FINAL

Lamont Public Utility District
2014 Urban Water Management Plan

60282476.0001 **November 2014**

Lamont Public Utility District

Nick Turner - General Manager

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AECOM

James T. Gardiner, PE - District Engineer

Monique Roberts, PE - Project Engineer

5001 E. Commercenter Dr., Suite 100, Bakersfield, CA 93309

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List of Acronyms and Abbreviations

AB	Assembly Bill
Act	Urban Water Management Planning Act
Baseline	Base daily per capita water use
BMP(s)	Best management practice(s)
CBDA	California Bay-Delta Authority
CEQA	California Environmental Quality Act
CII	Commercial, industrial, and institutional
City	City of Bakersfield
COB	City of Bakersfield
County	County of Kern
CUWCC	California Urban Water Conservation Council
CWC	California Water Code
CWS	California Water Service Company
CWSRF	Clean Water State Revolving Fund
Department	California Department of Water Resources
DIRWM	Division of Integrated Regional Water Management
District	Lamont Public Utilities District
DMM(s)	Demand management measure(s)
DOST	DWR online submittal tool
DWR	California Department of Water Resources
GHG	Greenhouse gas
GPCD	Gallons per capita per day
IRWM	Integrated Regional Water Management
IRWMP(s)	Integrated Regional Water Management Plan(s)
Kern COG	Kern Council of Governments
KCWA	Kern County Water Agency
KDWD	Kern Delta Water District
LPUD	Lamont Public Utility District
Method 4	Urban Water Use Target Method 4
MOU	Memorandum of Understanding
OMWC	Oildale Mutual Water Company
Plan (or UWMP)	Urban Water Management Plan
SB	Senate Bill
State Water Board	State Water Resources Control Board
USC	Urban Stakeholders Committee
USBR-MP	United States Bureau of Reclamation – Mid-Pacific Region
UWMP (or Plan)	Urban Water Management Plan
VWS	Verification of Water Supply
WSA	Water Supply Assessment

Section 1: Plan Preparation

The California Urban Water Planning Act (Act) requires urban water suppliers that have 3,000 or more service connections or supply 3,000 or more acre-feet (AF) of water per year to develop an Urban Water Management Plan (UWMP or Plan), which is submitted to the California Department of Water Resources (DWR) every five years. The Plan is required to describe and evaluate water deliveries and uses, sources of supply, reasonable and practical efficient water uses, demand management activities and water shortage contingency planning. Since 2005, legislation has been implemented that interrelates with the Act. SBX7-7 (Water Conservation Bill of 2009) requires urban water suppliers to develop baseline daily per capita water use and urban water use targets with the goal of reducing per capita water use by 20 percent by 2020. Also, urban water suppliers must include projected water demands for lower income households in their future water use projections.

In accordance with Water Code §10631.5, implementation of the demand management measures defined in §10631 is required in order for an urban water supplier to be eligible for a water management grant or loan made by the Department, State Board, or California Bay-Delta Authority (or its successor agency).

LPUD has prepared its 2014 UWMP in accordance with the DWR "Guidebook to Assist Urban Water Suppliers to prepare a 2010 Urban Water Management Plan" (Guidebook). The format of the Plan follows the suggested organization in Part 1, Section 1 of the Guidebook and incorporates all suggested tables as numbered and shown in the Guidebook to facilitate review of the Plan by DWR. Some of the tables are not applicable to the District's Plan and are noted as such. In addition, the placement of the tables in this Plan is in accordance with the suggested format in the Guidebook and therefore there are sections in this Plan where the tables are not presented in numeric order.

The Sustainable Groundwater Management Act was signed into law by Governor Brown on September 16, 2014 as a policy that "groundwater resources be managed sustainably for long-term reliability and multiple economic, social and environmental benefits for current and future beneficial uses". This act requires that by January 31, 2020, "basins that are subject to critical conditions of overdraft shall be managed under a groundwater sustainability plan" and provides for the establishment of groundwater sustainability agencies. These agencies will develop the groundwater sustainability plan and monitor and regulate the interests of all beneficial uses and users of groundwater within their management areas. What impact this legislation may have on the District's operations is not known at this time.

1.01 Coordination

Law

Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable (10620(d)(2)).

Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision (10621(b)).

The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan (10635(b)).

Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan (10642).

Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area (10642).

Lamont Public Utility District (LPUD) is located southeast of the City of Bakersfield within the County of Kern. Weedpatch Highway (Highway 184) passes through the center of the District. The LPUD lies within the boundaries of the Kern Delta Water District and adjacent to the Arvin-Edison Water Storage District, both of which supply water to farmers for agricultural use in the area.

Table 1 summarizes the efforts the LPUD has taken to involve appropriate agencies and the general public in the District's planning process. Copies of notices are included in **Appendix A**.

For the 2014 Plan update, the public hearing was held on November 6, 2014. Accordingly, notice was provided as follows:

- Letter to County on September 12, 2014 (60 days prior to hearing),
- Letter to Interested Parties (see **Table 1**) on September 12, 2014,
- Notice in local newspaper on October 29, 2014 and November 5, 2014 (per Gov. Code 6066 – 2 weeks in advance of hearing),
- Posted Draft 2014 UWMP at District Office on October 29, 2014 (2 weeks prior to hearing), and
- Drafts of the plan were submitted to the entities that requested such drafts (see **Table 1)**.

The Plan will be submitted to the County of Kern no later than 60 days after submission of the Plan to DWR.

Table 1. Coordination with Appropriate Agencies

Coordinating Agencies	Commented on the draft	Attended public meetings	Was sent a copy of the draft plan	Was sent a notice of intention to adopt
Kern Delta Water District	X		X	
General Public				
County of Kern			X	

1.02 Plan Adoption, Submittal, and Implementation

Law

> *The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640) (10621(c)).*
>
> *After the hearing, the plan shall be adopted as prepared or as modified after the hearing (10642).*
>
> *An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan (10643).*
>
> *An urban water supplier shall submit to the department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. Copies of amendments or changes to the plans shall be submitted to the department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption (10644(a)).*
>
> *Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours. (10645).*

LPUD prepared this update of its Urban Water Management Plan during 2013 and 2014. The updated plan was adopted by the District at the Regular Meeting of the Board of Directors on November 24, 2014. A public hearing on the update of the Urban Water Management Plan was held on November 6, 2014. The intent of the Public Hearing was to gather input from the public that is served by LPUD as well as other interested entities. No written or verbal comments were received at the public hearing. A copy of the resolution adopting the 2014 UWMP update is included in **Appendix B**.

It is the intent of LPUD to implement the 2014 Plan as detailed in Section 6. Any changes to the proposed implementation of the DMM's are discussed in Section 6.

The Plan will be submitted to the California Department of Water Resources, the California State Library, and the County of Kern no later than December 24, 2014 which is within 30 days of adoption by the District on November 24, 2014.

Commencing no later than December 24, 2014, the District will have a copy of the 2014 UWMP available for public review at the District Office (see address below) during normal business hours.

Lamont Public Utility District
8624 Segrue Rd
Lamont, CA 93241
Phone – (661) 845-1213
Nick Turner – General Manager
nturner@lpud.org

Section 2: System Description

2.01 Service Area Physical Description

Law

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

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

The District operates a publicly owned community water system, with water supplied solely from groundwater wells. The system facilities consist of seven (7) active and one (1) inactive well. Total documented active connections for 2014 included 3,065 residential connections, 198 commercial connections, and 8 industrial connections for a total of 3,271 connections. The District boundary as of 2014 is shown in **Figure 1**.

The District was formed in 1943 to combine several separate potable water systems under the operation of one main district. In 1963, the District added wastewater collection and treatment to its services with the passage of a special bond election which funded the construction of the sewer collection system and treatment ponds.

Water service is primarily domestic serving residential areas with some commercial and industrial packing operations. None of the agricultural lands within or adjacent to the District utilize LPUD water for irrigation. Irrigation water for agriculture is supplied by the Kern Delta Water District. Although historically some customers were flat rate, all of the District's customers are now served through metered connections.

Lamont is situated near the southern "horseshoe" end of the San Joaquin Valley, with the Sierra Nevada Mountains to the east, the Tehachapi Mountains to the south, and the Temblor Range to the west. Elevations in the District average about 400 feet above sea level. In general, the land slopes downhill to the southwest.

The District is located to the southeast of Bakersfield. The local climate is characterized by hot, dry summers and cooland more humid winters. The area enjoys clear, sunny days for more than half of the year. Minimum temperatures often drop below 40 degrees Fahrenheit during the winter. Summers are hot with average temperatures exceeding 90 degrees Fahrenheit. Annual precipitation in the area averages approximately 6 inches and rain (≥ 0.01 inches per day) occurs about 40 days per year. Fog is common in the winter and may last for several weeks at a time.

2.02 Service Area Population

Law

(Describe the service area) current and projected population . . . The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier . . . (10631(a)).

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

Describe . . . other demographic factors affecting the supplier's water management planning (10631(a)).

The population within the Lamont Public Utility District boundary in 2010 was estimated (based on 2010 Census data) to be 18,290 (see Section 3, Table 14). By the year 2035 the population is projected to be approximately 24,850. **Table 2** summarizes the projected population within the District's service area to the year 2035. Population projections provided by Kern COG and based on data from the California Department of Finance were used to generate the population projections in Table 2.

Table 2. Population – Current and Projected

	2010	2015	2020	2025	2030	2035	Data source
Service area population	18,290	19,152	20,034	21,629	23,253	24,847	Kern COG (based on DOF)

Section 3: System Demands

3.01 Baselines and Targets

Law

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

As part of the 20x2020 Water Conservation Plan, a directive was issued to reduce statewide per capita urban water use by 20 percent by the year 2020. The Water Conservation Bill of 2009 (SBX7-7) is one of the policy bills that provides the regulatory framework to support the statewide reduction. With the incorporation of the Water Conservation Bill into the California Water Code it has become necessary for urban retail suppliers to develop baseline water use and water use targets and track their progress toward achieving those targets.

DWR developed the Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use in late 2010 to provide the methodologies to consistently develop baseline and compliance numbers. The Methodologies guidebook provides four methods by which a supplier can calculate their baseline and targets. LPUD used Method 1 (Eighty percent of the supplier's baseline per capita use) in developing values for the baseline and target per capita numbers.

Process 1: Determine the Base Daily Per Capita Water Use

- LPUD used Methodology 2 for a Category 3 water supplier and developed population estimates based on census data. LPUD identified their service area boundary for the year 2000 and then determined the service area population for the year 2000 using census data. The census blocks within the District boundary were identified and tabulated. The total population for each of the census blocks determined to lie fully or partially within the District was obtained from the U.S. Census Bureau.

- The 2000 population for the LPUD, estimated as noted above, was found to be within 3% of the total 2000 U.S. Census Population for the Weedpatch CDP and Lamont CDP, portions of which are located within the LPUD boundary. Therefore, the 1990 and 2010 U.S. Census data for these two CDPs were used to develop population estimates for the LPUD.

  The total population of Weedpatch CDP and Lamont CDP was obtained for each Census. The average increase in the total population of these CDPs for the periods from 1990 to 2000 and from 2000 to 2010 were used to calculate estimated 1990 and 2010 populations for the LPUD. Population for the intervening years was estimated on a straight line basis.

- Daily per capita water use numbers were developed for each year in the baseline period by dividing the annual gross water production data by 365 and then dividing that daily average by the estimated population for that year (see **Table 14**). The average of the annual daily uses for the baseline period was developed and determined to be the **Base Daily Per Capita Water Use (245 gpcd).**

Process 2: Determine the Urban Water Use Target

- The Urban Water Use Target is the annual average daily per capita water use value that the District is required to be in compliance with by 2020 to be eligible for funding administered by the State. LPUD followed Method 1 to determine the Urban Water Use Target.

- Method 1 required simply multiplying the Base Daily Per Capita Water Use (245 gpcd) by 80% to determine the 2020 **Urban Water Use Target (196 gpcd).**

Process 3: Confirm the Urban Water Use Target

- LPUD selected the 5-year baseline period between 2003 to 2007 (see **Table 13**).

- LPUD applied the already defined service area, population, and gross water use numbers to this 5-year period and determined an average 5-Year Base Daily Per Capita Water Use (244 gpcd)(see **Table 15**) and 95% of the 5-Year Base Daily Per Capita Water Use (232 gpcd).

- The Urban Water Use Target (196 gpcd) was determined to be lower than the 95% 5-Year Base Daily Per Capita Water Use (232 gpcd) and therefore the Urban Water Use Target remained (196 gpcd).

