcement**

(a) It shall be unlawful for any person to violate the provisions of this Ordinance. Violations of these provisions shall be a misdemeanor subject to imprisonment in the county jail for not more than 30 days or by fine not to exceed \$1,000, or by both as provided in California Water Code sections 377 and 31029, Section 4.14.250B of Chapter 4.14 of the District's Policy Manual, and as set forth in this Ordinance. The District can alternatively seek injunctive relief in the Superior Court or pursue any other remedy at law to enforce the provisions of this Ordinance. In addition to any other remedies which the District may have for the enforcement of this Ordinance, service of water may be discontinued or appropriately limited to any customer who uses water in violation of any provision of this Ordinance and as set forth in this Ordinance.

(b) Each day that a violation of this Ordinance occurs is a separate offense.

(c) For the first violation of any provision of this Ordinance, within two weeks of the violation:

(1) the District shall send a District water conservation specialist or provide written notice to the property where the violation occurred to advise the person responsible for the violation of: (A) the water conservation stage then in effect and the provisions of this Ordinance relating thereto; (B) water conservation and drought response measures that are required and may be implemented pursuant to this Ordinance; (C) possible consequences of future violations of this Ordinance, including discontinuance of water service; and (D) penalties that may be imposed for the specific violation and any future violations of this Ordinance; and

(2) if the District Manager deems it to be appropriate, the District may order the installation of a flow-restricting device on the service line for any person who violates any term or provision of this Ordinance.

(d) For a second or any subsequent violation of this Ordinance, within two weeks of the violation:

(1) the District shall send a District water conservation specialist or provide written notice of violation to the property where the violation occurred to notify the person at the property of: (A) the water conservation stage then in effect and the provisions of this Ordinance relating thereto; (B) the water conservation and drought response measures that are required and may be implemented by such person; and (C) possible consequences which may occur in the event of any future violations of this Ordinance;

(2) if the District Manager deems it to be appropriate, the District may order the installation of a flow-restricting device on the service line for any person who violates any term or provisions of this Ordinance;

(3) if the District Manager deems it to be appropriate, the District may discontinue water service at the location where the violation occurred;

(4) if a flow restrictor is installed at the property where the violation occurred, the District shall impose a penalty for the installation and removal of any flow restrictor installed by the District to restrict the amount of water delivered to a person who has violated this Ordinance; and

(5) if water service is discontinued at the property where the violation occurred, the District shall impose a reconnection penalty, as fixed from time to time by the Board, if the person requests to reconnect the property to the water system;

(6) the District shall impose any other penalties, as fixed from time to time by the Board, for a violation of this Ordinance or in accordance with California Water Code sections 377 and 31029, and Section 4.14.25 of Chapter 4.14 of the District Policy Manual.

(e) The District may, after one written notice of violation pursuant to this Section 12, order that a special meter reading or readings be made in order to ascertain whether wasteful or unreasonable use of water is occurring. The District may impose a meter reading fee for each meter reading it conducts pursuant to this Ordinance.

(f) In order to recover the costs of this water conservation regulatory program, the Board may, from time to time, fix and impose fees for:

(1) any visits of a water conservation specialist or other District staff for time incurred or for meter reading, follow-up visits, or the installation of a flow restrictor device;

(2) enforcing any term or provision of this Ordinance;

(3) reinitiating service at the property where service has been discontinued pursuant to this Ordinance; and

(4) processing any fees necessary to carry out the provisions of this ordinance.

(g) The District hereby adopts the schedule of fees and penalties set forth in Exhibit A to this Ordinance, attached hereto and by this reference incorporated herein, for violations of this Ordinance. Such penalties and fees may be fixed and amended from time to time by resolution of the Board

(h) The failure of any person with an interest in the property to receive any notice served in accordance with this Ordinance shall not affect the validity of any proceedings taken under this Ordinance. The notice requirements in this Section do not apply to initial notices of violation which may be sent by regular mail. Service of a notice of violation by regular mail is effective on the date of mailing.

(i) All remedies provided herein shall be cumulative and not exclusive.

**Section 13. Variances.** Consideration of written applications for variances regarding the regulations and restrictions on water use set forth in this Ordinance may be made by the District.

(a) Written applications for variances shall be accepted, and may be granted or denied, by the General Manager (the "Approving Authority"), at his or her sole discretion, or by his or her designee at his or her sole discretion. The application shall be in a form prescribed by the District and shall be accompanied by a non-refundable processing fee in an amount as determined by the Board.

(b) The grounds for granting or conditionally granting a variance are:

(1) due to unique circumstances, a specific requirement of this Ordinance would result in undue hardship to a person using District water or to property upon which District water is used, that is disproportionate to the impacts to other District water users generally or to similar property or classes of water users; or

(2) failure to grant a variance would adversely affect the health, sanitation, fire protection, or safety of the applicant or the public.

(c) The application for a variance shall be accompanied, as appropriate, with photographs, maps, drawings, and other information substantiating the applicant's request, including a statement of the applicant.

(d) An application for a variance shall be denied unless the Approving Authority finds, based on the information provided in the application, supporting documentation, or such other additional information as may be requested, and on water use information for the property as shown by the records of the District, all of the following:

(1) That the variance does not constitute a grant of special privilege inconsistent with the limitations upon other District customers.

(2) That because of special circumstances applicable to the property or its use, the strict application of this Ordinance would have a disproportionate impact on (A) the property or use that exceeds that customers generally, or (B) the applicant's health that exceeds customers generally.

