



Fallbrook Public Utility District
2010 Urban Water Management Plan

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Section 1 – Introduction

1.1 CALIFORNIA URBAN WATER MANAGEMENT PLANNING ACT

The California Water Code requires all urban water suppliers within the state to prepare Urban Water Management Plans and update them every five years. These plans satisfy the requirements of the Urban Water Management Planning Act (Act) of 1983, including amendments that have been made to the Act. Sections §10610 through §10656 of the Water Code detail the information that must be included in these plans, as well as who must file them.

This plan is prepared to satisfy the requirements of the Act, however the 2010 plans prepared by the San Diego County Water Authority and the Metropolitan Water District of Southern California address many of the projections for resource reliability for the entire Southern California region, including Fallbrook.

Prior water conservation plans, as well as urban and agricultural water management plans, have been developed and adopted by FPUD's board of directors in 1981, 1985, 1991, 1995, 2000 and 2005.

1.2 DESCRIPTION OF THE FALLBROOK PUBLIC UTILITY DISTRICT

The mission of the Fallbrook Public Utility District (FPUD) is to provide a safe and reliable supply of water to residents and customers in the Fallbrook area. This is the 2010 Urban Water Management Plan for FPUD. It is an update to the District's 2005 Urban Water Management Plan and it includes a description of the District's projected water resources that are necessary to provide water to its service area through the year 2035.

Because FPUD is a water retailer, which purchases 100% of its potable water from supplies imported by our two wholesalers, the Water Authority and the Metropolitan, this 2010 Plan addresses issues that relate to the consumer. Our two wholesalers have addressed regional issues concerning San Diego County and Southern California water supplies in their own 2010 plans.

The District is one of 23 member agencies of the San Diego County Water Authority. The Water Authority is, in turn, a member agency of Metropolitan's. Since virtually all the potable water supplied by FPUD is supplied by the two large water wholesalers, this district looks to, and actively participates in, the decisions and policies adopted by them to provide a safe and reliable supply of water. FPUD has one representative that sits on the Water Authority's governing board.

1.3 PLAN PREPARATION FOR 2010 URBAN WATER MANAGEMENT PLAN

PUBLIC PARTICIPATION LAW §10642

Each urban water supplier shall encourage the active involvement of diverse social, cultural and economic elements of the population within the service area prior to and during the preparation of the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and hold a public hearing thereon. Prior to the hearing, notice of the time and place of the hearing shall be published... after the hearing the plan shall be adopted as prepared or as modified after the hearing.

PUBLIC PARTICIPATION

FPUD has encouraged community participation in its urban water management planning efforts through its board of directors. The board, which is made up of elected community representatives, has been actively involved since the first plan was developed in 1985. Additionally, public monthly meetings are held on the fourth Monday of each month at 4 p.m., giving the community an opportunity to provide input and participation in the urban water management planning effort.

Notices of public meetings are posted outside the district office, the local fire station and the local library. Copies of this plan are available at the district office and on the district's website at www.fpud.com.

PLAN ADOPTION

District staff prepared this update during the third and fourth quarters of 2010, and the first and second quarters of 2011. The updated plan was adopted by the board of directors in June 2011 and submitted to the California Department of Water Resources within 30 days of the board's approval. This plan includes all information necessary to meet the requirements.

A draft of this plan was presented to the Board of Directors at its regular monthly meeting on May 23, 2010, at which time the board held a public hearing on the Plan. The Plan was made available for public review prior to final acceptance. The Board of Directors approved this plan on June 27, 2010 and hereby submits it to the California Department of Water Resources.

1.4 COORDINATION WITHIN THE DISTRICT AND OTHER AGENCIES

COORDINATION WITH APPROPRIATE AGENCIES – §10620 (d) (2)

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

COORDINATION WITHIN THE DISTRICT

District staff members met and coordinated the development of this plan. Those members included Noelle Denke, Public Affairs Specialist; Jeff Marchand, Engineering Technician; Jack Bebee, Engineering and Planning Manager; and Keith Lewinger, General Manager.

As a member agency of the Water Authority, district staff and board members coordinate planning efforts through participation with the Water Authority’s staff and board, as well as other member agencies.

COORDINATION WITH APPROPRIATE AGENCIES (TABLE 1)

	Participated in UWMP development	Commented on the draft	Attended public meetings	Contacted for assistance	Received copy of draft	Sent notice of intention to adopt
Other water suppliers, including Camp Pendleton					√	√
Water management agency: SDCWA	√	√		√	√	√
County of San Diego	√			√	√	√
San Diego Association of Governments					√	√
Local Agency Formation Commission					√	√

For detailed information on reliability and how FPUD’s demands will be met, please refer to the 2010 Urban Water Management Plan submitted by the Water Authority. In the event of declared water shortages, the district’s Water Conservation Ordinance will be implemented. A copy is included in Appendix A.

District staff also attended several regional planning workshops in preparation for this report. The workshops provided opportunity to coordinate plans with other agencies.

1.5 OTHER PROJECTS TO MAXIMIZE RESOURCES AND MINIMIZE IMPORTED WATER

DESCRIBE RESOURCE MAXIMIZATION / IMPORT MINIMIZATION PLAN §10620 (f)

Tools the district is either using or pursuing to maximize resources and minimize the need to import water include two projects: the Santa Margarita Conjunctive-Use Project and a cooperative agreement with Metropolitan Water District to store rainfall in Lake Skinner in Temecula.

The Lake Skinner agreement solves a decades-old water-rights problem for the district. FPUD had rights to collect water in the Santa Margarita River, but no place to store it. Lake Skinner had the storage space, but no rights to the local water. The deal enables FPUD to store river water in Lake Skinner, and then the water is later delivered to Fallbrook, increasing FPUD's overall supply. Metropolitan benefits by collecting a "wheeling charge." FPUD expects to collect, on average, 300 acre-feet of "new" water per year from the river, with the majority available in wet years.

The other project, the Santa Margarita Conjunctive-Use Project, involves a plan with Marine Corps Base Camp Pendleton as a partner in developing the Santa Margarita River as a local source of water. If the project is developed, the river could meet as much as 30% of the district's future needs and 100% of Camp Pendleton's needs. The water would be stored in an underground water basin on Camp Pendleton. The project would provide a reliable water supply, enabling the district to become more self-sustaining, with its own water sources, rather than relying solely on imported water. The two partners have completed a first-draft agreement for building the project. The final plans are contingent upon the environmental impact studies reports.

Section 2 – Appropriate level of planning for size of agency

2.1 APPROPRIATE LEVEL OF PLANNING FOR SIZE OF AGENCY

The level of detail provided in this plan reflects the size and complexity of this water provider.

2.2 SERVICE AREA INFORMATION WITH 5-YEAR PROJECTIONS FOR THE NEXT 25 YEARS

The population projections listed in the table below were provided by San Diego Association of Governments (SANDAG), San Diego's regional planning agency. The comparison of data indicates an average annual increase of 3% through 2035. There is a drop in population from 2010 to 2015 due, in part, to the economy and foreclosures in the housing market.

POPULATION – CURRENT AND PROJECTED (TABLE 2)

	2010	2015	2020	2025	2030	2035
Service area population	34,894	33,822	35,917	38,999	41,839	43,726

CLIMATE CONDITIONS

The climatic conditions within FPUD's service area are characteristically mild Mediterranean with an average year-round temperature of 64 degrees. The average high temperature in Fallbrook is 76 degrees with the warmest summer temperature rarely higher than 90 degrees. Average winter nighttime temperature is 42 degrees and mostly frost-free.

CLIMATE (TABLE 3)

	Jan	Feb	Mar	Apr	May	June
Standard Monthly Average ETo	2.74	2.71	3.79	4.79	5.48	6.19
Average Rainfall (inches)	3.36	3.78	2.94	1.2	0.27	0.14
Average Temperature (Fahrenheit)	55.91	56.84	58.74	62.49	65.71	70.16

CLIMATE (continued)

	July	Aug	Sept	Oct	Nov	Dec	Annual
Standard Monthly Average ETo	6.79	6.75	5.29	4.18	3.41	2.87	54.99
Average Rainfall (inches)	0.07	0.03	0.22	0.67	1.31	1.75	15.75
Average Temperature (Fahrenheit)	74.65	76.03	73.95	67.68	60.01	55.31	64.75

OTHER DEMOGRAPHIC FACTORS AFFECTING WATER MANAGEMENT

Historically, water usage has remained the same in FPUD's service area. Over the years, the larger agricultural areas have been converted to smaller residential properties. Those smaller, but more numerous, properties have used the same amount of water as the larger agricultural properties they replaced.