Process 4: Determine the Interim Urban Water Use Target

- The final step was to determine the Interim Urban Water Use Target. The Interim Urban Water Use Target is the average daily per capita water use value that the District is required to be in compliance with by 2015 to be eligible for funding administered by the State.

- The Interim Urban Water Use Target was determined by adding the Base Daily Per Capita Water Use value (245 gpcd) and the Urban Water Use Target (196 gpcd) and dividing by two. The calculated 2015 **Interim Urban Water Use Target is 221 gpcd**.

Table 13. Base Period Ranges

Base	Parameter	Value	Units
10- to 15-year base period	2008 total water deliveries	4,220	AFY
	2008 total volume of delivered recycled water	0	AFY
	2008 recycled water as a percent of total deliveries	0	percent
	Number of years in base period	10	years
	Year beginning base period range	2000	
	Year ending base period range	2009	
5-year base period	Number of years in base period	5	years
	Year beginning base period range	2003	
	Year ending base period range	2007	

Table 14. Base Daily Per-Capita Water Use — 10-Year Range				
Base period year		Distribution System Population	Daily system gross water use (mgd)	Annual daily per capita water use (gpcd)
Sequence Year	Calendar Year			
Year 1	2000	16,483	4.7	285
Year 2	2001	16,664	4.7	283
Year 3	2002	16,844	4.9	293
Year 4	2003	17,025	5.1	302
Year 5	2004	17,206	4.1	241
Year 6	2006	17,386	4.7	268
Year 7	2006	17,567	3.3	187
Year 8	2007	17,748	4.0	224
Year 9	2008	17,928	3.8	210
Year 10	2009	18,109	2.9	159
Base Daily Per Capita Water Use				**245**

Table 15. Base Daily Per-Capita Water Use — 5-Year Range				
Base period year		Distribution System Population	Daily system gross water use (mgd)	Annual daily per capita water use (gpcd)
Sequence Year	Calendar Year			
Year 1	2003	17,025	5.1	302
Year 2	2004	17,206	4.1	241
Year 3	2005	17,386	4.7	268
Year 4	2006	17,567	3.3	187
Year 5	2007	17,748	4.0	224
Base Daily Per Capita Water Use				**244**

Summary of Baselines and Targets	
Base Daily Per-Capita Water Use	245
Interim Urban Water Use Target (2015)	221
Urban Water Use Target (2020)	196

3.02 Water Demands

Law

> *Quantify, to the extent records are available, past and current water use, and projected water use (over the same five-year increments described in subdivision (a)), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses: (A) Single-family residential; (B) Multifamily; (C) Commercial; (D) Industrial; (E) Institutional and governmental; (F) Landscape; (G) Sales to other agencies; (H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof; (I) Agricultural (10631(e)(1) and (2)).*
>
> *The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier (10631.1(a)).*

Water delivery data for 2005 was taken from the District's 2005 Urban Water Management Plan Update and is summarized in Table 3. **Table 4** summarizes available District records for 2010. A breakdown by water use type is not available for 2010. Water use for non-metered customers, which still existed in 2005 and 2010, was estimated based on the ratio of water delivery per connection for metered connections.

Tables 5 through 7 include projections of water use by water use category for the years 2015 through 2030. Projections by category are based on actual use data for the past year (2013-14).The number of accounts in each category was estimated based on the projected growth rate for each five year period as determined in Section 3.01 and ranged from 0.92% to 1.6% annually. All connections are metered as of September 2014. As a result of the District's efforts to meter all service connections, the total number of connections has decreased since 2005 due to the consolidation of redundant connections on several properties.

Projections of low income housing water use needs for single-family and multifamily residential housing were developed for the years 2015 through 2030 as shown in **Table 8**. Based on the KernCOG Regional Housing Needs Assessment, it is estimated that approximately 40% of the housing need will be low income. The current ratio of single family to multifamily uses was used in developing the projections.

The LPUD does not sell water to any outside agencies and currently does not engage in water recycling beyond wastewater disposal operations. Groundwater recharge within the District occurs as a result of flooding from Caliente Creek, precipitation, and seepage from wastewater treatment ponds, but these are not additional uses of District supplies. The District's supplies are entirely from groundwater pumping. **Table 10** shows estimated system losses. **Table 11** is a summary of the total current and projected water usage by the District.

Table 3. Water Deliveries — Actual, 2005 (Cubic Feet)					
	2005				
	Metered		Not metered		Total
Water use sectors	# of accounts	Volume	# of accounts	Volume	Volume
Single family	1200		2288		
Multi-family					
Commercial	108				
Industrial					
Institutional/governmental					
Landscape					
Agriculture					
Other					
Total	1308	74,052,000	2288	129,547,440	203,809,405

Table 4. Water Deliveries — Actual, 2010 (Cubic Feet)					
	2010				
	Metered		Not metered		Total
Water use sectors	# of accounts	Volume	# of accounts	Volume[1]	Volume
Single family	2410		165		
Multi-family	596		25		
Commercial	205		29		
Industrial	7		0		
Institutional/governmental					
Landscape					
Agriculture					
Other					
Total	3218	140,014,734	219	9,528,700	149,543,434

[1]Estimated.

Table 5. Water Deliveries — Projected, 2015 (Cubic Feet)					
	2015				
	Metered		Not metered		Total
Water use sectors	# of accounts	Volume	# of accounts	Volume	Volume
Single family	2476	78,661,571	0		79,510,472
Multi-family	618	32,788,151	0		32,027,195
Commercial	200	35,334,803	0		40,137,307
Industrial	8	7,533,380	0		6,112,339
Institutional/governmental					
Landscape					
Agriculture					
Other					
Total	3302	154,317,905	0		157,787,313

Table 6. Water Deliveries — Projected, 2020 (Cubic Feet)					
	2020				
	Metered		Not metered		Total
Water use sectors	# of accounts	Volume	# of accounts	Volume	Volume
Single family	2592	82,346,847	0		83,251,794
Multi-family	647	34,326,753	0		33,552,300
Commercial	209	36,924,869	0		41,939,391
Industrial	8	7,533,380	0		6,112,339
Institutional/governmental					
Landscape					
Agriculture					
Other					
Total	3456	161,131,850	0		164,855,823

Table 7. Water Deliveries — Projected 2025, 2030, and 2035 (Cubic Feet)						
	2025		2030		2035-optional	
	Metered		Metered		metered	
Water use sectors	# of accounts	Volume	# of accounts	Volume	# of accounts	Volume
Single family	2805	89,113,775	3022	96,007,782		
Multi-family	700	37,138,682	754	40,003,666		
Commercial	226	39,928,328	243	42,931,786		
Industrial	9	8,475,053	10	9,416,725		
Institutional/governmental						
Landscape						
Agriculture						
Other						
Total	3740	174,655,838	4029	188,359,959		

Table 8. Low-Income Projected Water Demands (Cubic Feet)					
Low Income Water Demands	2015	2020	2025	2030	2035
Single-family residential	25,997,853	27,215,018	29,454,406	31,735,765	
Multi-family residential	18,582,036	19,454,423	21,046,577	22,668,815	
Total	44,579,889	46,669,440	50,500,983	54,404,579	

Table 9. Sales To Other Water Agencies (Cubic Feet)[1]							
Water distributed	2005	2010	2015	2020	2025	2030	2035
None	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0

[1] LPUD does not sell water to any outside entity.

Table 10. Additional Water Uses And Losses (Cubic Feet)[1]							
Water Use[2]	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**
Saline barriers							
Groundwater recharge							
Conjunctive use							
Raw water							
Recycled water							
System losses[3]	24,110,653	9,421,236	11,573,843	12,084,889	13,099,188	14,126,997	
Other (define)							
Total	24,110,653	9,421,236	11,573,843	12,084,889	13,099,188	14,126,997	

[1]LPUD does not use water for other purposes but does have system losses. These losses are estimated to be 7.5% of water pumped into the system for future years (See Section 6.03).

[2]Water accounted for in Tables 3 through 7 is not included in this table.

[3]Losses prior to 2010 were based on estimates. Since 2010 the addition of metered services has provided more accurate data for determining system losses.

Table 11. Total Water Use (Cubic Feet)							
Water Use	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**
Total water sales (Tables 3 to 7)	203,809,405	149,543,434	154,317,905	161,131,850	174,655,838	188,359,959	
Sales to other water agencies (Table 9)	0	0	0	0	0	0	
Additional water uses and losses (Table 10)	24,110,653	9,421,236	11,573,843	12,084,889	13,099,188	14,126,997	
Total Production	227,920,058	158,964,670	165,891,748	173,216,738	187,755,025	202,486,956	

3.03 Water Demand Projections

Law

Urban water suppliers that rely upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (c). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (c) (10631(k)).

Table 12. Retail Agency Demand Projections Provided To Wholesale Suppliers (AFY)							
Wholesaler	**Contracted Volume**	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**
None	0	0	0	0	0	0	0

3.04 Water Use Reduction Plan

Law

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

Although, the 2013 water demands within the LPUD comply with both the Interim Urban Water Use Target (221 gpcd) and the Urban Water Use Target (196 gpcd), the District will continue to investigate options to further reduce water consumption. The District adopted a program to convert the remaining flat rate connections to metered connections and all connections were metered as of September 2014. In addition, other available options to be considered are:

- System Loss Reduction – LPUD may investigate options for identifying areas of loss. Losses may be due to physical losses (leaks, theft, etc.) or apparent losses due to inaccurate metering at points of production and delivery. A water loss audit in accordance with AWWA M36 may be used to identify areas where losses can be reduced.
- Rate Structure Adjustments – LPUD will evaluate the impact and effectiveness of adjusting their rate structure to encourage conservation. At present, the District's rates for metered connections consist of a monthly service charge based on meter size and a quantity charge based on water usage. The option of changing to a tiered rate structure will be evaluated in terms of cost and effectiveness.

Section 4: System Supplies

4.01 Water Sources

Law

Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a) (10631(b)).

Table 16 shows the actual supply capacity for 2014 and the projected water supply capacities by source for the years 2015 to 2030 in five year increments. Groundwater is currently the sole source of the District's water supply. The KDWD does supply surface irrigation water to agricultural lands through the Eastside Canal on the eastern District boundary. The District is considering negotiating with KDWD for a groundwater supply based on canal losses and recharge from the Eastside Canal to offset the District's share of groundwater overdraft.

Table 16. Water Supplies — Current And Projected (AFY)

Water Supply Sources		2014	2015	2020	2025	2030	2035
Water purchased from:	**Wholesaler supplied volume**						
Wholesaler 1							
Wholesaler 2							
Wholesaler 3							
Supplier-produced groundwater		11,070	12,870	12,870	12,870	12,870	
Supplier-produced surface water							
Transfers in							
Exchanges In							
Recycled Water							
Desalinated Water							
Total							

Table 17. Wholesale Supplies — Existing and Planned Sources of Water (AFY)

Wholesale Sources	Contracted Volume	2015	2020	2025	2030	2035
None						

4.02 Groundwater

Law

(Is) groundwater . . . identified as an existing or planned source of water available to the supplier . . . (10631(b))? (Provide a) copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management (10631(b)(1)).

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

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

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

For basins that have not been adjudicated, (provide) information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition (10631(b)(2)).

(Provide a) detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records (10631(b)(3)).

(Provide a) detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records (10631(b)(4)).

The Sustainable Groundwater Management Act was signed into law by Governor Brown on September 16, 2014 as a policy that "groundwater resources be managed sustainably for long-term reliability and multiple economic, social and environmental benefits for current and future beneficial uses". This act requires that by January 31, 2020, "basins that are subject to critical conditions of overdraft shall be managed under a groundwater sustainability plan" and provides for the establishment of groundwater sustainability agencies. These agencies will develop the groundwater sustainability plan and monitor and regulate the interests of all beneficial uses and users of groundwater within their management areas. What impact this legislation may have on the District's operations is not known at this time.

The LPUD currently has seven active groundwater wells which supply water for use within the District. The pumping capacities for the seven wells are as follows (the annual capacities listed assume wells operate 75% of the time).