(3) That the authorization of such variance will not be of substantial detriment to adjacent properties, and will not materially affect the ability of the District to effectuate the purpose of this Ordinance and will not be detrimental to the public interest.

(4) That the condition or situation of (A) the subject property or the intended use of the property for which the variance is sought is not common, recurrent, or general in nature, or (B) the applicant's health or safety is not common, recurrent, or general in nature.

(e) The denial or grant of a variance shall be acted upon within fifteen (15) days of the submittal of the complete application, including any photographs, maps, drawings, and other information substantiating the applicant's request and the statement of the applicant. The application may be approved, conditionally approved, or denied. The decision of the Approving Authority shall be prepared in writing, include terms and conditions, if any, and promptly sent to the applicant.

(f) The denial of a request for a variance may be appealed in writing to the District General Manager. An appeal shall be made in accordance with the following procedures:

(1) The person appealing the denial of the variance ("appellant") shall complete and submit in writing a form provided by the District for such purpose and shall state in such form the grounds for his or her appeal. All appeals shall be submitted to the District Secretary within thirty (30) calendar days of the date of the notice of the denial of the request for a variance.

(2) The General Manager, or his or her designee, shall review the appeal and any related information provided, and, if necessary, cause an investigation and report to be made concerning the request for a variance. The General Manager, or his or her designee, shall have fifteen (15) calendar days from the submission of the appeal to render a decision on whether to grant the appeal and mail notice thereof to the appellant. If the General Manager, or his or her designee, grants the appeal and determines that the request for a variance shall be granted, then within fifteen (15) calendar days of such determination the General Manager, or his or her designee, shall give written notice thereof.

(3) The decision of the General Manager, or his or her designee, may be appealed by the appellant to the Board of Directors. Such appeal must be submitted in writing and filed with the District Secretary within fifteen (15) calendar days of the date of decision of the General Manager, or his or her designee. The Board of Directors shall conduct a hearing on such appeal at its next regularly scheduled Board meeting; provided, however, the Board of Directors shall have received the notice of appeal at least fifteen (15) calendar days prior to such meeting. If the appeal is not submitted within at least fifteen (15) calendar days prior to a regularly scheduled Board of Directors meeting, then the hearing shall be held at the following regularly scheduled Board of Directors meeting. A notice of the hearing shall be mailed to the appellant at least ten (10) calendar days before the date fixed for the hearing. The Board of Directors shall review the appeal de novo. The determination of the Board of Directors shall be conclusive. Notice of the determination by the Board of Directors shall be mailed to the appellant within ten (10) calendar days of such determination and shall indicate whether the appeal has been granted in whole or in part and set forth the terms and conditions of the variance, if any, granted to the appellant. If the appeal is denied, the appellant shall comply with all terms and conditions of this Ordinance and the applicable water conservation stage then in effect.

(4) Until the conclusion of the appeal process, all provisions and decisions under appeal shall remain in full force and effect until the conclusion of the appeal process.

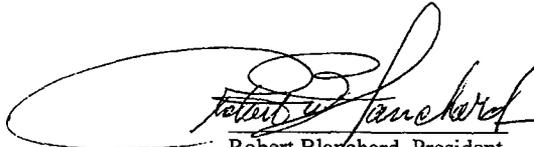
**Section 14. Conflicting Provisions.** If provisions of this Ordinance are in conflict with each other, the District Policy Manual, any other resolution or ordinance of the District, or any State law or regulation, the more restrictive provisions shall apply.

**Section 15. Severability.** If any provision, section, subsection, sentence, clause or phrase or sections of this Ordinance, or the application of same to any person or set of circumstances, is for any reason held to be unconstitutional, void or

invalid, the invalidity of the remaining portions of sections of this Ordinance shall not be affected, it being the intent of the Board in adopting this Ordinance that no portions, provisions, or regulations contained herein shall become inoperative, or fail by reason of the unconstitutionality of any other provision hereof, and all provisions of this Ordinance are declared to be severable for that purpose.

**APPROVED AND ADOPTED** by the Board of Directors of the Rio Linda/Elverta Community Water District on this 14th day of April, 2008.

AYES, in favor hereof: Blanchard; Morris; Harris; Arbios  
NOES: None  
ABSTAIN: Paine  
ABSENT: None



Robert Blanchard, President  
Board of Directors

Attest   
Board Secretary

**EXHIBIT A**  
**SERVICE FEES AND PENALTIES**

<u>Description of Fee or Charge</u>	<u>Code Section*</u>	
Service Turn-off/Turn-on by District due to violation of Policy or Nonpayment during regular billing cycle	§4.07.810 §4.31.220 (C)	\$40.00
Turn-off Notice Tag	§4.31.250 §4.31.285	\$25.00
Customer Requested Temporary Turn-off/Turn-on	§4.07.840	\$30.00 (\$15.00 each), One-time Fee waiver for Installation of Gate Valve
Turn-off & Turn-on for Meter Tampering	§4.07.830	\$60.00
Removal of Meter & Reinstall due to Tampering	§4.07.830	\$85.00
Additional Charge for Service after Business Hours	§4.07.840 §4.09.210 (2)	\$30.00
Penalty for Violation Conservation Policy (Third Violation)	§4.14.250 B-3	\$75.00
Service Termination for Conservation Violation (fourth, or more)	§4.14.250 B-4	\$125.00 plus \$30.00 Turn-on Fee when service is reinstated

**J. CROWLEY GROUP**  
WATER RESOURCES PLANNING AND POLICY