Currently, however, water use has declined overall for residential customers, due to the water shortage and mandatory conservation that was imposed. Agricultural

water consumption has declined about 55%. This is due to the increased cost of water, coupled with the fact that the cost to produce food is increasing yet there is considerable competition for farmers since lower-priced food is being produced and is available in other countries. Municipal and Industrial water usage has also decreased. The increase in water demand is projected to be mainly due to population growth.

Agricultural customers have the option of enrolling in two discount water programs. The Interruptible Agricultural Water Program, or IAWP, is offered through Metropolitan and the Water Authority. In order to qualify for the discount, agricultural customers must certify that the use of the water they purchase meets the following definition:

“the growing or raising, in conformity with recognized practices of husbandry, for the purposes of commerce, trade or industry, or agricultural, horticultural or floricultural products, and produced (1) for human consumption or for the market, or (2) for the feeding of fowl or livestock produced for human consumption or for the market, or (3) for the feeding of fowl or livestock for the purpose of obtaining their products for human consumption or for the market, such products to be grown or raised on a parcel of land having an area of not less than one acre utilized exclusively therefore.”

By participating in this program, the certified Ag customer receives a discount off the price of water. In exchange for the discount, the customer signs an agreement that in the event of a drought or emergency, service may be interrupted and mandatory reductions in water could occur. In this event, the certified Ag customer will be required to reduce water usage, up to 30%, before residential, commercial or any other class of customer is required to cut back.

During the 2008 declared drought, Ag customers were forced to cut back 30%. This hardship forced them to make business decisions that included stumping trees, limiting production, changing crops and going out of business. As the drought continued, Metropolitan took action to phase out the IAWP program gradually, over a four-year period, finally ending Dec. 31, 2012. The phase-out is carried out by annually reducing the percentage the Ag customer is required to cut back while simultaneously increasing the cost of his water.

The demise of the IAWP program led the Authority to develop the Special Agricultural Water Rate program, or SAWR. This program also gives discounts to certified Ag customers. By choosing this option, enrollees would lose the IAWP discount, and the Readiness to Serve credit, effective with the January 2011 billing.

The SAWR discount is derived from two things: first, participants do not pay the full cost of San Diego County's emergency storage program, and second, participants do not pay any of the costs associated with the supplemental water

supplies developed by the Authority. These supplemental supplies, such as the Imperial Irrigation District Transfer and the lining of the All American Canal, are more expensive than Metropolitan's water supplies because they provide a higher level of reliability.

In exchange for giving up the IAWP discount, enrollees would no longer have the higher mandatory reduction from Metropolitan. Instead they would have a lesser cutback than IAWP customers but also a smaller discount and more reliable water. They would only be subject to whatever cutbacks the Authority imposed on full-price customers. Beginning in 2008, the cutback imposed on full-priced customers was 8 percent, plus an additional 5 percent for SAWR customers, for a total of a 13 percent cutback for the SAWR customer.

The SAWR discount is set to continue until at least Dec. 31, 2012. Continuation of the program beyond 2012 is pending future reviews and approval from the Water Authority.

LAND USE

Fallbrook is an unincorporated community of San Diego County. As such, area land use is subject to regulation by the County Board of Supervisors. This is accomplished through the use of the County General Plan -1990. As part of the General Plan, community plans were developed for each of the major unincorporated communities in the County. Each plan is designed to meet the specific needs of a community. The Fallbrook Community Plan (FCP) was adopted on Dec. 31, 1974 by the Board of Supervisors and revised in September 1985. The FCP did not project land use for intermediate future years but rather produced an ultimate land-use plan. While the Community Plan specifies land use, it does not constitute zoning. All future zoning is legally required to be consistent with the adopted community goals and objectives presented in the FCP.

The following general goal has been adopted in the FCP: "Perpetuate the existing rural charm and village atmosphere while accommodating growth in such a manner that it will complement and not sacrifice the environment of our rustic, agriculturally oriented community."

The FCP attempts to fulfill this goal by limiting future multiple-use and high-density development to the designated town center and is referred to in the County General Plan as a "Country Town." Land outside the designated town center, extending to the community's boundaries, is intended for agricultural uses and rural, residential development and has parcel size limits of 1, 2, 4 or 8 acres, depending on topography and steepness of the land. Most population increase is occurring within the Country Town as land is developed into subdivisions and apartment units. Outside the Country Town land subdivision has been occurring gradually as 40- and 80-acre parcels are split up over many years down to the permissible minimum size of 2 or 4 acres. Based on the updated General Plan,

larger parcels further from roads and utilities may be limited to minimum lot sizes, much larger than 2 to 4 acres. Agricultural land use has been undergoing a gradual change from primarily avocados and citrus to a mixture of crops including other subtropical fruit and nut orchards such as macadamias, fuyu persimmons, kiwis, cherimoyas, etc. In addition, ornamental flowers and commercial nurseries are increasing in prominence and will tend to preserve the agricultural orientation of the community. Decreases in agriculture, due to development, are expected to remain close to the historic long-term trend.

Conversion of land uses from purely agricultural use to rural residential is a function of agricultural economics, high water costs and increasing land values.

HISTORY AND DESCRIPTION OF THE DISTRICT'S SERVICE AREA

The first permanent recorded settlement in Fallbrook was in 1869, in the east area of the District, which later became Live Oak County Park. Agriculture has always been a major industry in the area. The first plantings were olives and citrus, which were replaced in the 1920s by avocados. Fallbrook is generally recognized as the "Avocado Capital of the World."

FPUD, consisting of about 500 acres, was incorporated on June 5, 1922. In 1927, the Fallbrook Irrigation District voted to dissolve and a portion of the former Irrigation District became part of FPUD, increasing the size of the District to 5,000 acres. Subsequently, a plan to develop water from the Bonsall basin of the San Luis Rey River was started and by 1946 three 1,000 gallon-per-minute wells were in operation. The District also obtained additional water from rights on the Santa Margarita River. Wells were added over the years until 1953 when, due to the generally over-drafted condition of the San Luis Rey River, the District was restricted from extracting water after April 1, 1954, when the average static water level in the Basin was greater than 18 feet below the surface of the ground.

The District became a member of the San Diego County Water Authority (Water Authority) at its formation on June 9, 1944, and thus was eligible to receive a portion of the Colorado River water diverted by the Metropolitan Water District (Metropolitan) of Southern California. When Colorado River water became available in 1948, consumption within the District gradually increased to approximately 10,000 acre-feet per year by 1959. In 1978, Metropolitan augmented its supply system with water from the California State Water Project and began delivering both waters to San Diego County.

Use of Santa Margarita River water continued until 1969 when floods destroyed the District's diversion works. These facilities were not replaced because in 1968 a Memorandum of Understanding & Agreement was signed with the Federal Government to develop a two-dam and reservoir project on the river for the benefit of this District and the U.S. Marine Corps Base Camp Pendleton. This agreement was the culmination of 17 years of water rights litigation in the *U.S. vs. Fallbrook* case and the federally sponsored project was known as the Santa

Margarita Project. Further discussion of this project is in the Water Sources section of this plan, beginning on page 8.

Significant expansions of the District service area took place in 1950 when it annexed the last remaining portion of the Fallbrook Irrigation District and in 1958 when the area to the north of the town on both sides of the Santa Margarita River annexed to the District. In May 1990, the registered voters of the DeLuz Heights Municipal Water District, whose service area joins Fallbrook to the northwest, decided to dissolve their 17-year-old district and annex into FPUD's. This annexation added 11,789 acres (42% increase) to Fallbrook's service area; it increased water use by 25% as well as the number of service connections. The DeLuz Heights Municipal Water District was a member agency of the Water Authority and Metropolitan, and relied on the same source of imported water except for three small wells, which had produced approximately 100 AF per year.

Currently, the District serves an area of 28,000 acres. Currently, 42% percent of the annual water deliveries are for agricultural use. This number is significantly lower than in prior years. The remainder is for municipal, residential and industrial uses. Total growth in population over the past 15 years has been about 24%, or about 1.6% annually. It increased from a population of 28,200 in 1995 to a population of 34,894 in 2010. Annual water consumption increased to a high of 19,597 acre-feet/year in 2007, then decreased to a low of 11,757 in 2010. This decrease in water consumption was due to the drought and the watering restrictions placed on customers, as well as the increased cost of water.

2.3 WATER SOURCES

WATER CODE SECTION §10631

Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier.