- Well No. 5 – 1,300 gpm (1,573 AFY)
- Well No. 11 – 1,200 gpm (1,452 AFY)
- Well No. 12 – 1,250 gpm (1,512 AFY)
- Well No. 13 – 1,150 gpm (1,391 AFY)
- Well No. 15 – 1,550 gpm (1,875 AFY)
- Well No. 17 – 1,200 gpm (1,452 AFY)
- Well No. 18 - 1,500 gpm (1,815 AFY)
- Total Source Capacity – 9,150 gpm (11,070 AFY)

Well numbers 5, 13, and 15 pump into storage tanks while well numbers 11, 12, and 17 pump into pressure tanks and then are discharged directly into the District's water system. Well 18 is equipped with a variable frequency drive and discharges directly into the District's distribution system. There are booster pump

stations at each of the storage tank sites which boost the water from the storage tanks through pressure tanks and into the distribution system. The system pressure is maintained at 55 to 75 psi. The capacity of the booster pumps are listed below:

- Well No. 5: 1-15 Hp @ 310 gpm
  1-30 Hp @ 560 gpm
- Well No. 13: 1-30 Hp @ 580 gpm
  1-50 Hp @ 1,250 gpm
- Well No. 15: 2-40 Hp, Capacity Unknown

The LPUD pumps groundwater from the Kern County Subbasin of the San Joaquin Valley Groundwater Basin (Groundwater Basin No. 5-22.14) which is currently non-adjudicated. According to the latest version of Bulletin 118 (published in 2003), there are several agencies overlying the Kern County Subbasin, including the KDWD, which have adopted groundwater management plans. The pumping by the LPUD is a very small portion of the overall pumping within the Kern County Subbasin (estimated to be 1.4 MAFY in Bulletin 118), so its contributions to the overall groundwater management of the subbasin will be minimal. However, the District will be subject to the provisions of the Sustainable Groundwater Management Act and any Groundwater Sustainability Plan that is established for the subbasin. The District does receive the benefit of significant groundwater recharge when flooding occurs on Caliente Creek and is considering negotiating for a groundwater supply from the KDWD to offset its contribution to groundwater overdraft.

Table 18 shows the volume of groundwater pumped by the LPUD for the years 2006 through 2010 and for 2013. Projected pumping volumes for the years 2015 through 2030 are shown in **Table 19**. The historic and proposed pump volumes are well within the District's existing total source capacity of 11,070 AFY.

Table 18. Groundwater – Volume Pumped (AFY)

Basin Name(s)	Metered or Unmetered	2006	2007	2008	2009	2010	2013
Kern County Subbasin No. 5-22.14	Metered	3,683	4,450	4,220	3,235	3,649	4,048
Total groundwater pumped		3,683	4,450	4,220	3,235	3,649	4,048
Groundwater as a percent of total water supply	100%	100%	100%	100%	100%	100%	100%

Table 19. Groundwater – Volume Projected to be Pumped (AFY)

Basin Name(s)	2015	2020	2025	2030	2035
Kern County Subbasin No. 5-22.14	3,808	3,977	4,310	4,648	
Total groundwater pumped	3,808	3,977	4,310	4,648	
Groundwater as a percent of total water supply	100%	100%	100%	100%	

4.03 Transfer Opportunities

Law

Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis (10631(d)).

The LPUD is not involved in any water transfers or exchanges but may consider future exchanges or transfers.

Table 20. Transfer and Exchange Opportunities (AFY)			
Transfer Agency	**Transfer or Exchange**	**Short Term or Long Term**	**Proposed Volume**
None			
Total			

4.04 Desalinated Water Opportunities

Law

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

The LPUD is not located near seawater or brackish groundwater supplies that would allow any feasible opportunities for development of these as a long-term source of supply.

4.05 Recycled Water Opportunities

Law

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

(Describe) the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal (10633(a)).

(Describe) the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project (10633(b)).

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

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

(Describe) the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision (10633(e)).

(Describe the) actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year (10633(f)).

(Provide a) plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use (10633(g)).

The LPUD provides wastewater collection and treatment for its customers. The wastewater treatment facility provides treatment to the secondary level. Therefore, the effluent does not meet the recycled water standards. The District has a long-term agreement with Community Recycling and Resource Recover (CR&RR) to manage the use of its treated effluent. The treated effluent is currently used in a green waste composting operation. Supplies in excess of the composting needs will be used for irrigation of fodder and fiber crops. The District does not have plans to upgrade the treatment facility to provide effluent meeting the recycled water standards.

Table 21 contains the estimated wastewater volumes for the years 2005 through 2030. The volumes for future years were estimated based on the projected growth rates calculated in Section 2.02. The LPUD has started to meter the flow to the CR&RR facility and plans to meter any irrigation used for farming in the future. After accounting for evaporation from the ponds, precipitation, the total recycled wastewater volume expected to remain available for use for green waste composting and restricted farming as shown in **Tables 22 and 23**. A comparison of the actual 2010 recycled water usage and the recycled water for 2010 estimated in the District's 2005 Urban Water Management Plan Update is shown in **Table 24**. The District has no plans to encourage other recycled water uses at this time (see **Table 25**).

Table 21. Recycled Water — Wastewater Collection and Treatment (AFY)

Type of Wastewater	2005	2010	2015	2020	2025	2030	2035
Wastewater collected and treated in service area	2,464	2,019	1,610	1,685	1,820	1,955	
Volume that meets recycled water standard	0	0	0	0	0	0	

Table 22. Recycled Water — Nonrecycled Wastewater Disposal (AFY)

Method of disposal	Treatment Level	2010	2015	2020	2025	2030	2035
Restricted Farming and compost	secondary	1,008	1,568	1,641	1,772	1,903	
Groundwater recharge[1]	secondary	NA	1.3	1.3	1.3	1.3	
Total	secondary	1,008	1,569	1,642	1,773	1,904	

[1] Incidental recharge occurs in the WWTP ponds estimated to be 1.3 AFY.

Table 23. Recycled Water — Potential Future Use (AFY)

User type	Description	Feasibility	2015	2020	2025	2030	2035
Agricultural irrigation	Restricted Farming	Currently implemented	1,568	1,641	1,772	1,903	
Landscape irrigation							
Commercial irrigation							
Golf course irrigation							
Wildlife habitat							
Wetlands							
Industrial reuse							
Groundwater recharge[1]			1.3	1.3	1.3	1.3	
Seawater barrier							
Geothermal/Energy							
Indirect potable reuse							
Other (user type)							
Other (user type)							
Total			1,569	1,642	1,773	1,904	

[1] Incidental recharge occurs in the WWTP ponds estimated to be 1.3 AFY.

Table 24. Recycled Water — 2005 UWMP Use Projection Compared to 2010 Actual (AFY)		
Use Type	**2010 Actual Use**	**2005 Projection for 2010**
Agricultural irrigation	2,019	2,443
Landscape irrigation		
Commercial irrigation		
Golf course irrigation		
Wildlife habitat		
Wetlands		
Industrial reuse		
Groundwater recharge[1]	NA	NA
Seawater barrier		
Geothermal/energy		
Indirect potable reuse		
Other (user type)		
Other (user type)		
Total	2,019	2,443
[1] Incidental recharge occurs in the WWTP ponds but the quantity is unknown.		

Table 25. Methods to Encourage Recycled Water Use (AFY)						
	Projected Results					
Actions	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**
Financial Incentives	NA	NA	NA	NA	NA	NA
Total	NA	NA	NA	NA	NA	NA

4.06 Future Water Projects

Law

> *(Describe) all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program (10631(h)).*

The District relies on groundwater for its water supply and has developed an adequate well water supply to meet its needs for the planning period. However, the District is proceeding with a water supply project for a new well (Well 19) as shown in **Table 26**. Well 19 is designed to replace the lost capacity at Well 14, which is inoperable, and to be used as a blending source to for Well 12 which has arsenic levels above the maximum contaminant level.

Table 26. Future Water Supply Projects								
Project Name	**Projected Start Date**	**Projected Completion Date**	**Potential Project Constraints**	**Normal-Year Supply**	**Single-Dry Year Supply**	**Multiple-Dry Year First Year Supply**	**Multiple-Dry Year Second Year Supply**	**Multiple-Dry Year Third Year Supply**
Well No. 19	2014	2015	TBD	1800 AF	1800 AF	1600 AF	1400 AF	1300 AF
Total				1800 AF	1800 AF	1600 AF	1400 AF	1300 AF

Section 5: Water Supply Reliability and Water Shortage Contingency Planning

5.01 Water Supply Reliability

Law

An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions (10620(f)).

For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable (10631(c)(2)).

A. Surface Water Reliability

The District does not have any sources of surface water.

B. Groundwater Reliability

The District's existing groundwater well capacity is in excess of its current and future demands. Since the groundwater basin is not adjudicated, the District currently has the right to pump groundwater as needed to meet its needs. The District will comply with the provisions of the Sustainable Groundwater Management Act which may require the District to obtain a water supply to offset its contribution to groundwater overdraft. The KDWD has indicated their willingness to assist the District in obtaining and recharging these supplies. Therefore, the groundwater basin is expected to remain a viable source of supply for the District. At this time, the District believes it will be able to meet 100% of its demand in all single-dry and multiple-dry year scenarios utilizing groundwater.

The Sustainable Groundwater Management Act is a factor that may result in inconsistency of the District's groundwater supply (see **Table 29**). The estimated capacity of the District's groundwater supply is shown in **Table 31,** which assumes the District's groundwater well capacity would decrease with declining groundwater levels in a drought. Based on the assumed loss of capacity for the multiple dry year scenario, the District's water supply needs would still be met in each year.

Table 29. Factors Resulting in Inconsistency of Supply (AFY)

Water supply sources	Specific source name, if any	Limitation quantification	Legal	Environ -mental	Water quality	Climatic	Additional information
Groundwater	Kern County Subbasin No. 5-22.14	Unknown	Sustainable Groundwater Management Act				

Table 31. Supply Reliability — Current Water Sources (AFY)				
Water supply sources	Average / Normal Water Year Supply	Multiple Dry Water Year Supply		
		Year 1	Year 2	Year 3
Groundwater	11,070	9,960	8,860	7,750
Percent of normal year:	100%	90%	80%	70%

5.02 Water Shortage Contingency Planning

Law

Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster (10632(c)).

Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning (10632(d)).

Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply (10632(e)).

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

An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments (10632(g)).

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

A. Catastrophic Supply Interruption Plan

A catastrophic event may result in a complete loss of District water supplies for a temporary period lasting from a day to a week or more. Examples of catastrophic events include earthquake, widespread power outage or other disaster.

LPUD has adopted a Water Shortage Contingency Plan which includes procedures for the distribution of potable water in a disaster. These procedures are consistent with guidelines prepared by the California State Office of Emergency Services. A copy of this plan is available for review at the District's office.

Specific water critical customers (such as nursing facilities, schools, and a few individual customers with medical conditions dependent on continuous water availability) have been identified, as well as likely potable water distribution sites. All existing water supply storage, treatment, and distribution facilities are regularly inspected. The District also makes use of information in billing inserts to encourage customers to be prepared for emergencies and potential interruption of District water supplies by storage of in-home water supplies.

In the event of an earthquake or other disaster, LPUD personnel will assess their delivery system for damage that could impair the system's ability to deliver water to customers. If damage is identified, District maintenance personnel or a contractor engaged by the District would perform the required repairs as soon as possible in order to restore delivery capacity. The District keeps an inventory of supplies on hand such as PVC pipe, valves, fittings, and water service appurtenances, which could be used to make needed repairs. The District has diesel powered engines and gear drives at two of its well sites (one in the center and one in the north end of the District) that will be able to remain in operation in the event of a power outage. In addition, the District has a diesel electrical generator at another centrally located well site. These diesel engines and generators will be used to maintain at least a 30 psi positive pressure in the system until power can be restored. Available water supplies in storage will also be utilized. If necessary, the District will purchase and distribute emergency drinking water to its customers. The District will coordinate with the Kern County Emergency Operations Center in accordance with the Kern County Emergency Operations Plan.

B. Water Shortage Planning

The LPUD has a rationing plan to be invoked during declared water shortages. The rationing plan involves voluntary and mandatory rationing, depending on the cause, severity and anticipated duration of the water supply shortage.

As the water purveyor, the District must provide the minimum health and safety water needs of the community at all times. The water shortage response is designed to provide a minimum of 50% of normal supply during a severe or extended water shortage. The rationing program stages shown in **Table 35** below were established in order to meet this goal. Rationing stages may be triggered by an extended shortage in groundwater supplies due to declining groundwater levels or groundwater quality issues (exceeding primary drinking water standards), or due to a catastrophic event.