This District relies on imported water supplied by the Water Authority, which in turn relies on Metropolitan for its water supply. Since virtually 100% of FPUD's potable water is supplied by the aforementioned two agencies, their water supply plans and forecasts relate to this District. We look to and participate in their planning for our future needs. For more information on their water supply plans for FPUD, it may be helpful to reference the 2010 Urban Water Management Plans for Water Authority and Metropolitan.

CURRENT AND PLANNED WATER SUPPLIES – ACRE-FEET/YEAR (TABLE 4)

Water supply sources	2010	2015	2020	2025	2030	2035
San Diego County Water Authority	11,737	14,140	15,043	16,334	17,523	18,313
Groundwater: Santa Margarita River		3,100	3,100	3,100	3,100	3,100
Groundwater supplier: local wells in Fallbrook		100	100	100	100	100
Surface diversions: Santa Margarita River @ Lake Skinner	20	300	300	300	300	300
Recycled water	485	611	639	689	739	739
Total	12,242	20,226	21,202	22,548	23,792	24,587

WATER SOURCES – GROUNDWATER**WATERSHED MANAGEMENT PLAN**

A potential source of water is the lower Santa Margarita River. Fallbrook used to produce some of its water from the Santa Margarita River under a 2 ½ cfs direct diversion license from the state of California. Those facilities were destroyed by floods in 1969 and have not been rebuilt. Subsequently the state cancelled the license for lack of use.

For more than 50 years the District has been attempting to develop a permanent local water supply on the Santa Margarita River by constructing a dam and reservoir to capture flood flows and provide a storage facility for these flows. In 1948, water permits were obtained from the state for diversion and storage of 30,000 acre-feet. The federal government filed suit against the District in 1951 over water rights on the river to quiet its title to the adjudicated rights accruing to Camp Pendleton. Those water rights had been adjudicated in the Ranch Santa Margarita vs. Vail Co. litigation, which was settled in 1940.

The U.S. Congress authorized construction of the Santa Margarita Project in 1954 which was to be a single dam and 175,000 AF reservoir located on Camp Pendleton for the benefit of the Marine Corps Base (60%) and FPUD (40%). The U.S. Justice Department did not concur with this legislative solution and pursued the lawsuit. The following excerpt from the Bureau of Reclamation’s Feasibility Report on the Santa Margarita Project identifies the end of the litigation and the solution to development of Santa Margarita River water.

“After many years of litigation concerning water rights on the Santa Margarita River, extending over a period of time from 1923 to 1966, the U.S. District Court for the Southern District of California entered its Modified Final Judgment and Decree on April 6, 1966. However, the many years of litigation had not produced a division of water between the Fallbrook Public Utility District and Camp Pendleton that would enable either to build and operate a separate project. The court

retained continuing jurisdiction over water rights on the river, and invited the two principal parties to seek physical solutions that would alleviate further controversies.”

A Memorandum of Understanding and Agreement (MOU) was signed by the Secretary of the Navy, Secretary of the Interior, U.S. Attorney General and FPUD on March 4, 1968, in which all parties agreed to an equitable division of the water predicated upon construction of a joint project involving dams and reservoirs at both the Fallbrook and DeLuz sites, if found to be feasible.

The MOU was subsequently approved by the U.S. District Court on June 27, 1968, and incorporated in its Modified Final Judgment and Decree. Except for the joint project stipulated in the agreement, to be constructed, owned, and operated by the United States as a single project, there is no other presently known physical solution that would alleviate further legal controversies.

The U.S. Bureau of Reclamation published a revised Planning Report & Supplemental Environmental Report on the two-dam plan in 1984. It failed to achieve Congressional approval and the House Armed Services Committee directed the Secretary of the Navy in 1985 to conduct a new study (independent of the Bureau of Reclamation) of the water supply and flood-control needs of Camp Pendleton. Meanwhile, the Bureau evaluated a smaller project consisting of one 50,000 AF reservoir at the Fallbrook site to include 15,000 AF of additional flood control capacity and downstream levees for flood control. The Bureau stopped work on this project in 1986 due to a lack of staff and funds. The Navy-funded study ended in 1988 and indicated Camp Pendleton should obtain its future water supply from imported sources, citing ten specific recommendations. The ten adopted recommendations for guiding water supply development and flood control protection at Camp Pendleton are listed below.

1. Adopt the year 2010 Most Probable water requirements and the 100year flood as defined in this report as objectives for developing additional water supplies and providing flood protection.
2. Meet increased water requirements on Base by first increasing pumping from the groundwater to the full safe yield of the groundwater basins, before importing supplies.
3. Construct a connecting pipeline to the SDCWA aqueduct and purchase treated imported water from SDCWA/MWD to meet water requirements exceeding safe yield of groundwater basins.
4. Relocate any wastewater disposal points now in upper two-thirds of groundwater basins to lower third of the basin.
5. Implement groundwater banking (future).
6. Interconnect North and South water systems.

7. Test groundwater basins for safe yield.
8. Actively protect United States water rights and water quality on Santa Margarita River.
9. Comply with Safe Drinking Water Act testing requirements and upgrade the existing chlorination system.
10. Construct a levee to protect high-value facilities that would be inundated by the 100-year flood on the Santa Margarita River.

It can be successfully argued that much of the above plan – the ten recommendations – has been implemented. Recommendations 2) and 5) are incorporated into the conjunctive-use project, and parts of recommendations 3), 6) and 8) are incidental to the conjunctive-use project. The other recommendations were implemented simply because they are common-sense recommendations.

Believing in the smaller project the Bureau was assessing, FPUD evaluated non-federal financing of this alternative and completed a wildlife and biological mitigation plan for the project in 1989. Successful completion of this project would have required a land exchange between the U.S. Bureau of Land Management and private property owners in the San Luis Rey River. The U.S. Fish & Wildlife Service concurred on the plan's impacts to the endangered least Bell's vireo, and required a 404 permit from the U.S. Army Corps of Engineers.

Basin plans completed in the early 1970s called for construction of an ocean outfall for these inland dischargers when their effluent volume exceeded the ability to locally dispose of their effluent by land application on sod farms, a golf course, and spreading for groundwater recharge. Water quality issues severely limited their options for increased direct re-use in the upper basin of the Santa Margarita watershed.

As the lead agency, Eastern conducted a study of alternative means of disposal and concluded their most economical option was to provide tertiary treatment to full Title 22 standards and obtain a permit for "Live Stream Discharge" down the Santa Margarita River. Camp Pendleton objected to this proposal on the basis of potential degradation to their groundwater supplies, and Fallbrook objected that such a plan that would prohibit development of its long-hoped-for on-stream reservoir. The four agencies agreed to work together to see if a basin-wide plan could be developed that would achieve the individual objectives of each of the parties. After almost two years of negotiation and completion of a \$280,000 Water Quality Protection Study, 4-party and 2-party agreements were reached that provided for guaranteed increase of year-round flows down the river, a

potential 100% increase in the yield of Camp Pendleton’s groundwater basins, conjunctive use by Fallbrook and Pendleton of these basins, and water quality control facilities at Pendleton that will ensure TDS levels of production water 650 mg/L or better.

Currently, FPUD, Camp Pendleton and the Bureau of Reclamation are moving forward with the conjunctive-use project. Federal funding grants in the amount of \$700,000 were provided to the Bureau of Reclamation. Fallbrook could eventually realize a reliable annual local water supply from this project of 3,100 AF per year, or about one-third of its anticipated demand. Engineering, economic and environmental feasibility studies for the project are underway and are targeted for completion in winter 2012.

CAPRA WELL

The source of ground water for the Capra well is a small fractured rock aquifer in a localized watershed of Red Mountain below the District’s Red Mountain Reservoir. A ground water management plan is not required and one has not been adopted for this groundwater source. The groundwater basin is not adjudicated and the requirements do not apply to FPUD that the District must indicate the amount of water it has a right to pump from the well.

GROUNDWATER PUMPING RIGHTS – AF/Y (TABLE 5)

Basin name	Pumping right – AF/Y
Lower Santa Margarita	0*
Local wells in Fallbrook	100

*FPUD has the right to divert and store surface water in the Santa Margarita River, so the District is working to amend its permit in coordination with Camp Pendleton, as a joint permit, to include groundwater storage.

Since this is a future project, the district does not have any historical data it can report or provide on groundwater pumped on the Santa Margarita River project.