Table 35 - Water Supply Shortage Stages And Conditions			
Stage Number	Water Supply Conditions	Use Restrictions	Conservation Target
1 – Drought Watch	1) Groundwater – 10% water level drop from baseline -or- 2) Water Quality – 10% of water supply contaminated (exceeds primary drinking water standards)	Voluntary	Up to 10%
2 – Drought Alert	1) Groundwater – 20% water level drop from baseline -or- 2) Water Quality – 20% of water supply contaminated (exceeds primary drinking water standards)	Mandatory	Up to 25%
3 – Drought Critical	1) Groundwater – 30% water level drop from baseline -or- 2) Water Quality – 30% of water supply contaminated (exceeds primary drinking water standards)	Mandatory	Up to 40%
4 – Drought Emergency	1) Groundwater – 40% water level drop from baseline -or- 2) Disaster Loss	Mandatory	Up to 50%

Stage 1 – Drought Watch Condition

A Stage 1 condition is also referred to as a "Drought Watch" condition. A Stage 1 condition applies when due to drought or other supply reductions, there is a reasonable probability there will be supply shortages and that a consumer demand reduction of up to 10 percent is required in order to ensure that sufficient supplies will be available to meet anticipated demands.

When the District's Board of Directors declares a Stage 1 Drought Watch condition, the District will increase its public education and outreach efforts to emphasize increased public awareness of the need to implement the following water conservation practices (the same water conservation practices become mandatory if the District's Board of Directors declares a Stage 2 Drought Alert condition):

1. Stop washing down paved surfaces, including but not limited to sidewalks, driveways, parking lots, roadways, or patios, except when it is necessary to alleviate safety or sanitation hazards.

2. Stop watering unpaved drive approaches, driveways, and sidewalks except when it is necessary to alleviate safety or sanitation hazards.

3. Stop water waste resulting from inefficient landscape irrigation, such as runoff, low head drainage, or overspray, etc. Similarly, stop water flows onto non-targeted areas, such as adjacent property, non-irrigated areas, private and public walkways, patios, lots, hardscapes, roadways, or structures.

4. Irrigate residential and commercial landscape before 10 a.m. and after 6 p.m. only.

5. Use a hand-held hose equipped with a positive shut-off nozzle or bucket to water landscaped areas, including trees and shrubs located on residential and commercial properties that are not irrigated by a landscape irrigation system.

6. Irrigate nursery and commercial grower's products before 10 a.m. and after 6 p.m. only. Watering is permitted at any time with a hand-held hose equipped with a positive shut-off nozzle, a bucket, or when a drip/micro-irrigation system/equipment is used. Irrigation of

nursery propagation beds is permitted at any time. Watering of livestock is permitted at any time.

7. Use re-circulated water to operate ornamental fountains.

8. Wash vehicles using a bucket and a hand-held hose with positive shut-off nozzle, mobile high pressure/low volume wash system, or at a commercial site that re-circulates (reclaims) water on-site. Avoid washing during hot conditions (over 95 degrees) when additional water is required due to evaporation.

9. Serve and refill water in restaurants and other food service establishments only upon request.

10. Offer guests in hotels, motels, and other commercial lodging establishments the option of not laundering towels and linens daily.

11. Repair all water leaks within seventy two (72) hours of notification by the District unless other arrangements are made with the General Manager.

12. Use recycled or non-potable water for construction purposes when available.

Stage 2 – Drought Alert Condition

A Stage 2 condition is also referred to as a "Drought Alert" condition. A Stage 2 condition applies when caused by drought or other reduction in supplies, a consumer demand reduction of up to 25 percent is required in order to have sufficient supplies available to meet anticipated demands.

When the District's Board of Directors declares a Drought Response Stage 2 condition, all persons using District water shall comply with Stage 1 Drought Watch water conservation practices, and shall also comply with the following additional conservation measures:

1. Limit residential and commercial landscape irrigation to no more than the assigned days per week on a schedule established by the District's Board of Directors and posted by the District.

2. Limit lawn watering and landscape irrigation using sprinklers to no more than ten (10) minutes per watering station per assigned day. This provision does not apply to landscape irrigation systems using water efficient devices, including but not limited to: weather based controllers, drip/micro-irrigation systems and stream rotor sprinklers.

3. Water landscaped areas, including trees and shrubs located on residential and commercial properties, and not irrigated by a landscape irrigation system, on the same schedule set forth in item 1 by using a bucket, hand-held hose with positive shut-off nozzle, or low-volume non-spray irrigation.

4. Repair all leaks within forty-eight (48) hours of notification by the District unless other arrangements are made with the General Manager.

5. Stop operating ornamental fountains or similar decorative water features unless recirculated water is used.

Stage 3 – Drought Critical Condition

A Drought Response Stage 3 condition is also referred to as a "Drought Critical" condition. A Stage 3 condition applies when due to increasing cutbacks caused by drought or other reduction of supplies, a consumer demand reduction of up to 40 percent is required in order to have sufficient supplies available to meet anticipated demands.

When the District's Board of Directors declares a Drought Response Stage 3 condition, all persons using District water shall comply with Stage 1 Drought Watch and Stage 2 Drought Alert water conservation practices and shall also comply with the following additional mandatory conservation measures:

1. Limit residential and commercial landscape irrigation to no more than four (4) assigned days per week on a schedule established by the District's Board of Directors and posted by the District. During the months of December through April, landscape irrigation is limited to no more than twice per week on a schedule established by the District's Board of Directors and posted by the District. This section shall not apply to commercial growers or nurseries.

2. Water landscaped areas, including trees and shrubs located on residential and commercial properties, and not irrigated by a landscape irrigation system, on the same schedule set forth in Item 1 by using a bucket, hand-held hose with a positive shut-off nozzle, or low-volume non-spray irrigation.

3. Stop filling or re-filling ornamental lakes or ponds, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a drought response stage.

4. Stop washing vehicles except at commercial carwashes that re-circulate water, or by high pressure/low volume wash systems.

5. Repair all leaks within forty-eight (48) hours of notification by the District unless other arrangements are made with the General Manager.

The District may establish a water allocation for property served by the District using a method that does not penalize persons for the implementation of conservation methods or the installation of water saving devices. If the District establishes a water allocation, it shall provide notice of the allocation by including it in the regular billing statement for the fee or charge or by any other mailing to the address to which the District customarily mails the billing statement for fees or charges for on-going water service. Following the effective date of the water allocation as established by the District, any person that uses water in excess of the allocation shall be subject to a penalty in an amount established by Resolution for each billing unit of water in excess of the allocation. Potential water allocation considerations are included later in this WSCP.

Stage 4 – Drought Emergency Condition

A Drought Response Stage 4 condition is also referred to as a "Drought Emergency" condition. A Stage 4 condition applies when the District's Board of Directors declares a water shortage emergency pursuant to California Water Code section 350 which requires a demand reduction of up to 50% in order for the District to have maximum supplies available to meet anticipated demands.

All persons using District water shall comply with conservation measures required during Stage 1 Drought Watch, Stage 2 Drought Alert, and Stage 3 Drought Critical conditions and shall also comply with the following additional mandatory conservation measures:

1. Stop all landscape irrigation, except crops and landscape products of commercial growers and nurseries. This restriction shall not apply to the following categories of use unless the District has determined that recycled water is available and may be lawfully applied to the use.

    a. Maintenance of trees and shrubs that are watered on the same schedule set forth in Stage 3, Item 1 by using a bucket, hand-held hose with a positive shut-off nozzle, or low-volume non-spray irrigation;

    b. Maintenance of existing landscaping necessary for fire protection as specified by the Fire Marshal of the local fire protection agency having jurisdiction over the property to be irrigated;

    c. Maintenance of existing landscaping for erosion control;

    d. Maintenance of plant materials identified to be rare or essential to the well being of rare animals;

    e. Maintenance of landscaping within active public parks and playing fields, day care centers, school grounds, cemeteries, and golf course greens, provided that such irrigation does not exceed two (2) days per week according to the schedule established under Stage 3, Item 1;

    f. Watering of livestock; and

    g. Public works projects and actively irrigated environmental mitigation projects.

2. Repair all water leaks within twenty-four (24) hours of notification by the District unless other arrangements are made with the General Manager.

Upon the declaration of a Drought Response Stage 4 condition, no new potable water services shall be provided, no new temporary meters or permanent meters shall be provided, and no statements of immediate ability to serve or provide potable water service (such as, will serve letters, certificates, or letters of availability) shall be issued, except under the following circumstances:

1. A valid, unexpired building permit has been issued for the project; or

2. The project is necessary to protect the public's health, safety, and welfare; or

3. The applicant provides substantial evidence of an enforceable commitment that water demands for the project will be offset prior to the provision of a new water meter(s) to the satisfaction of District; or

4. The project is designed so that through the use of water saving devices, zero landscaping or other such measures, that the project water demand would be at least fifty percent (50%) of normal.

This provision shall not be construed to preclude the resetting or turn-on of meters to provide continuation of water service or to restore service that has been interrupted for a period of one year or less.

Water Allocation

Water allocations may be established for all customers during a Stage 3 or greater shortage condition according to the following ranking system:

- Minimum health and safety allocations for interior residential needs (includes single family, multi-family, hospitals and convalescent facilities, retirement and mobile home communities, student housing, fire fighting, and public safety)
- Commercial, industrial, institutional/governmental operations (where water is used for manufacturing and for minimum health and safety allocations for employees and visitors), to maintain jobs and economic base of the community (not for landscape uses)
- Annual agriculture (floriculture and others)
- Existing landscaping
- New customers, proposed projects without will serve letters when shortage declared

Listed below are sample per capita health and safety estimates of interior residential water use based on commonly accepted values for the United States. In Stage 1 declared shortages, customers may adjust either interior or outdoor water use (or both) in order to meet the voluntary water reduction goal.

Per Capita Health and Safety Water Quantity Calculations						
	Non-Conserving Fixtures		**Habit Changes [1]**		**Conserving Fixtures [2]**	
Toilets	5 flushes x 5.5 gpf	27.5	3 flushes x 5.5 gpf	16.5	5 flushes x 1.6 gpf	8.0
Shower	5 min x 4.0 gpm	20.0	4 min x 3.0 gpm	12.0	5 min x 2.0	10.0
Washer	12.5 gpcd	12.5	11.5 gpcd	11.5	11.5 gpcd	11.5
Kitchen	4 gpcd	4.0	4 gpcd	4.0	4 gpcd	4.0
Other	4 gpcd	4.0	4 gpcd	4.0	4 gpcd	4.0
Total (gpcd)		68.0		48.0		37.5
HCF per capita per year		33.0		23.0		18.0

[1] Reduced shower use results from shorter and reduced flow. Reduced washer use results from fuller loads.
[2] Fixtures include ULF 1.6 gpf toilets, 2.0 gpm showerheads and efficient clothes washers.

However, under mandatory rationing programs, the health and safety allotment of 68 gpcd is proposed since that amount of water has been estimated to be sufficient for essential interior water usage with no habit or plumbing fixture changes. If customers wish to change water use habits or plumbing fixtures, 68 gpcd would be sufficient to provide for limited non-essential (i.e. outdoor) uses. Stage 4 mandatory rationing, which is likely to be declared only as the result of a prolonged water shortage or as a result of a disaster, could result in customers making changes in their interior water use habits (for instance, not flushing toilets unless "necessary" or taking shorter or less frequent showers).

LPUD has proposed the following allocation method for each customer type.

Single Family	Hybrid of Per-capita and Percentage Reduction
Multifamily	Hybrid of Per-capita and Percentage Reduction
Commercial	Percentage Reduction
Industrial	Percentage Reduction
Gvt/Institutional	Percentage Reduction
Recreational	Percentage Reduction - vary by efficiency
New Customers	Per-capita (no allocation for new landscaping during a declared water shortage.)

Based on current and projected customer demand, the water will be allocated to each customer type by priority and rationing stage during a declared water shortage.

Individual customer allotments are proposed to be based on a five-year period. This gives the District a more accurate view of the usual water needs of each customer and provides additional flexibility in determining

allotments and reviewing appeals. However, no allotment would be greater than the amount used in the most recent year of the five-year base period.

LPUD's General Manager would classify each customer and calculate each customer's allotment according to a Sample Water Rationing Allocation Method. The allotment would reflect seasonal patterns. Customers would be notified of their classification and allotment by mail before the effective date of the Water Shortage Emergency. New customers will be notified at the time the application for service is made. In a disaster, prior notice of allotment may not be possible; notice will be provided by other means. Any customer may appeal LPUD's General Manager's classification on the basis of use or the allotment on the basis of incorrect calculation to the Board of Directors.

Water Use Monitoring Procedures

Under normal water supply conditions, potable water production figures are recorded daily. Totals are reported daily to the Facility Manager. Totals are reported monthly to the District General Manager and incorporated into the water supply report.

During a Stage 1 or Stage 2 water shortage, daily production figures will be reported to the Facility Manager. The Facility Manager will compare the weekly production to the target weekly production to verify if the water use reduction goal is being met. Weekly reports would then be forwarded to the District General Manager with monthly reports provided to the Board of Directors. If reduction goals are not met, the General Manager will notify the Board of Directors so that corrective action can be taken.

During a Stage 3 or Stage 4 water shortage, the procedure listed above will be followed, with the addition of a daily production report to the General Manager.

During emergency shortages, production figures will be reported to both the Facility Manager and the General Manager hourly. Daily reports will also be provided to the Board of Directors.

The Board of Directors will establish a schedule of penalties for violations of the policy by Ordinance.

C. Revenue Impacts

All revenues that LPUD collects are currently used to fund its operations, maintenance, and capital expenditure activities. It is not expected that rates would need to be increased as a result of a water shortage. The District's rate structure includes a fixed monthly service charge and a volume of use charge. Fixed water expenses are covered by the monthly fixed service charge and variable charges (energy for pumping, etc.) are covered by the volume of use charge. Therefore, reductions in revenue due to reductions in use should be also be accompanied by a reduction in expenses incurred by the District. Minor shortfalls in revenue could be covered by the District's water reserve funds.

D. Draft Water Shortage Contingency Resolution or Ordinance

See **Appendix C** for a copy of the Water Shortage Contingency Resolution.

5.03 Water Quality

Law

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

LUPD relies on pumped groundwater to meet the demands of the District. The District regularly samples the water quality at all of its wells. At present, all of the District's active wells meet required water quality standards, except for Well #12, which occasionally has arsenic concentrations that exceed the MCL of 10 ppb. LPUD is currently constructing Well #19 to provide a blending source to address the arsenic concentration in water produced by Well #12. In addition, five of the District's seven wells have measurable levels of 1,2,3-TCP. Although unregulated, the LPUD was successful in legal action against those that had caused the contamination. If additional water quality issues are encountered in the future, the District will decide on the best method to address the problem. The District believes that its groundwater supply is not likely to be impacted by water quality issues.

Table 30. Water Quality — Current and Projected Water Supply Impacts (AFY)

Water Source	Description of Condition	2010	2015	2020	2025	2030	2035
Groundwater	Good Quality Available	0	0	0	0	0	

5.04 Drought Planning

Law

Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following: (A) an average water year, (B) a single dry water year, (C) multiple dry water years (10631(c)(1)).

Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage (10632(a)).

An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply (10632(b)).

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

Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier (10635(a)).

The reliability of the District's water has been discussed in Section 5.01. Although the impact of the provisions of the Sustainable Groundwater Management Act are not known at this time, it is not anticipated that a single or multiple dry year period will reduce the availability of the District's water supplies below that required to meet its water supply needs. **Tables 27, 28, 32, 33 and 34** show the availability of the District's existing groundwater supplies to meet projected demands due to drought through the year 2030. District well capacities are assumed to decrease by 10% for each year of the multiple dry year scenarios.

Table 27. Basis of Water Year Data	
Water Year Type	**Base Year(s)**
Average Water Year	NA
Single-Dry Water Year	NA
Multiple-Dry Water Years	NA

Table 28. Supply Reliability — Historic Conditions					
Average / Normal Water Year	**Single Dry Water Year**	**Multiple Dry Water Years**			
		Year 1	**Year 2**	**Year 3**	**Year 4**
NA					
Percent of Average/Normal Year:	90	100	90	80	70

Table 32. Supply and Demand Comparison — Normal Year (AFY)					
	2015	**2020**	**2025**	**2030**	
Supply totals (from Table 16)	12,870	12,870	12,870	12,870	
Demand totals (From Table 11)	3,894	4,068	4,412	4,759	
Difference	8,976	8,802	8,459	8,111	
Difference as % of Supply	69.74%	68.39%	65.72%	63.02%	
Difference as % of Demand	230.52%	216.35%	191.74%	170.41%	

Table 33. Supply and Demand Comparison — Single Dry Year (AFY)					
	2015	**2020**	**2025**	**2030**	
Supply totals	11,583	11,583	11,583	11,583	
Demand totals	3,894	4,068	4,412	4,759	
Difference	7,689	7,515	7,172	6,824	
Difference as % of Supply	66.38%	64.88%	61.91%	58.91%	
Difference as % of Demand	197.47%	184.71%	162.57%	143.37%	

Table 34. Supply and Demand Comparison — Multiple Dry-Year Events (AFY)						
		2015	**2020**	**2025**	**2030**	
Multiple-dry year first year supply (10% reduction)	Supply totals	11,583	11,583	11,583	11,583	
	Demand totals	3,894	4,068	4,412	4,759	
	Difference	7,689	7,515	7,172	6,824	
	Difference as % of Supply	66.38%	64.88%	61.91%	58.91%	
	Difference as % of Demand	197.47%	184.71%	162.57%	143.37%	
Multiple-dry year second year supply (20% reduction)	Supply totals	10,296	10,296	10,296	10,296	
	Demand totals	3,894	4,068	4,412	4,759	
	Difference	6,402	6,228	5,885	5,537	
	Difference as % of Supply	62.18%	60.49%	57.15%	53.77%	
	Difference as % of Demand	164.41%	153.08%	133.39%	116.33%	
Multiple-dry year third year supply (30% reduction)	Supply totals	9,009	9,009	9,009	9,009	
	Demand totals	3,894	4,068	4,412	4,759	
	Difference	5,115	4,941	4,598	4,250	
	Difference as % of Supply	56.78%	54.84%	51.03%	47.17%	
	Difference as % of Demand	131.36%	121.44%	104.22%	89.29%	

Section 6: Demand Management Measures

Law

(Describe and provide a schedule of implementation for) each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following: (A) water survey programs for single-family residential and multifamily residential customers; (B) residential plumbing retrofit; (C) system water audits, leak detection, and repair; (D) metering with commodity rates for all new connections and retrofit of existing connections; (E) large landscape conservation programs and incentives; (F) high-efficiency washing machine rebate programs; (G) public information programs; (H) school education programs; (I) conservation programs for commercial, industrial, and institutional accounts; (J) wholesale agency programs; (K) conservation pricing;(L) water conservation coordinator; (M) water waste prohibition; (N) residential ultra-lowflush toilet replacement programs (10631(f)(1) and (2).

A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented or described under the plan (10631(f)(3)).

An estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the supplier's ability to further reduce demand (10631(f)(4)).

An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following: (1) Take into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors; (2) Include a cost-benefit analysis, identifying total benefits and total costs; (3) Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost; (4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation (10631(g)).

LPUD is committed to implementing water conservation programs that are economic and reasonable. This Section discusses water conservation.

LPUD is not a signatory to the Memorandum of Understanding regarding Urban Water Conservation in California (MOU) and is therefore not a member of the California Urban Water Conservation Council (CUWCC)).

For the purpose of responding to the Urban Water Management Planning Act, LPUD will address all fourteen Demand Management Measures (DMM).

6.01 DMM A – Water Survey Programs for Single-Family and Multi-Family Residential Customers

IMPLEMENTATION DESCRIPTION: The LPUD has offered residential water use surveys to single-family and multi-family customers when requested by the customer. LPUD has specifically focused on any customer who has experienced elevated water usage. It is LPUD's goal to complete surveys for all customers who make such requests. Single-family surveys take about one hour to complete and are conducted by the LPUD operations staff.

During the landscape portion of the survey LPUD personnel show the customer the location of the water meter and how to read it, measure the landscaped areas, test the sprinkler system for irrigation efficiency and distribution uniformity, teach the customer how to set the irrigation controller, develop a three-season irrigation schedule (based on soil type, evapotranspiration, and irrigation system), recommend sprinkler system repairs or improvements, and provide brochures on water efficient landscaping, design, and plants.

IMPLEMENTATION SCHEDULE: This DMM was first implemented in 2000 and is expected to continue indefinitely.

CONSERVATION SAVINGS: Records of savings are not kept by the District as it is extremely difficult to determine if the results of the survey are being implemented by the customer.

METHODS TO EVALUATE EFFECTIVENESS: Staff reviews records of the customers that requested a survey.

Table 39. Water Survey Programs for Single-Family and Multi-Family Residential Customers

DMM A - Actual	2006	2007	2008	2009	2010
# of Single Family Surveys*	10-20	10-20	10-20	10-20	10-20
# of Multi-family Surveys*	1	1	1	1	1
Expenditures (dollars)	Unknown	Unknown	Unknown	Unknown	Unknown
Water Savings (AF)	Unknown	Unknown	Unknown	Unknown	Unknown

*Records of actual surveys performed are not available.

6.02 DMM B – Residential Plumbing Retrofit

IMPLEMENTATION DESCRIPTION: The installation of water efficient fixtures is a requirement of local and state building codes. Therefore, more recent development within the LPUD will have these fixtures. The District does not have a program to provide displacement bags for toilets or low flow faucets and showerheads to its customers that may have older high-flow fixtures. The LPUD does not know how many of its customers are currently utilizing high-flow fixtures, but estimates that there may be about 2,500 single family residences that were constructed before the regulations went into effect.

The District promotes the replacement of high-flow fixtures through water conservation inserts in its monthly bills.

IMPLEMENTATION SCHEDULE: The District will continue its water conservation education efforts. It has no plans to implement a residential plumbing retrofit program.

COST BENEFIT ANALYSIS: It is estimated that the water conservation savings as a result of replacement of high-flow toilets, faucets and showerheads in a typical single family residence may be in the range of 15 percent of its overall usage. The average annual usage for a single family residence within the LPUD is estimated to be approximately 295 CCF (hundred cubic feet) per year. A 15 percent reduction would result in a water conservation savings of about 44 CCF per year. The District's current rate schedule consists of two parts, a monthly service charge which covers the District's fixed costs and a use charge (per 100 CF) which

covers the cost of producing and delivering water to customers. The use charge is currently $0.41/CCF. The 44 CCF in water conservation savings would result in an annual savings of approximately $18 per year to the residential customer and an equivalent savings to the District in avoided water production and delivery costs. It is estimated that the cost to replace existing high-flow fixtures in a typical single family residence (assuming use of toilet displacement bags) would be in the range of $75-100 per residence. Since the savings to the District is in avoided costs which are reimbursed by the customer, there is not a direct monetary benefit to the District for providing residential plumbing retrofit services. The District does not have the funds or staffing to implement a Residential Plumbing Retrofit Program at this time.

6.03 DMM C -- System Water Audits, Leak Detection, and Repair

IMPLEMENTATION DESCRIPTION: LPUD has conducted water audits and leak detection into its utility operations. It has implemented a metering installation program and is working towards being completely metered.

IMPLEMENTATION SCHEDULE: LPUD has permanently incorporated this DMM into its operations and maintenance procedures. LPUD personnel will continue to survey mains and service lines on an on-going basis.

METHODS TO EVALUATE EFFECTIVENESS: Staff uses production and consumption data records to monitor unaccounted for water losses.

6.04 DMM D -- Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections

IMPLEMENTATION DESCRIPTION: LPUD is completely metered for all customer sectors, including separate meters for single-family residential, commercial, large landscapes, and all institutional/governmental facilities.

Until 2004, LPUD had a block rate structure with a lifeline allotment of 50 billing units per connection per month for ¾" metered customers (larger baseline allotments were associated with larger meters). A billing unit is one hundred cubic feet (748 gallons), commonly abbreviated HCF or CCF. However, after the District revised their water rate study there is no longer a baseline allotment. Instead, each customer pays a fixed charge and pays for use by volume.

Some commercial/industrial/institutional customers are required to have fire sprinkler systems. Separate meters are required on fire sprinkler systems, with associated monthly service charges.

IMPLEMENTATION SCHEDULE: LPUD will continue to install and read meters on all new services, and will continue to conduct its meter calibration and replacement program.

CONSERVATION SAVINGS: The District believes that having all customers metered is an effective conservation method.

METHODS TO EVALUATE EFFECTIVENESS: Periodic review of customer water use, comparing current water use per capita with historic data.

6.05 DMM E – Large Landscape Conservation Programs and Incentives

IMPLEMENTATION DESCRIPTION: Large landscape water users are subject to fixed charges based on their meter size. In addition, the District offers water audits to all customers which include large landscaped

areas. One of the key items discussed during the audits is a review the landscaped areas including conservation tips (see Section 6.01).