AMOUNT OF GROUNDWATER PROJECTED TO BE PUMPED – AF/Y (TABLE 6)

Basin name	2010	2015	2020	2025	2030	2035
Lower Santa Margarita	0	3,100	3,100	3,100	3,100	3,100
Local wells in Fallbrook	0	100	100	100	100	100
% of Total Water Supply	0	30%	30%	30%	30%	30%

2.4 RELIABILITY OF SUPPLY

WATER CODE SECTION §10631

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

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

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

FPUD is one of 23 member agencies of the Water Authority. Member agency status entitles the District to directly purchase water from the Water Authority on a wholesale basis. FPUD relies on Water Authority to provide adequate amounts of water to meet current and future needs. As a member agency, FPUD is an active participant in long-term planning decisions made by the Water Authority board. FPUD as a member agency also helps finance water storage facilities to meet future and emergency needs.

As stated in the California Urban Water Management act, every urban water supplier shall include, as part of its plan, an assessment of the reliability of its water supply. For detailed information on how the demands of FPUD will be met, please refer to the 2010 Plan submitted by the Water Authority. In the event of a declared water shortage, please refer to the District's Water Conservation Ordinance, Article 25, included at the end of this report in Appendix A. More information can also be obtained in the Water Authority's 2010 Urban Water Management Plan.

The Act requires that for any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors that the agency describes plans to replace that source with alternative sources or water demand-management measures. FPUD, as well as Water Authority, recognizes the uncertainties regarding imported water supplies from Metropolitan. Water Authority is taking steps to reduce dependence on this imported supply by diversifying its sources through implementation of water

transfers, demand management, providing stronger incentives to member agencies for using recycled water, and development of local projects.

If the lower Santa Margarita River project does not come to fruition, FPUD will continue to rely on the Water Authority for virtually 100% of its water supply.

2.5 TRANSFER AND EXCHANGE OPPORTUNITIES

WATER CODE SECTION §10631

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

For the purpose of emergency supply in the event of leaks or maintenance, FPUD entered into an emergency exchange agreement with Rainbow Municipal Water District in 1986. Both agencies own and operate water pipeline systems connected to the Water Authority aqueduct and along a common boundary. Interconnections were constructed linking both agencies' systems for this emergency exchange purpose.

Rancho California Water District is the only other adjacent water agency, but no opportunity for transfers or emergency connections exist.

As a member agency of wholesale water supplier Water Authority, the District actively participates in Water Authority's ongoing water transfer discussions. The Water Authority entered into a transfer agreement with the Imperial Irrigation District, which will provide up to 200,000 AF by 2030. Water Authority has also identified seawater desalination as a potential supply and is moving forward with development of a 50-million gallon per day seawater desalination facility. More information on these projects and Water Authority's potential water transfers can be found in the Water Authority's 2010 Urban Water Management Plan.

2.6 WATER USE BY CUSTOMER-TYPE – PAST, CURRENT & FUTURE

PAST, CURRENT & PROJECTED WATER DELIVERIES (TABLE 7)

Year	Water use sectors	Single Family*	Multi-family*	Commercial**	Instit/ Gov	Agriculture**	Total
2005	# of accounts	7,141	220	509	41	738	8,649
	metered Deliveries AF/Y	6,434	859	1,032	195	7,341	15,861
2010	# of accounts	7,337	219	446	30	595	8,627
	metered Deliveries AF/Y	4,861	717	505	184	4,530	10,797
2015	# of accounts	8,289	229	510	30	589	9,647
	metered Deliveries AF/Y	7,581	859	1,032	186	4,482	14,140
2020	# of accounts	8,812	234	530	31	530	10,137
	metered Deliveries AF/Y	8,866	877	1,074	194	4,032	15,043
2025	# of accounts	9,543	247	544	32	517	10,883
	metered Deliveries AF/Y	10,170	926	1,102	201	3,934	16,333
2030	# of accounts	10,162	257	566	33	504	11,522
	metered Deliveries AF/Y	11,367	962	1,146	209	3,839	17,523
2035	# of accounts	10,573	260	572	34	492	11,931
	metered Deliveries AF/Y	12,220	974	1,157	218	3,744	18,313

*Assumed 14 Multi-family units per account

**Assumed 7.6 AF/Agriculture Account

Data for deliveries forecasted from 2015-2035 was derived from the Water Authority Preliminary Member Agency 2035 Demand Forecast. Data for accounts forecasted was derived from the SANDAG Forecast for FPU D Residential Housing.

Since FPU D does not sell any water to other agencies, there are no figures to report for this category.

The table below illustrates the projected water demands for low-income housing for single-family and multi-family residents. Data was derived from the Water Authority Preliminary Member Agency 2035 Demand Forecast.

LOW INCOME WATER DEMANDS – AF/Y (TABLE 8)

Low-income water demands	2015	2020	2025	2030	2035
Single- & Multi-family residential*	836	848	858	876	891

*Based on 12,000 Gallons per unit per month
Units are in acre-feet

ADDITIONAL WATER USES AND LOSSES – AF/Y (TABLE 9)

Water Use	2005	2010	2015	2020	2025	2030	2035
Recycled**	366	485	543	543	543	543	543
Unaccounted-for system losses	1,380	872	*	*	*	*	*

*Assumed 7% water loss is included in projections from Table 7

**In order to estimate conservatively for water supply needs, 543 AF refers only to the projects that are verifiable and have completed environmental documents and funding

The maximum annual unaccounted-for water loss within FPUD’s potable water system averages 7%. That figure was used to project estimated system losses for the years from 2015-2035.

TOTAL WATER USE – AF/Y (TABLE 10)

Water Use	2005	2010	2015	2020	2025	2030	2035
Sum of tables 8 & 9	17,607	12,152	14,683	15,586	16,876	18,066	18,856

2.7 DEMAND MANAGEMENT MEASURES

Attached in Appendix C are the California Urban Water Conservation Council reports documenting the District’s Best Management Practices (BMPs) for the years 2001, 2002, 2003, 2004, 2006, 2008 and the revised 2010 Demand Management Measures. These BMPs are functionally equivalent to the Demand Management Measures in Water Code Section 10631. The reports detail the District’s efforts to meet the requirements of the Plan, and implement the 14 urban water conservation BMP practices that are intended to reduce long-term urban demands.

2.8 TARGET AND BASELINE FOR COMPLIANCE WITH SBX7-7**SBX7-7 – CONSERVATION SAVINGS PROJECTIONS**

Water Code Section 10608 in 2009 (SBX7-7), a paradigm shift in the state’s demand management philosophy, occurred with the adoption of Part 2.55 of Division 6 of the Water Code. This new legislative mandate requires retail agencies to meet a 20 percent reduction in their per capita potable water use by 2020. Compliance with SBX7-7 can be through a wide range of actions such as development of recycled water supplies, retail water pricing, and traditional conservation programs.

The first step in evaluating compliance with SBX7-7 is to determine a member agency’s water-use efficiency baseline and targets. FPUD is using Method 1 – Gross Water Use to the System, to develop its individual per capita water use baselines and targets to meet the requirements of this Plan.

Annual Gross Water Use amounts are the sum of monthly calculations of the following: water purchased from the Authority, water pumped from local wells,

and accounting for water placed in or taken out of storage at Red Mountain Reservoir. Yearly population estimates for the FPUD service area were provided by the San Diego Association of Governments (SANDAG).

The 2008 recycled water figure, as a percentage of total deliveries, was less than 10%, and therefore a 10-year base period was used. See the table below.

BASE PERIOD RANGES – 5-YEAR RANGE AF/Y (TABLE 11)

Base	Parameter	Value	Units
10- to 15-year base period	2008 total water deliveries	14080.7	Acre Feet
	2008 total volume of delivered recycled water	521.1	Acre Feet
	2008 recycled water as a percent of total deliveries	3.70%	Percent
	Number of years in base period	10	years
	Year beginning base period range	1999	-
	Year ending base period range*	2008	-
5-year base period	Number of years in base period	5	years
	Year beginning base period range	2003	
	Year ending base-period range**	2007	

Units: acre-feet per year

Period: If the amount of recycled water delivered in 2008 is 10% or greater, the first base period is a:

* The ending year must be between Dec. 31, 2004 and Dec. 31, 2010

**The ending year must be between Dec. 31, 2007 and Dec. 31, 2010

The 10-year base period, ending December 31, 2008, was used to calculate the 10-year base daily per capita water use of 467 gallons. This per capita usage figure includes agricultural water use. See the table below.

BASE DAILY PER CAPITA WATER USE – 10 TO 15-YEAR RANGE AF/Y (TABLE 12)

Base period year		Distribution System Population	Daily system gross water use in acre-feet	Annual daily per capita in gallons/day
Sequence Year	Calendar Year			
Year 1	1999	30,250	14	473
Year 2	2000	30,778	15	473
Year 3	2001	32,553	13	410
Year 4	2002	32,794	16	490
Year 5	2003	32,910	15	454
Year 6	2004	33,375	16	490
Year 7	2005	33,583	15	458
Year 8	2006	33,732	16	489
Year 9	2007	34,022	18	540
Year 10	2008	34,453	14	395
Base Daily per capita water use *				486

*Add the values in the column and divide by the number of rows.

The 5-year base period ending December 31, 2007 was used to calculate the 5-year base daily per capita water use of 486 gallons.

BASE DAILY PER CAPITA WATER USE – 5-YEAR RANGE AF/Y (TABLE 13)

Base period year		Distribution System Population	Daily system gross water use in acre-feet	Annual daily per capita in gallons/day
Sequence Year	Calendar Year			
Year 1	2003	32,910	15	454
Year 2	2004	33,375	16	490
Year 3	2005	33,583	15	458
Year 4	2006	33,732	16	489
Year 5	2007	34,022	18	540
Base Daily per capita water use *				486

*Add the values in the column and divide by the number of rows.

The 2020 Urban Water Use target is determined to be the lesser of either 80% of the 10-year base daily per capita water use, or 95% of the 5-year base daily per capita water use. Eighty percent (80%) of the 10-year base is 374 gallons, and 95% of the 5-year base is 462 gallons, so the 2020 Urban Water Use target is set at 374.

The Fallbrook Public Utility District is a member agency of the San Diego County Authority (SDCWA) and has provided this baselines and targets data to SDCWA. SDCWA is working with its member agencies to develop regional per capita water use baselines and targets.

2.9 EVALUATION OF DEMAND MANAGEMENT MEASURES NOT IMPLEMENTED

Water conservation is a critical part of the District’s 2010 UWMP and its long-term strategy for meeting the water needs of the District. The goals of the District’s water conservation program are to:

- reduce the demand for more expensive, imported water
- demonstrate continued commitment to the Best Management Practices
- ensure a reliable water supply

The District is a signatory to the Memorandum of Understanding (MOU) Regarding Urban Water Conservation in California, which created the California Urban Water Conservation Council (CUWCC) in 1991. As a signatory, the District is required to submit biannual reports that detail the implementation of current water conservation practices. The District voluntarily agreed to implement the fourteen water conservation BMPs beginning in 1992. The District submits its annual report to the CUWCC every two years.

Water conservation programs are developed and conducted on the premise that water conservation increases the water supply by reducing the demand on available supply, which is vital to the optimal operation of the District. Education is an important component to all of these programs. As a member agency of the Water Authority, FPUD also participates in many water conservation programs designed and conducted as a shared-cost participation program among all the member agencies, the Water Authority and Metropolitan.

All of the District's BMP's are either in compliance, or are a work-in-progress. In addition, District staff partners with the Water Authority to promote new technologies and incentives for new technologies. The District remains on schedule to expand its current recycled water system, as illustrated in the figures in Table 4, and continues to actively promote water conservation programs to its customers. The District promotes its new and existing conservation programs through expanded outreach efforts, bill inserts, articles in the District's *The Pipeline* newsletter, direct mailings to District customers, and through the Water Authority's marketing efforts. The District is committed to water conservation and recycling as reflected in its Strategic Plan, and expects to spend more effort and resources in the future to promote programs that improve landscape water efficiency.

2.9 PLANNED WATER SUPPLY PROJECTS AND PROGRAMS

WATER CODE SECTION §10631

(h) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water 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.

As a member of wholesaler Water Authority, the District actively participates in Water Authority's ongoing water supply and reliability discussions, projects and programs. The Water Authority is currently emphasizing diversification of its water supplies to reduce its reliance on the larger wholesaler, Metropolitan. Diversification projects include an ocean desalination project, Imperial Irrigation District water transfer, and the lining of the All American Canal. Detailed information on these projects can be found in both Water Authority's and Metropolitan's Plans.

FUTURE WATER SUPPLY PROJECT - SANTA MARGARITA RIVER PROJECT

A potential water supply project for FPUD is the Santa Margarita River conjunctive-use project. Engineering, economic and environmental feasibility studies for the project are underway and are targeted for completion in winter 2012. Federal funding grants in the amount of \$700,000, for the purpose conducting the feasibility studies, have been provided to the Bureau of Reclamation. However, if this project does not come to fruition, FPUD will continue to rely on the SDCWA for virtually 100% of its water supply.

2.10 DEVELOPMENT OF DESALINATED WATER

FPUD actively participates in the decisions of wholesaler water supplier Water Authority, since FPUD is one of its 23 member agencies. Water Authority has identified seawater desalination as a potential supply and is moving forward with development of a 50-million gallon per day seawater desalination facility. The Water Authority has forecasted that the project will be online by 2013. More information on this project can be found in the Water Authority’s 2010 Urban Water Management Plan.

2.11 CURRENT OR PROJECTED SUPPLY INCLUDES WHOLESALE WATER

WATER CODE SECTION §10631

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

AGENCY DEMAND PROJECTIONS PROVIDED TO WHOLESALE SUPPLIERS – AF/Y (TABLE 14)

Wholesaler	2010	2015	2020	2025	2030	2035
San Diego County Water Authority	11,757	14,140	15,043	16,334	17,523	18,313

WHOLESALER IDENTIFIED & QUANTIFIED, AND PLANNED SOURCES OF WATER AVAILABLE TO OUR DISTRICT – AF/Y (TABLE 15)

Wholesaler or water supply sources	2010	2015	2020	2025	2030	2035
San Diego County Water Authority	11,737	14,140	15,043	16,334	17,523	18,313
Groundwater: Santa Margarita River	0	3,100	3,100	3,100	3,100	3,100
Groundwater: local wells in Fallbrook	0	100	100	100	100	100
Surface diversions: Santa Margarita River @ Lake Skinner	20	300	300	300	300	300
Recycled water	585	611	639	689	739	739
Total	12,342	18,251	19,182	20,523	21,762	22,552

If the lower Santa Margarita River project does not come to fruition, FPUD will continue to rely on the Water Authority for virtually 100% of its water supply. More information on this project can be found in the earlier sections, 2.3 and 2.4

More information on the Water Authority's projects and water supply can be found in the Water Authority's 2010 Urban Water Management Plan.

Section 3 - Determination of DMM Implementation

DETERMINATION OF DMM IMPLEMENTATION

Attached in Appendix B are the California Urban Water Conservation Council reports documenting the District's Best Management Practices (BMPs) for the years 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009 and 2010. These BMPs are functionally equivalent to the Demand Management Measures in Water Code Section 10631. The reports detail the District's efforts to meet the requirements of the Plan, and implement the 14 urban water conservation BMP practices that are intended to reduce long-term urban demands.

Section 4 – Water Shortage Contingency Plan

4.1 STAGES OF ACTION

WATER CODE SECTION §10632 (a)

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

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

In the event of declared water shortages, the District's Water Conservation Ordinance will be implemented. A copy is included in Appendix A. This plan includes both voluntary and mandatory rationing during water supply shortages to help control consumption. It identifies four stages of voluntary and mandatory rationing, and identifies the stages of action FPUD would take in the event of a declared shortage, and illustrates the specific water supply conditions that trigger activation of each stage of action. It should also be noted that FPUD's water wholesaler, the San Diego County Water Authority, reports regional information and methodology in its 2010 Urban Water Management Plan, and that it has a comprehensive Drought Management Plan in the event the region faces supply shortages. More information can also be found in the wholesaler Metropolitan Water District's 2010 Urban Water Management Plan.

As soon as a particular condition is declared to exist, the water conservation measures provided under that condition would apply to all FPUD water service until a different condition is declared. The chart below is a summary of the requirements of the four stages of actions that would be taken by FPUD in the event of a declared shortage. The complete text is in Appendix A.