METHODS TO EVALUATE EFFECTIVENESS: The District plans to periodically perform follow-up surveys for surveys previously completed in order to determine if the customers are implementing the recommendations.

6.06 DMM F – High-Efficiency Washing Machine Rebate Program

IMPLEMENTATION DESCRIPTION: The District promotes the installation of high-efficiency washing machines through informing its customers of the availability of rebate programs in its monthly bills. However, the District does not have a high-efficiency washing machine rebate program.

IMPLEMENTATION SCHEDULE: The LPUD has no plans to implement a high-efficiency washing machine rebate program. The District will continue its water conservation education efforts.

COST BENEFIT ANALYSIS: It is estimated that the water conservation savings as a result of replacement of washing machines with high-efficiency machines would be about 10 gallons per load (assuming a 25% reduction from a typical machines water usage of 40 gallons/load). If a typical single family residence washes six loads per week, a total water savings of approximately 3,120 gallons (or 4 CCF) would result. As stated previously, the District's current rate schedule consists of two parts, a fixed monthly service charge that covers the District's fixed costs and a use charge (per 100 CF) which covers the cost of producing and delivering the water to customers. The use charge is currently $0.41/CCF. The 4 CCF in water conservation savings would result in an annual savings of approximately $2 to the residential customer and an equivalent savings to the District in avoided water production and delivery costs. It is estimated that the District would need to provide a rebate of about $100 per unit in order to provide sufficient incentive for the customer. Therefore, the implementation of a high-efficiency washing machine rebate program would not be cost effective for the District.

6.07 DMM G -- Public Information Programs

IMPLEMENTATION SCHEDULE: LPUD promotes water conservation and other resource efficiencies. LPUD distributes public information through bill inserts and brochures available at the counter and provided via the mail. LPUD will continue to provide public information services and materials to remind the public about water and other resource issues on an ongoing basis.

METHODS TO EVALUATE EFFECTIVENESS: LPUD will track the commentary regarding the information provided.

CONSERVATION SAVINGS: LPUD has no method to quantify the savings of this DMM but believes that this program is in the public's interest.

Table 40. Public Information Programs

DMM G	2006	2007	2008	2009	2010
Public Service Announcement	0	0	0	0	0
Bill Inserts/Newsletters/Brochures/Water Usage Comparison to Previous Year	5,000	5,000	5,000	5,000	5,000
Special Events, Media Events	1	1	1	1	1
Program To Coordinate With Other Governmental Agencies, Industry, and Public Interest Groups and Media	0	0	0	0	0
Expenditures (dollars)	$750	$750	$750	$750	$750

6.08 DMM H -- School Education Programs

IMPLEMENTATION DESCRIPTION: LPUD is considering plans to work with the Lamont School District to promote water conservation and other resource efficiencies at school facilities and to educate students about these issues.

IMPLEMENTATION SCHEDULE: LPUD plans to implement this DMM beginning in 2015.

METHODS TO EVALUATE EFFECTIVENESS: LPUD will survey the institutions and educators on the number of programs, materials and attendance at water conservation activities.

CONSERVATION SAVINGS: LPUD has no method to quantify the savings of this DMM but believes that this program is in the public's interest.

6.09 DMM I – Conservation Programs for Commercial, Industrial, and Institutional Accounts

IMPLEMENTATION DESCRIPTION: The LPUD offers water use surveys when requested by the customer. LPUD has specifically focused on any customer who has experienced elevated water usage. It is LPUD's goal to complete surveys for all customers who make such requests. Surveys take about one hour to complete and are conducted by the LPUD operations staff.

During the landscape portion of the survey, LPUD personnel do the following: 1) show the customer the location of the water meter and how to read it, 2) measure the landscaped areas, 3) test the sprinkler system for irrigation efficiency and distribution uniformity, 4) teach the customer how to set the irrigation controller, 5) develop a three-season irrigation schedule (based on soil type, evapotranspiration, and irrigation system), 6) recommend sprinkler system repairs or improvements, and 7) provide brochures on water efficient landscaping, design, and plants.

IMPLEMENTATION SCHEDULE: This District intends continue this DMM indefinitely.

CONSERVATION SAVINGS: Records of savings are not kept by the District as it is extremely difficult to determine if the results of the survey are being implemented by the customer.

METHODS TO EVALUATE EFFECTIVENESS: Staff reviews records of the customers that request a survey.

Table 42. Conservation Programs For Commercial, Industrial, And Institutional Accounts

DMM I	2006	2007	2008	2009	2010
# of Onsite Surveys*	5-15	5-15	5-15	5-15	5-15
Will Incentives Be Provided?	No	No	No	No	No
# of Follow Up Visits	0	0	0	0	0
Expenditures (dollars)	Unknown	Unknown	Unknown	Unknown	Unknown
Water Savings (acre-feet)	Unknown	Unknown	Unknown	Unknown	Unknown

*Records of actual surveys performed are not available.

6.10 DMM J – Wholesale Agency Programs

LPUD is not a wholesale agency and therefore does not implement any DMM's on a wholesale level.

6.11 DMM K – Conservation Pricing

IMPLEMENTATION DESCRIPTION: As previously described, the District revised their water rate study in 2007 and water rates have changed such that there is no longer a baseline allotment. Instead, each customer pays a fixed monthly charge and pays for use by volume.

IMPLEMENTATION SCHEDULE: LPUD will continue to install and read meters on all new services, and will continue to conduct its meter installation, calibration and replacement program.

CONSERVATION SAVINGS: The District believes that having all customers metered is an effective conservation method. When customers must pay for all of the water they use on a volume basis they tend to watch their usage carefully. The average per capita water usage for 2013-14 is estimated to be about 192 gallons per day. This is a reduction of about 28% from the estimated 2005 per capita water usage.

METHODS TO EVALUATE EFFECTIVENESS: Periodic review of customer water use, comparing current water use per capita with historic data.

6.12 DMM L – Water Conservation Coordinator

IMPLEMENTATION DESCRIPTION: The General Manager, in conjunction with the Board or Directors, acts in the role of water conservation coordinator for the District. The General Manager's job description includes the determination of appropriate groundwater pumping and therefore the General Manager is best suited to help lead conservation efforts..

IMPLEMENTATION SCHEDULE: The District intends to implement this DMM indefinitely.

METHODS TO EVALUATE EFFECTIVENESS: The Water Conservation Coordinator monitors wasted water within the District and notifies customers of apparent wasteful activities.

6.13 DMM M – Water Waste Prohibition

IMPLEMENTATION DESCRIPTION: LPUD has a no waste policy, which is actively enforced.

IMPLEMENTATION SCHEDULE: LPUD will continue to enforce this DMM indefinitely.

METHODS TO EVALUATE EFFECTIVENESS: The District monitors the violations reported to the Board.

CONSERVATION SAVINGS: LPUD has no method to quantify the savings associated with this DMM but believes that this program is in the public's interest.

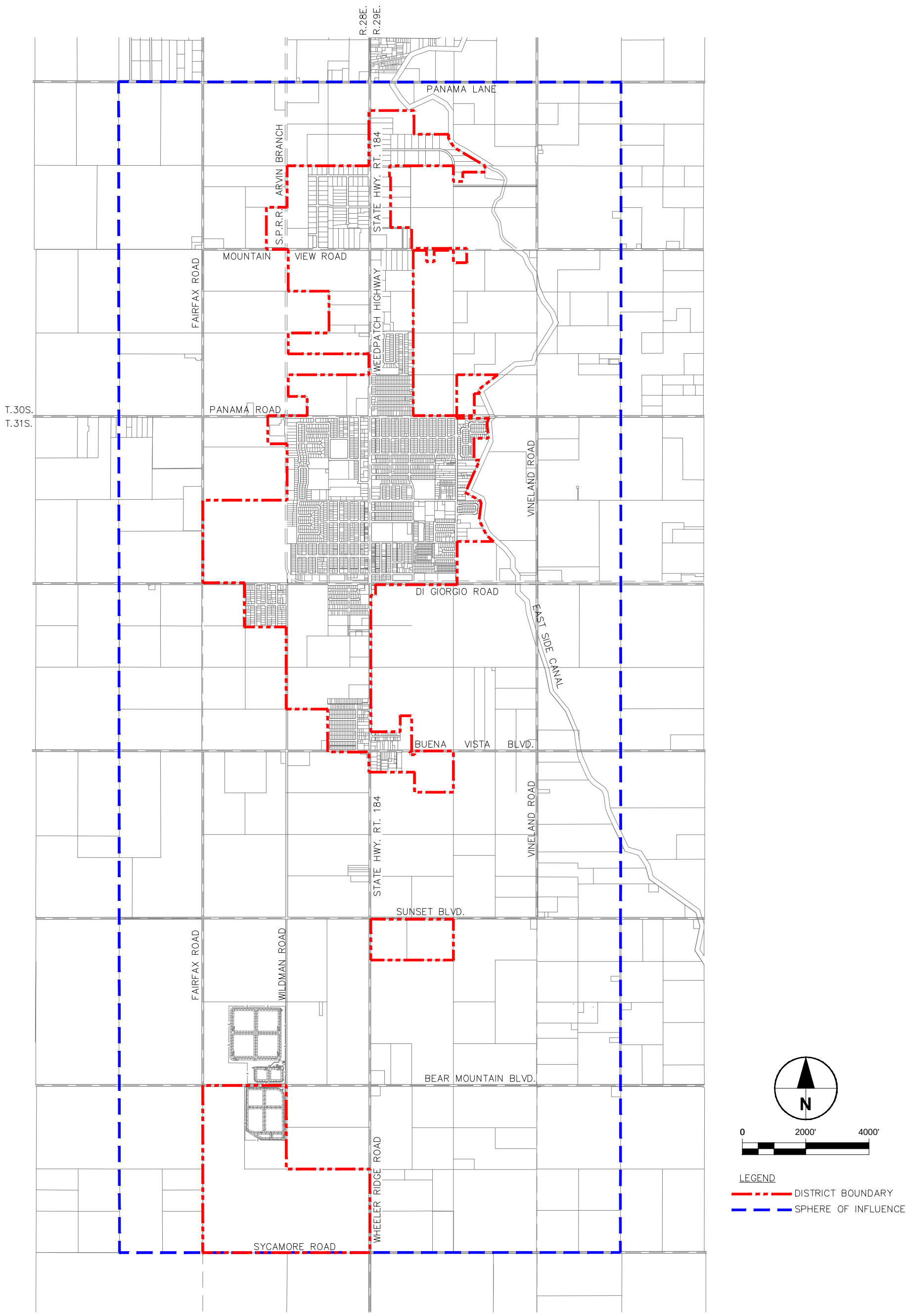
6.14 DMM N – Residential Ultra-low-flush Toilet Replacement Program

IMPLEMENTATION DESCRIPTION: The District promotes the installation of ultra-low-flush toilets through informing its customers of the availability of rebate programs in its monthly bills and through contributions to water conservation education. However, the District does not have a residential ultra-low-flush toilet replacement program.

IMPLEMENTATION SCHEDULE: The LPUD has no plans to implement a residential ultra-low-flush toilet replacement program. The District will continue its water conservation education efforts.

COST BENEFIT ANALYSIS: It is estimated that the water conservation savings as a result of replacement of toilets with ultra-low-flow toilets would be about 2 percent of the typical usage of a single family residence

or about 5 CCF. As stated previously, the District's current rate schedule consists of two parts, a fixed monthly service charge that covers the District's fixed costs and a use charge (per 100 CF) which covers the cost of producing and delivering the water to customers. The use charge is currently $.41/CCF. The 5 CCF in water conservation savings would result in an annual savings of approximately $2 to the residential customer and an equivalent savings to the District in avoided water production and delivery costs. It is estimated that the cost of an ultra-low-flush toilet is about $100 per unit. Therefore, the implementation of a residential ultra-low-flush replacement program would not be cost effective for the District.