Water Supply Shortage Stages and Conditions Summary (Table 16)

Stage No.	Water Supply Conditions	% Shortage
1	In Level 1 “Water Watch,” customers are asked to follow 11 common-sense restrictions that are always in force. These voluntary restrictions enforce using water wisely and ensure conservation measures so no water is wasted.	none
2	Level 2 “Water Alert” is enforced when the Water Authority notifies the District that cutbacks are necessary, caused by water shortages or other reduction in supplies, then a consumer demand reduction of up to 20% is required in order to have sufficient supplies available to meet anticipated demands.	Up to 20%
3	Level 3 “Water Shortage Critical” applies when the Water Authority notifies the District that due to increasing cutbacks caused by water shortages or other reduction of supplies, a consumer demand reduction of up to 40% is required in order to have sufficient supplies available to meet anticipated demands future and a 15% reduction in water use is required to meet all minimal needs of customers.	15% to 40%
4	Level 4 “Drought Emergency” applies when the Water Authority notifies the District that it has declared a water shortage emergency and requires a demand reduction of more than 40% in order for the District to have maximum supplies available to meet anticipated demands.	More than 40%

4.2 ESTIMATE OF MINIMUM SUPPLY FOR THE NEXT THREE YEARS

The following chart quantifies the minimum water supply available during the next three years (2011 – 2014), based on the driest three-year historic sequence for FPUD’s water supply. Recycled water is considered to be drought-proof.

Projected Minimum Supply and Demand for the next 3 years – AF/Y (Table 17)

	2012	2013	2014
Water Authority *	13,472	13,976	14,481
SMR Project	-	-	-
Local Wells	-	-	-
Lake Skinner	-	-	-
Recycled Water	543	543	543
Total Supply	14,015	14,519	15,024

* Based on 6% increase in demand per WATER AUTHORITY Master Plan in dry year. The Water Authority plans to provide an adequate supply for each of the next 3 years.

Since the District’s local potable supplies may not provide reliable water during dry years, the table below illustrates the projected supply and demand under weather conditions for a single dry year. Under this condition, since nearly all FPUD’s water is imported from the Water Authority, more information on the Water Authority’s projections can be found in the Water Authority’s 2010 Urban Water Management Plan.

Changes in weather can lead to changes in water use. During dry years, water demands can be expected to increase. The Water Authority uses a computer model known as CWA-MAIN to estimate water demands. CWA-MAIN uses demographic and economic data, as well as weather data, to estimate water demands. Using CWA-MAIN, the Water Authority estimated dry-year demands for five-year increments from 2010 through 2035. On average, the dry-year demands were 7% higher than the normal demands. FPUD has elected to use the same 7% factor to estimate its dry-year demands. The District’s recycled water supply is assumed to be “drought-proof” and not subject to reduction during dry periods.

Projected Normal Year water supply – AF/Y (Table 18)

	2010	2015	2020	2025	2030	2035
Water Authority	11,757	14,140	15,043	16,334	17,523	18,313
SMR Project	-	3,100	3,100	3,100	3,100	3,100
Local Wells	-	100	100	100	100	100
Lake Skinner	20	300	300	300	300	300
Recycled Water	543	611	639	689	739	739
Total Supply	12,320	18,251	19,182	20,523	21,762	22,552
Supply as % of 2010	100%	148%	156%	167%	177%	183%
Total Demand	12,212	14,683	15,586	16,877	18,066	18,856
Demand as % of 2010	100%	120%	128%	138%	148%	154%
Difference	108	3,568	3,596	3,646	3,696	3,696

The Urban Water Management Planning Act requires agencies to project demands and supplies during a single dry year. The table below quantifies the water supply available.

Projected Single dry-year Supply and Demand comparison – AF/Y (Table 19)

	2015	2020	2025	2030	2035
Water Authority *	15,021	15,979	17,347	18,607	19,445
SMR Project	-	-	-	-	-
Local Wells	-	-	-	-	-
Lake Skinner	-	-	-	-	-
Recycled Water**	543	543	543	543	543
Total Supply	15,564	16,522	17,890	19,150	19,988
% of Normal Year	85%	86%	87%	88%	89%
Total Demand **	15,564	16,521	17,890	19,150	19,987
% of Normal Year **	106%	106%	106%	106%	106%
Difference	0	0	0	0	0

* Water Authority plans to provide an adequate supply for any single dry year

**Based on 6% increase in demand per WATER AUTHORITY Master Plan. In order to be consistent with the WATER AUTHORITY's plan, this estimate is based on existing use and projects with completed environmental studies and funding sources.

Projected 3 multiple dry-year Supply and Demand comparison – AF/Y (Table 20)

	2016	2017	2018
Water Authority *	15,212	15,084	15,384
SMR Project	-	-	-
Local Wells	-	-	-
Lake Skinner	-	-	-
Recycled Water	543	543	543
Total Supply	15,755	15,627	15,927
% of Normal Year	86%	86%	87%
Total Demand **	15,755	15,946	16,137
% of Normal Year **	106%	106%	106%
Difference	0	(319)	(210)

* Water Authority plans to provide an adequate supply for 2016 and 2% shortage in 2017 and 1.3% shortage in 2018

** Based on 6% increase in demand per WATER AUTHORITY Master Plan

Projected 3 multiple dry-year Supply and Demand comparison – AF/Y (Table 21)

	2021	2022	2023
Water Authority *	16,252	16,526	16,800
SMR Project	-	-	-
Local Wells	-	-	-
Lake Skinner	-	-	-
Recycled Water	543	543	543
Total Supply	16,795	17,069	17,343
% of Normal Year	88%	89%	90%
Total Demand **	16,795	17,069	17,343
% of Normal Year **	106%	106%	106%
Difference	(0)	(0)	(0)

* WATER AUTHORITY plans to provide an adequate supply for all 3 years

** Based on 6% increase in demand per WATER AUTHORITY Master Plan

The District's local supplies may not provide reliable supplies during drought conditions so they are excluded from the dry-year calculations. As a result, the District could be 100% reliant on the Water Authority during drought conditions. It is possible that local conditions would be wetter than the conditions causing regional drought conditions and local supplies will be available, but in order to take a conservative approach, these supplies are excluded. In a single dry year, the Water Authority is able to meet member agencies' demands as shown in their Plan. In multiple dry years during 2021, 2021 and 2023, it is estimated that a cutback proportion to the cutback identified in the Water Authority's Plan would be required.

4.3 CATASTROPHIC SUPPLY INTERRUPTION PLAN

WATER CODE SECTION §10632 (c)

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

In the event of short-term or prolonged water shortage, FPUD has several safeguards in place. FPUD's Red Mountain Reservoir holds over 1,000 AF of treated water and the district can tap into it in emergencies. For example, in

summer 2005 when the Skinner Filtration plant, which is owned by Metropolitan and serves treated water to the Water Authority as well as Riverside County, suffered a significant operational failure and was only operating at half capacity, FPUD was able to volunteer to take a 50% cut in potable water deliveries. FPUD customers didn't notice any reduced supply or water pressure changes, and the voluntary cutback was helpful to the region.

In the event of a power failure, FPUD also has emergency portable generators that can be used at Red Mountain Reservoir and several other facilities that would allow the district to pump potable water, at a reduced capacity, to DeLuz and Toyon Heights, the two regions of the district's service area that are not served by the district's gravity-fed water distribution lines.

FPUD also entered into an exchange agreement with Rainbow Municipal Water District in 1986. Both agencies own and operate water pipeline systems connected to the Water Authority aqueduct and share a common boundary. In some areas of this common boundary, both agencies determined it may be more economical to serve property located in one district from the pipeline system of the other district. Two interconnections were constructed linking both agencies' systems for this exchange purpose, and for the purpose of emergency supply in the event of leaks or maintenance. Rancho California Water District is the only other adjacent water agency, but no opportunity for transfers or emergency connections exist.

As a member agency of Water Authority wholesale water supplier, the District actively participates in the Water Authority's ongoing reliability discussions. Due to the reduced allocation the Water Authority received from Metropolitan during the 1987-1992 drought, the Water Authority is focusing on diversifying its sources of water, rather than relying on the umbrella wholesale giant, Metropolitan, for the majority of its water. The Water Authority entered into a transfer agreement with the Imperial Irrigation District, which will provide up to 200,000 AF by 2030. The Water Authority has also identified seawater desalination as a potential supply and is moving forward with development of a 50-million gallon per day seawater desalination facility. More information on these projects and Water Authority's potential water transfers can be found in the Water Authority's 2010 Urban Water Management Plan, and in Metropolitan's Plan.

Catastrophic events such as earthquakes or regional power outages can impact water supply. As a member agency of the Water Authority, the District is a participant in the Water Authority's Emergency Response Plan and benefits from its Emergency Storage Project. The Response Plan provides information to allow staff to respond to an emergency that impedes the Water Authority's ability to provide reliable water service to the District. The Response Plan includes: policies, an Emergency Operations Center activation and deactivation guidelines, multi-agency and multi-jurisdictional coordination, emergency staff and

organization, Mutual Aid agreements and pre-emergency planning and emergency operations procedures.

The Emergency Storage Project is a system of reservoirs, pipelines and other facilities that will work together to store and move water around the county in the event of a natural disaster. The ESP facilities are located throughout San Diego County and are being constructed in phases. Construction of the first facilities began in 2000. The initial ESP phase included construction of the 318-foot-high Olivenhain Dam and accompanying Olivenhain Reservoir, which together added 24,300 acre-feet of emergency storage for the region. Raising the height of the San Vicente Dam is the last major component of the ESP, and should be completed by 2012. The raised dam will add an additional 117 feet, making this the tallest dam raise in the United States, and will allow for an additional 52,000 acre-feet of emergency storage, as well as 100,000 acre-feet of carryover storage. When completed, the ESP will provide 90,100 acre-feet of storage water for emergency purposes in the Water Authority's service area. The Water Authority is in the planning stages to determine the required pumping and distribution facilities that would be needed to deliver Emergency Storage Project water to FPU. The amount of storage developed by the ESP is anticipated to meet the Water Authority's needs through at least 2030. More information can also be found in the Water Authority's 2010 Urban Water Management Plan.

Aqueduct Off – No water being Delivered

An earthquake or other cause might damage the aqueduct, requiring it to be shut down for an extended period of time.

1. Action to be taken: Notify management personnel as quickly as possible. Consider activation of Emergency Operations Center.
2. Determine the flow to the District's system and the amount of water in storage. Operate valves to maintain the water in the highest reservoirs wherever possible. Use the water from the low reservoirs first.
3. Make an attempt to determine how long the aqueduct will be out of service and how long the District's water must last. Make plans to terminate agricultural and other non-essential uses, as necessary.
4. Notify the public, *via electronic signage, Call-Em-All telephone message, media, CB radios, Ham Radio Operators (RACES), house-to-house notification, loudspeakers, media, radio, TV, etc.*, as to what condition and stage the District is currently in, and ration water, if necessary.

Earthquake

1. Consider activation of Emergency Operations Center. Have an alternative site in mind in case first choice of site is destroyed. Inventory existing equipment.
2. Notify customers, *via electronic signage, Call-Em-All telephone message, media, CB radios, Ham Radio Operators (RACES), house-to-house notification, loudspeakers, media, radio, TV, etc.*, that supply of water may be limited, especially if aqueduct is down, using telephone, CB radios, Ham Radio Operators (RACES), house-to-house notification, loudspeakers, radio, TV, etc.
3. Prepare a priority list for making repairs. Make sure there are ample copies of valve records, fire hydrant valves and regulator vaults available to make necessary shutdowns and turnoffs and in case assistance is required by other Districts or agencies, such as fire and sheriff's departments.
4. Check on auxiliary power available at treatment plants, pump and lift stations, and chlorination stations. Reroute water where necessary. Isolate broken main sections and repair as possible. Provide temporary lines if necessary.
5. Plan emergency usage and estimate water demand, quality and quantity, during and following earthquakes, taking into account the extent of damage and capability of system. Determine priorities for allocation of water.

Prior arrangements for earthquake preparedness:

1. Set up emergency assistance procedures with local suppliers and contractors for the supply equipment and/or supplies to the District. Devise a plan to obtain extra help, food, housing, etc. for District personnel if necessary.
2. Set up training programs, classroom lectures, maps, etc. The better and more complete the training, the less confusion and uncertainty when disaster strikes. Devise a plan, which clearly outlines who is to do what and when.
3. Initiate mutual-aid agreements and other arrangements with nearby agencies and districts.
4. Include in future design of tanks, pipelines, vaults, etc. earthquake-resistant materials and design criteria.

Major Water Outage

1. Notify key personnel (system operator and superintendent). Consider activation of Emergency Operations Center.
2. Divert water wherever possible to prevent property damage.
3. Isolate blowout (break) and determine extent of damage. Make provisions for fire protection. Contact the appropriate fire department.
4. Contact local contractors for help, if necessary.
5. Notify customers in affected areas, via electronic signage, Call-Em-All telephone message, media, CB radios, Ham Radio Operators (RACES), house-to-house notification, loudspeakers, media, radio, TV, etc., about water outage and shut off meters, if necessary.
6. Divert water to other pipelines and loops, adjust valves to minimize water outage.
7. Repair blowout, flush lines and disinfect them.
8. Turn on meters and return system to normal operation.

No water in system

1. Notify management personnel as to the known areas of lack of water. Consider activation of Emergency Operations Center.
2. Providing the District has water in its system and is receiving water from the aqueduct, proceed to ascertain the reasons for no water being delivered. Repair or correct the cause of no water deliveries as soon as feasible.
3. If the aqueduct is off and the District's system is in operation, contact the Water Authority to identify the problem and determine when the system will be repaired. If necessary, notify the public, *via electronic signage, Call-Em-All telephone message, media, CB radios, Ham Radio Operators (RACES), house-to-house notification, loudspeakers, media, radio, TV, etc.*, of minimum water-use requirements. Make provisions for fire protection water, if possible.

Weather-related damage – Storms/High Winds/Tornado/Hurricanes

1. Notify management personnel of extent of damage insofar as it is possible to determine. Consider activation of Emergency Operations Center.
2. Check the District’s system to determine the extent of damage. Be alert to the fact that high winds will probably be accompanied by flooding, which will cause further problems. Watch for downed trees and power lines that may serve the District’s facilities.
3. Assist the inhabitants and other agencies wherever possible and as necessary. Protect District employees and crews from potential injuries.

4.4 Prohibitions, Penalties and Consumption Reduction Methods

The following prohibitions apply to use of potable water and do not apply to reclaimed water or well water use.

Mandatory Prohibitions (Table 22)

Prohibitions	Level when prohibition becomes mandatory
Washing down paved surfaces, including but not limited to: sidewalks, driveways, parking lots, tennis courts, or patios, except when it is necessary to alleviate safety or sanitation hazards.	1
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, hardscapes, roadways, or structures.	1
Water waste resulting from failure to irrigate residential and commercial landscape before 10 a.m. and after 6 p.m. only.	1
Water waste resulting from failure to 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.	1
Water waste resulting from failure to 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.	1

Water waste resulting from failure to use re-circulated water to operate ornamental fountains.	1
Water waste resulting from failure to 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 when additional water is required due to evaporation.	1
Water waste resulting from failure to serve and refill water in restaurants and other food service establishments only upon request.	1
Water waste resulting from failure to offer guests in hotels, motels, and other commercial lodging establishments the option of not laundering towels and linens daily.	1
Water waste resulting from failure to repair all water leaks within five (5) days of notification by the Fallbrook Public Utility District unless other arrangements are made with the General Manager.	1
Water waste resulting from failure to use recycled or non-potable water for construction purposes when available.	1
Water waste resulting from failure to, during the months of June through October, limit residential and commercial landscape irrigation to no more than three (3) assigned days per week on a schedule established by the General Manager and posted. During the months of November through May, landscape irrigation is limited to no more than once per week on a schedule established by the General Manager and posted. During extreme Santa Ana conditions (temperature > 80 and easterly winds > 20 mph), one additional day per week of watering is allowed. This section shall not apply to commercial growers or nurseries. 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.	2
Water waste resulting from failure to 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.	2
Water waste resulting from failure to water landscaped areas, including trees and shrubs located on residential and commercial properties, and not irrigated by a landscape irrigation system governed by section 5 (b) (1), on the same schedule set forth in section 5 (b) (1) by using a bucket, hand-held hose with a positive shut-off nozzle, or low-volume non-spray irrigation.	2
Water waste resulting from failure to repair all leaks within seventy-two (72) hours of notification by the Fallbrook Public Utility District unless other arrangements are made with the General Manager.	2