URBAN WATER MANAGEMENT PLAN

2014 DISTRICT BOUNDARY MAP

AECOM

LAMONT PUBLIC UTILITY DISTRICT
Project No.: 60282476

Figure: 1

Appendix A

Notices

AECOM

AECOM
5001 E. Commercenter Drive
Suite 100
Bakersfield, CA 93309
www.aecom.com

661 325 7253 tel
661 395 0359 fax

September 12, 2014

Ms. Mary Bedard
Kern County Clerk
1115 Truxtun Ave
Bakersfield, CA 93301

Lamont Public Utility District
Urban Water Management Plan 2014 – Notification of Draft UWMP for Review

Dear Ms. Bedard,

In accordance with the California Water Code Sections 10620 and 10621, you are being notified that the Lamont Public Utility District is reviewing and considering amendments or changes to the existing Urban Water Management Plan. If you would like to consult with or provide comments to the District during this process, please let us know. Thank you.

Sincerely,

J. T. Gardiner, P.E.
District Engineer

cc. Nick Turner, General Manager LPUD

AECOM

AECOM
5001 E. Commercenter Drive
Suite 100
Bakersfield, CA 93309
www.aecom.com

661 325 7253 tel
661 395 0359 fax

September 12, 2014

Ms. Lorelei Oviatt
Kern County Planning Department
2700 M Street, Suite 100
Bakersfield, CA 93301-2370

Lamont Public Utility District
Urban Water Management Plan 2014 – Notification of Draft UWMP for Review

Dear Ms. Oviatt,

In accordance with the California Water Code Sections 10620 and 10621, you are being notified that the Lamont Public Utility District is reviewing and considering amendments or changes to the existing Urban Water Management Plan. Enclosed is a copy of the Draft Urban Water Management Plan. If you would like to consult with or provide comments to the District during this process, please let us know. Thank you.

Sincerely,

J T Gardiner

J. T. Gardiner, P.E.
District Engineer

cc. Nick Turner, General Manager LPUD

AECOM

AECOM
5001 E. Commercenter Drive
Suite 100
Bakersfield, CA 93309
www.aecom.com

661 325 7253 tel
661 395 0359 fax

September 12, 2014

Mr. Mark Mulkay
General Manager
Kern Delta Water District
501 Taft Highway
Bakersfield, CA 93307-6247

Lamont Public Utility District
Urban Water Management Plan 2014 – Notification of Draft UWMP for Review

Dear Mr. Mulkay,

In accordance with the California Water Code Sections 10620 and 10621, you are being notified that the Lamont Public Utility District is reviewing and considering amendments or changes to the existing Urban Water Management Plan. Enclosed is a copy of the Draft Urban Water Management Plan. If you would like to consult with or provide comments to the District during this process, please let us know. Thank you.

Sincerely,

J. T. Gardiner, P.E.
District Engineer

cc. Nick Turner, General Manager LPUD

PROOF OF PUBLICATION

(2015.5 C.C.P.)
(GENERAL FORM)

STATE OF CALIFORNIA
County of Kern } ss.

I, the undersigned, am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a part of or interested in the above entitled matter. I am the chief clerk/publisher of *The Lamont Reporter*, a newspaper of general circulation, printed and published weekly, in the town of Lamont, County of Kern, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court order number 54991, of the County of Kern; that the notice, of which the annexed is a printed copy, has been published in each regular and entire issue of said newspaper and in any supplement thereof on the following dates, to-wit:

October 29, Nov 5, 2014

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

(Signature)

Executed on 11-5-14
at Lamont, California

The *LAMONT REPORTER*
PO Box 1600
Shafter, CA 93263

Phone (661) 746-4942

PUBLIC NOTICE

NOTICE OF PUBLIC HEARING LAMONT PUBLIC UTILITY DISTRICT

NOTICE is hereby given that a Public Hearing will be held by the Board of Directors of the Lamont Public Utility District on Thursday, November 6, 2014 at 6:00 p.m., at the office of the Lamont Public Utility District, 8624 Segrue Road, Lamont, California, 93241 to consider the following:

The Lamont Public Utility District is proposing to adopt a 2014 Urban Water Management Plan, which has been prepared in compliance with the Urban Water Management Planning Act. A draft copy of the 2014 Urban Water Management Plan is available for public review at the District Office.

Approved: October 28, 2014
O/S by Nicholas Turner
General Manager
Lamont Public Utility District
Publish *Lamont Reporter* October 29, November 5, 2014

PROOF OF PUBLICATION

(2015.5 C.C.P.)
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Approved: October 28, 2014
O/S by Nicholas Turner
General Manager
Lamont Public Utility District
Publish *Lamont Reporter* October 29, November 5, 2014

Appendix B

Resolution Adopting 2014 UWMP Update

RESOLUTION NO. 425

A RESOLUTION OF THE LAMONT PUBLIC UTILITY DISTRICT TO ADOPT THE 2014 URBAN WATER MANAGEMENT PLAN

WHEREAS the California Legislature enacted Water Code Section 10610 et seq., known as the Urban Water Management Planning Act, which mandates that urban water suppliers that have 3,000 or more service connections or supply 3,000 or more acre feet of water per year, prepare an Urban Water Management plan, the primary objective of which is to plan for the conservation and efficient use of water; and

WHEREAS the Lamont Public Utility District is an urban supplier of water providing water to a population over 18,000, and

WHEREAS the Plan shall be periodically reviewed at least once every five years and updated as needed, and the Lamont Public Utility District shall make any amendments or changes to its plan which are indicated by the review; and

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

WHEREAS the Lamont Public Utility District has therefore, prepared and circulated for public review a draft 2014 Urban Water Management Plan, and a properly noticed public hearing regarding said Plan was held by the Lamont Public Utility District on November 6, 2014.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Lamont Public Utility District as follows:

1. The 2014 Urban Water Management Plan Update is hereby adopted and ordered filed with the Lamont Public Utility District Secretary; the General Manager is hereby authorized and directed to file the 2014 Urban Water Management Plan Update with the California Department of Water Resources within 30 days after this date;

2. The General Manager is hereby authorized and directed to implement the Water Conservation Programs as set forth in the 2014 Urban Water Management Plan, which includes water shortage contingency analysis and recommendations to the Board of Directors regarding necessary procedures, rules, and regulations to carry out effective and equitable water conservation and water recycling programs;

DATED: 11/24/14 By: _____

Daniel Portillo, Board President

Passed and adopted by the Lamont Public Utility District Board of Directors on the 24th day of November 2014 by the following vote:

AYES: 5 Directors Prado, Cruz, Portillo, Munalles, Hernandez

NOES: 0 Directors _____

ABSENT: 0 Directors _____

ABSTAIN: 0 Directors _____

Attest:

_____

Nicholas Turner, Secretary of the Board

Appendix C

Water Shortage Contingency Plan

LAMONT PUBLIC UTIILTY DISTRICT

Water Shortage Contingency Plan

Adopted by the Board of Directors
August 11, 2014

Lamont Public Utility District
Water Shortage Contingency Plan
August 2014

Introduction

This Water Shortage Contingency Plan (WSCP) for the Lamont Public Utility District (District) outlines a program for responding to water supply limitations. The intent of the water conservation measures and progressive restrictions on water use and method of use identified in this WSCP is to provide certainty to water users and enable the District to control water use, provide water supplies, and plan and implement water management measures in a fair and orderly manner for the benefit of the public.

(a) This WSCP describes measures to be implemented during times of declared water shortages, or declared water shortage emergencies by either the District, State or Federal government. It establishes four stages of drought response actions to be implemented in times of shortage, with increasing restrictions on water use in response to worsening drought conditions and decreasing available supplies.

(b) Stage 1 condition drought response measures are voluntary and will be reinforced through local public education and awareness measures. During drought response condition Stages 2 through 4, all conservation measures and water-use restrictions are mandatory and become increasingly restrictive in order to attain escalating conservation goals.

(c) During a Drought Response Stage 2 condition or higher, the water conservation measures and water use restrictions are mandatory and violations are subject to criminal, civil, and administrative penalties and remedies as specified by Ordinance.

Rationing Stages

The following rationing plan will be invoked during declared water shortages. The rationing plan includes voluntary and mandatory rationing, depending on the causes, severity, and anticipated duration of the water supply shortage.

As the water purveyor, the District must provide the minimum health and safety water needs of the community at all times. The water shortage response is designed to provide a minimum of 50% of normal supply during a severe or extended water shortage. The rationing program stages described below were established to ensure that this goal is met. Rationing stages may be triggered by an extended shortage in groundwater supplies due to declining groundwater levels, groundwater quality issues (exceeding primary drinking water standards), or due to a catastrophic event.

Stage 1 – Drought Watch Condition

A Stage 1 condition is also referred to as a “Drought Watch” condition. A Stage 1 condition applies when due to drought or other supply reductions, there is a reasonable probability there will be supply shortages and that a consumer demand reduction of up to 10 percent is required in order to ensure that sufficient supplies will be available to meet anticipated demands.

When the District’s Board of Directors declares a Stage 1 Drought Watch condition, the District will increase its public education and outreach efforts to emphasize increased public awareness of the need

to implement the following water conservation practices (the same water conservation practices become mandatory if the District's Board of Directors declares a Stage 2 Drought Alert condition):

1. Stop washing down paved surfaces, including but not limited to sidewalks, driveways, parking lots, roadways, or patios, except when it is necessary to alleviate safety or sanitation hazards.

2. Stop watering unpaved drive approaches, driveways, and sidewalks except when it is necessary to alleviate safety or sanitation hazards.

3. Stop water waste resulting from inefficient landscape irrigation, such as runoff, low head drainage, or overspray, etc. Similarly, stop water flows onto non-targeted areas, such as adjacent property, non-irrigated areas, private and public walkways, patios, lots, hardscapes, roadways, or structures.

4. Irrigate residential and commercial landscape before 10 a.m. and after 6 p.m. only.

5. Use a hand-held hose equipped with a positive shut-off nozzle or bucket to water landscaped areas, including trees and shrubs located on residential and commercial properties that are not irrigated by a landscape irrigation system.

6. Irrigate nursery and commercial grower's products before 10 a.m. and after 6 p.m. only. Watering is permitted at any time with a hand-held hose equipped with a positive shut-off nozzle, a bucket, or when a drip/micro-irrigation system/equipment is used. Irrigation of nursery propagation beds is permitted at any time. Watering of livestock is permitted at any time.

7. Use re-circulated water to operate ornamental fountains.

8. Wash vehicles using a bucket and a hand-held hose with positive shut-off nozzle, mobile high pressure/low volume wash system, or at a commercial site that re-circulates (reclaims) water on-site. Avoid washing during hot conditions (over 95 degrees) when additional water is required due to evaporation.

9. Serve and refill water in restaurants and other food service establishments only upon request.

10. Offer guests in hotels, motels, and other commercial lodging establishments the option of not laundering towels and linens daily.

11. Repair all water leaks within seventy two (72) hours of notification by the District unless other arrangements are made with the General Manager.

12. Use recycled or non-potable water for construction purposes when available.

<u>Stage 2 – Drought Alert Condition</u>

A Stage 2 condition is also referred to as a "Drought Alert" condition. A Stage 2 condition applies when caused by drought or other reduction in supplies, a consumer demand reduction of up to 25 percent is required in order to have sufficient supplies available to meet anticipated demands.

When the District's Board of Directors declares a Drought Response Stage 2 condition, all persons using District water shall comply with Stage 1 Drought Watch water conservation practices, and shall also comply with the following additional conservation measures:

1. Limit residential and commercial landscape irrigation to no more than the assigned days per week on a schedule established by the District's Board of Directors and posted by the District.

2. Limit lawn watering and landscape irrigation using sprinklers to no more than ten (10) minutes per watering station per assigned day. This provision does not apply to landscape irrigation systems using water efficient devices, including but not limited to: weather based controllers, drip/micro-irrigation systems and stream rotor sprinklers.

3. Water landscaped areas, including trees and shrubs located on residential and commercial properties, and not irrigated by a landscape irrigation system, on the same schedule set forth in item 1 by using a bucket, hand-held hose with positive shut-off nozzle, or low-volume non-spray irrigation.

4. Repair all leaks within forty-eight (48) hours of notification by the District unless other arrangements are made with the General Manager.

5. Stop operating ornamental fountains or similar decorative water features unless recirculated water is used.

Stage 3 – Drought Critical Condition

A Drought Response Stage 3 condition is also referred to as a "Drought Critical" condition. A Stage 3 condition applies when due to increasing cutbacks caused by drought or other reduction of supplies, a consumer demand reduction of up to 40 percent is required in order to have sufficient supplies available to meet anticipated demands.

When the District's Board of Directors declares a Drought Response Stage 3 condition, all persons using District water shall comply with Stage 1 Drought Watch and Stage 2 Drought Alert water conservation practices and shall also comply with the following additional mandatory conservation measures:

1. Limit residential and commercial landscape irrigation to no more than four (4) assigned days per week on a schedule established by the District's Board of Directors and posted by the District. During the months of December through April, landscape irrigation is limited to no more than twice per week on a schedule established by the District's Board of Directors and posted by the District. This section shall not apply to commercial growers or nurseries.

2. Water landscaped areas, including trees and shrubs located on residential and commercial properties, and not irrigated by a landscape irrigation system, on the same schedule set forth in Item 1 by using a bucket, hand-held hose with a positive shut-off nozzle, or low-volume non-spray irrigation.

3. Stop filling or re-filling ornamental lakes or ponds, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a drought response stage.

4. Stop washing vehicles except at commercial carwashes that re-circulate water, or by high pressure/low volume wash systems.

5. Repair all leaks within forty-eight (48) hours of notification by the District unless other arrangements are made with the General Manager.

The District may establish a water allocation for property served by the District using a method that does not penalize persons for the implementation of conservation methods or the installation of water saving

devices. If the District establishes a water allocation, it shall provide notice of the allocation by including it in the regular billing statement for the fee or charge or by any other mailing to the address to which the District customarily mails the billing statement for fees or charges for on-going water service. Following the effective date of the water allocation as established by the District, any person that uses water in excess of the allocation shall be subject to a penalty in an amount established by Resolution for each billing unit of water in excess of the allocation. Potential water allocation considerations are included later in this WSCP.

Stage 4 – Drought Emergency Condition

A Drought Response Stage 4 condition is also referred to as a "Drought Emergency" condition. A Stage 4 condition applies when the District's Board of Directors declares a water shortage emergency pursuant to California Water Code section 350 which requires a demand reduction of up to 50% in order for the District to have maximum supplies available to meet anticipated demands.

All persons using District water shall comply with conservation measures required during Stage 1 Drought Watch, Stage 2 Drought Alert, and Stage 3 Drought Critical conditions and shall also comply with the following additional mandatory conservation measures:

1. Stop all landscape irrigation, except crops and landscape products of commercial growers and nurseries. This restriction shall not apply to the following categories of use unless the District has determined that recycled water is available and may be lawfully applied to the use.

    a. Maintenance of trees and shrubs that are watered on the same schedule set forth in Stage 3, Item 1 by using a bucket, hand-held hose with a positive shut-off nozzle, or low-volume non-spray irrigation;

    b. Maintenance of existing landscaping necessary for fire protection as specified by the Fire Marshal of the local fire protection agency having jurisdiction over the property to be irrigated;

    c. Maintenance of existing landscaping for erosion control;

    d. Maintenance of plant materials identified to be rare or essential to the well being of rare animals;

    e. Maintenance of landscaping within active public parks and playing fields, day care centers, school grounds, cemeteries, and golf course greens, provided that such irrigation does not exceed two (2) days per week according to the schedule established under Stage 3, Item 1;

    f. Watering of livestock; and

    g. Public works projects and actively irrigated environmental mitigation projects.

2. Repair all water leaks within twenty-four (24) hours of notification by the District unless other arrangements are made with the General Manager.

Upon the declaration of a Drought Response Stage 4 condition, no new potable water services shall be provided, no new temporary meters or permanent meters shall be provided, and no statements of immediate ability to serve or provide potable water service (such as, will serve letters, certificates, or letters of availability) shall be issued, except under the following circumstances:

1. A valid, unexpired building permit has been issued for the project; or

2. The project is necessary to protect the public's health, safety, and welfare; or

3. The applicant provides substantial evidence of an enforceable commitment that water demands for the project will be offset prior to the provision of a new water meter(s) to the satisfaction of District; or

4. The project is designed so that through the use of water saving devices, zero landscaping or other such measures, that the project water demand would be at least fifty percent (50%) of normal.

This provision shall not be construed to preclude the resetting or turn-on of meters to provide continuation of water service or to restore service that has been interrupted for a period of one year or less.

Summary of Water Supply Shortage Stages and Conditions

The water supply shortage stages and conditions are summarized in Table 1 below. The District is 100 percent metered and metered flows will be used to determine the effectiveness of the implemented rationing stages.

Table 1 - Water Supply Shortage Stages And Conditions

Stage Number	Water Supply Conditions	Use Restrictions	Conservation Target
1 – Drought Watch	1) Groundwater – 10% water level drop from baseline -or- 2) Water Quality – 10% of water supply contaminated (exceeds primary drinking water standards)	Voluntary	Up to 10%
2 – Drought Alert	1) Groundwater – 20% water level drop from baseline -or- 2) Water Quality – 20% of water supply contaminated (exceeds primary drinking water standards)	Mandatory	Up to 25%
3 – Drought Critical	1) Groundwater – 30% water level drop from baseline -or- 2) Water Quality – 30% of water supply contaminated (exceeds primary drinking water standards)	Mandatory	Up to 40%
4 – Drought Emergency	1) Groundwater – 40% water level drop from baseline -or- 2) Disaster Loss	Mandatory	Up to 50%

Estimated Minimum Available Water Supply for a Three Year Period

Table 2 summarizes the minimum estimated available water supply for a multiple dry year scenario (three year period) assuming a 50 percent overall reduction in groundwater supplies over the three year period (a 15 percent reduction for each of the first two years and a 20 percent reduction for the third year). The available water supplies include Well No. 19 which will be in operation in 2015.

Table 2 – Estimated Minimum Available Water Supply (AFY)

Water supply source	Average / Normal Water Year Supply	Multiple Dry Water Year Minimum Supply		
		Year 1	Year 2	Year 3
Groundwater	12,870	10,940	9,009	6,440
Percent of normal year:	100%	85%	70%	50%

Water Allocation Planning

Priority by Use

Water allocations may be established for all customers according during a Stage 3 or greater water shortage condition according to the following ranking system:

- Minimum health and safety allocations for interior residential needs (includes single family, multi-family, convalescent facilities, retirement and mobile home communities, and fire fighting and public safety)
- Commercial, industrial, institutional/governmental operations (where water is used for manufacturing and for minimum health and safety allocations for employees and visitors), to maintain jobs and economic base of the community (not for landscape uses)
- Annual agriculture (floriculture and others)
- Existing landscaping
- New customers, proposed projects without will serve letters when shortage declared.

Health and Safety Requirements

The per capita health and safety water requirements shown in Table 3 were developed based on commonly accepted estimates of interior residential water use in the United States. In Stage 1 declared shortages, customers may adjust either interior or outdoor water use (or both), in order to meet the voluntary water reduction goal.

However, under Stage 3 and Stage 4 mandatory rationing programs, the health and safety allotment of 68 gallons per capita per day (gpcd) is proposed because that amount of water is sufficient for essential interior water with no habit or plumbing fixture changes. If customers wish to change water use habits or plumbing fixtures, 68 gpcd is sufficient to provide for limited non-essential (i.e. outdoor) uses.

Stage 4 mandatory rationing, which is likely to be declared only as the result of a prolonged water shortage or as a result of a disaster, would require that customers make changes in their interior water use habits (for instance, not flushing toilets unless “necessary” or taking less frequent showers).

Table 3 - Per Capita Health and Safety Water Quantity Calculations

	Non-Conserving Fixtures		Habit Changes [1]		Conserving Fixtures [2]	
Toilets	5 flushes x 5.5 gpf	27.5	3 flushes x 5.5 gpf	16.5	5 flushes x 1.6 gpf	8.0
Shower	5 min x 4.0 gpm	20.0	4 min x 3.0 gpm	12.0	5 min x 2.0	10.0
Washer	12.5 gpcd	12.5	11.5 gpcd	11.5	11.5 gpcd	11.5
Kitchen	4 gpcd	4.0	4 gpcd	4.0	4 gpcd	4.0
Other	4 gpcd	4.0	4 gpcd	4.0	4 gpcd	4.0
Total (gpcd)		68.0		48.0		37.5
HCF per capita per year		33.0		23.0		18.0

[1] Reduced shower use results from shorter and reduced flow. Reduced washer use results from fuller loads.
[2] Fixtures include ULF 1.6 gpf toilets, 2.0 gpm showerheads and efficient clothes washers.

Water Allocation Methods

The following allocation method is proposed for each customer type.

Single Family	Hybrid of Per-capita and Percentage Reduction
Multifamily	Hybrid of Per-capita and Percentage Reduction
Commercial	Percentage Reduction
Industrial	Percentage Reduction
Gvt/Institutional	Percentage Reduction
Recreational	Percentage Reduction - vary by efficiency
New Customers	Per-capita (no allocation for new landscaping during a declared water shortage.)

Based on current and projected customer demand, the water may be allocated to each customer type by priority and rationing stage during a declared water shortage.

Individual customer allotments are proposed to be based on a five-year period. This gives the District a more accurate view of the usual water needs of each customer and provides additional flexibility in determining allotments and reviewing appeals. However, no allotment would be greater than the amount used in the most recent year of the five-year base period.

The District's General Manager would classify each customer and calculate each customer's allotment according to a Sample Water Rationing Allocation Method. The allotment would reflect seasonal patterns. Customers would be notified of their classification and allotment by mail before the effective date of the Water Shortage Emergency. New customers will be notified at the time the application for service is made. In a disaster, prior notice of allotment may not be possible; notice will be provided by other means. Any customer may appeal the District's classification on the basis of use or the allotment on the basis of incorrect calculation to the Board of Directors.

Impacts of Implementation of the Water Shortage Contingency Plan

It is not expected that rates would need to be increased as a result of water shortages and the implementation of this WSCP. The District's current rate schedule consists of two parts: a monthly service charge, which covers the District's fixed costs, and a use charge (per 100 CF) which covers the cost of producing and delivering water to customers. Therefore, reductions in revenue due to reductions in use should be accompanied by a reduction in expenses incurred by the District. Minor shortfalls in revenue could be covered by the District's water reserve funds.

Water Use Monitoring Procedures

Under normal water supply conditions, potable water production figures are recorded daily. Totals are reported daily to the Facility Manager. Totals are reported monthly to the District General Manager and incorporated into the water supply report.

During a Stage 1 or Stage 2 water shortage, daily production figures will be reported to the Facility Manager. The Facility Manager will compare the weekly production to the target weekly production to verify if the water use reduction goal is being met. Weekly reports would then be forwarded to the District General Manager with monthly reports provided to the Board of Directors. If reduction goals are not met, the General Manager will notify the Board of Directors so that corrective action can be taken.

During a Stage 3 or Stage 4 water shortage, the procedure listed above will be followed, with the addition of a daily production report to the General Manager.

During emergency shortages, production figures will be reported to both the Facility Manager and the General Manager hourly. Daily reports will also be provided to the Board of Directors.

Table 4 - Water Use Monitoring Procedures	
Stage 1 or 2 Conditions	**Stage 3 or 4 Conditions**
Daily Production Reports to Facility Manager	Daily Production Reports to Facility Manager
Weekly Production Reports to General Manager	Daily Production Reports to General Manager
Monthly Production Reports to Board of Directors	Monthly Production Reports to Board of Directors

Penalties

The Board of Directors will establish a schedule of penalties for violations of this policy in an adopted Ordinance.

Catastrophic Supply Interruption Plan

A catastrophic event may result in a complete loss of District water supplies for a temporary period lasting from a day to a week or more. Examples of catastrophic events include earthquake, widespread power outage or other disaster.

In the event of an earthquake or other disaster, District personnel will assess their delivery system for damage that could impair the system's ability to deliver water to customers. If damage is identified, District maintenance personnel or a contractor engaged by the District would perform the required repairs as soon as possible in order to restore delivery capacity. The District keeps an inventory of supplies on hand such as PVC pipe, valves, fittings, and water service appurtenances, which could be used to make needed repairs.

The District has diesel powered engines and gear drives at two of its well sites (one in the center and one in the north end of the District) that will be able to remain in operation in the event of a power outage. In addition, the District has a diesel electrical generator at another centrally located well site. These diesel engines and generators will be used to maintain at least a 30 psi positive pressure in the system until power can be restored. Available water supplies in storage will also be utilized.

If necessary, the District will purchase and distribute emergency drinking water to its customers. The District will coordinate with the Kern County Emergency Operations Center in accordance with the Kern County Emergency Operations Plan.

Table 3: Preparation Actions For A Catastrophe	
Possible Catastrophe	**Summary Of Actions**
Earthquake	1) Assess system for damage 2) Repair damage by District personnel or contractor
Regional Power Failure	1) Rely upon engines and generators to maintain 30 psi positive pressure in water system. 2) Rely upon available storage for supply

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