Operating ornamental fountains or similar decorative water features unless recycled water is used.	2
No new potable water service shall be provided, no new temporary meters or temporary meters shall be provided, and no statements of immediate availability 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: <ul style="list-style-type: none"> (a) A valid, unexpired building permit has been issued for the project; or (b) The project is necessary to protect the public’s health, safety, and welfare; or (c) Unless the Board of Directors determines that the new request for service will have no impact on water demand for the district (any water demand associated with a proposed action is completely offset by conservation, reclamation, or new water supplies, etc.); and 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 the District. 	2
Water waste from failure to, during the months of June through October, limit residential and commercial landscape irrigation to no more than two (2) assigned days per week on a schedule established by the General Manager and posted by the Fallbrook Public Utility District. This section shall not apply to commercial growers or nurseries.	3
Water waste from failure to water landscaped areas, including trees and shrubs located on residential and commercial properties, and not irrigated by a landscape irrigation system governed by section 6 (b) (1), on the same schedule set forth in section 6 (b) (1) by using a bucket, hand-held hose with a positive shut-off nozzle, or low-volume non-spray irrigation.	3
Water waste from failure to stop filling or re-filling ornamental lakes or ponds, except to the extend 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 level under this ordinance.	3
Failure to stop washing vehicles except at commercial carwashes that recirculate water, or by high pressure/low volume wash systems.	3
Water waste from failure to repair all leaks within forty-eight (48) hours of notification by the Fallbrook Public Utility District unless other arrangements are made with the General Manager.	3

Water waste resulting from failure to 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 FPUD has determined that recycled water is available and may be lawfully applied to the use, as indicated in A through G , below:	4
A. Maintenance of trees and shrubs that are watered on the same schedule set forth in section 6 (b) (1) by using a bucket, hand-held hose with a positive shut-off nozzle, or low-volume non-spray irrigation;	4
B. Maintenance of existing landscaping necessary for fire protection as specified by the Fire Marshal of the local fire protection Fallbrook Public Utility District having jurisdiction over the property to be irrigated;	4
C. Maintenance of existing landscaping for erosion control;	4
D. Maintenance of plant materials identified to be rare or essential to the well-being of rare animals;	4
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 section 6 (b) (1);	4
F. Watering of livestock; and	4
Repair all water leaks within twenty-four (24) hours of notification by the Fallbrook Public Utility District unless other arrangements are made with the General Manager. Additionally, The District may establish a water allocation for property served by the District. If the District establishes a water allocation it shall provide notice of the allocation. The complete text of this is included in Appendix A, 26.8.5.2.	4
Agricultural (IAWP) customers as defined in the Metropolitan Water District Code must abide by any IAWP restrictions that may be in place. The complete text of this is included in Appendix A, 26.8.5.2.3.	4

The following consumption reduction methods apply to use of potable water and do not apply to reclaimed water or well water use.

Consumption Reduction Methods (Table 23)

Level when method takes effect	Consumption Reduction Method	Projected reduction (%)
Level 1	Voluntary Compliance – customers are asked to follow 11 common-sense restrictions that are always in force. These voluntary restrictions enforce using water wisely and ensure conservation measures so no water is wasted. The District encourages customers to call and report any water waste they see in the community and staff then visits the site and makes recommendations, if necessary.	none
Level 2	Enforcement Required – Extends Level 1 to include when the Water Authority notifies the District that cutbacks are necessary, caused by water shortages or other reduction in supplies, then a consumer demand reduction of up to 20% is required in order to have sufficient supplies available to meet anticipated demands.	Up to 20%
Level 3	Enforcement Required – Extends Level 2 to include when the Water Authority notifies the District that due to increasing cutbacks caused by water shortages or other reduction of supplies, a consumer demand reduction of up to 40% is required in order to have sufficient supplies available to meet anticipated demands future and a 15% reduction in water use is required to meet all minimal needs of customers.	15% to 40%
Level 4	Enforcement Required - Extends Level 3 to include when the Water Authority notifies the District that it has declared a water shortage emergency and requires a demand reduction of more than 40% in order for the District to have maximum supplies available to meet anticipated demands.	40%

The table below lists penalties and charges for excessive potable water use.

Penalties and Charges (Table 24)

Penalty or Charge	When penalty takes effect
Letter of warning	Level 1, first violation
\$100 surcharge	Level 1, for a first violation within any 12-month period.
\$200 surcharge	Level 1, for a second violation of any provision of this Article within any twelve-month period.
\$500 surcharge	For each additional violation of this Article within any twelve-month period.
Prosecution as a misdemeanor, punishable by imprisonment in the county jail for not more than thirty (30) days, or a fine not exceeding \$1,000.00, or by both	* Violation of a provision of this Article is subject to enforcement through installation of a flow-restricting device in the meter.

4.5 ANALYSIS OF REVENUE IMPACTS OF REDUCED SALES DURING SHORTAGES

If FPUD were to encounter an extended water shortage, the result would be a reduced amount of water sold by FPUD to its customers. Since water bills are based on water consumption, the revenue received by the District would also be reduced. The most severe restrictions are intended to reduce consumption by 50%. The impacts of such a reduction on the District’s revenue are shown in the table below.

ACTIONS AND CONDITIONS THAT IMPACT REVENUES (TABLE 25)

Type	Anticipated Revenue Reduction
Reduced water sales (50% reduction)	\$6.4 million, or 35% of revenues

A 50% reduction in consumption would also reduce the District’s expenditures. The District’s costs for acquiring and delivering the water to its customers would be reduced, as shown in the table below. Some of the District’s costs might be increased, such as additional staff time for monitoring water use or enforcing conservation policies. However, these efforts would more than likely be achieved by temporarily re-directing staff from other tasks. These changes in operation, therefore, would not be expected to cause a significant increase in the District’s total expenditures.

ACTIONS AND CONDITIONS THAT IMPACT EXPENDITURES (TABLE 26)

Category	Anticipated Cost Reduction
Reduction in water purchase from Water Authority (50% reduction)	\$6.1 million, or 34% of expenditures

The tables on the previous page show a potential shortfall of \$0.3 million annually if consumption were reduced 50%. If the reduction were due to a short-term situation, the District could absorb the entire shortfall by drawing on its general fund reserves, which are maintained at a minimum of \$3 million. After conditions returned to normal, the District would replenish its reserves. The reserve fund could be restored to its full level by increasing rates 1% and directing the additional revenue to reserves for five years. But depending on the duration of the shortage, this rate increase might not be necessary because FPUD’s service charges have been calculated to recover up to 80% of the District’s fixed costs. This built-in calculation is something FPUD takes great pride in as it would help the District, and therefore its customers, to have a steady stream of revenue when water purchases would fluctuate, or restrictions on water purchases from the Water Authority might be imposed.

The District’s response would be more complex if the 50% reduction in consumption was expected to be permanent. The District would either need to raise rates or cut expenses to balance its budget. One way this rate increase could be accommodated would be to phase increases over a number of years. Two factors would mitigate the need for more immediate increases. First, the District’s general fund reserves could be used to temporarily fill the gap between expenditures and revenues. Second, the shortfall mentioned above does not include increased costs of purchased water that would go to the Water Authority as they raise their rates, assuming the reduction was occurring across the region. The Water Authority would likely spread their rate increases over several years, allowing the District to do the same.

A summary of the District’s anticipated response is shown in the table below.

PROPOSED MEASURES TO OVERCOME REVENUE IMPACTS (TABLE 27)

Measure	Summary of Effects
Rate adjustment	Rate increases to cover the \$300,000 shortfall or decrease expenses by \$300,000
Development of reserves	Reserves are currently maintained at a minimum of \$3 million. With the rate adjustment, the District would replenish any draw-down of reserves that occurred.

A permanent 50% reduction in water consumption might allow the District to achieve cost savings in some areas. The need for additional pumping, storage, and pipeline capacity might be reduced. The District might not require as much equipment or staff to maintain its infrastructure. However, the District might see higher expenditures in other areas, such as water use monitoring or answering questions from customers. Overall, these changes are not expected to have a significant impact on District expenditures.

4.6 DRAFT ORDINANCE AND USE MONITORING PROCEDURE

WATER CODE SECTION §10632 (h & i)

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

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

A copy of the district's water shortage contingency ordinance is attached in Appendix A.

FPUD would use a variety of mechanisms to determine customers' actual reduction of water usage during a water shortage. The main mechanism would be more frequent reading of customer meters. In 2010, all of the District's water meters have been replaced with new meters that incorporate a remote radio-read feature. The remote read meter program replaces the old process whereby a meter reader had to get out of his vehicle and manually read each customer's meter, then record that reading and report it back to the office for billing purposes. With the newer remote meters, the meter reader is able to stay in his vehicle and read and record customer meters. This increases accuracy of meter readings and at the same time, decreases the number of man-hours needed to complete the task. FPUD would increase the frequency of customer meter readings. The District also has an annual allocation program that could be put in place whereby prior consumption history would be tracked and compared.

FPUD would also monitor daily production and distribution records, and waste water treatment records. The former is already done daily through aqueduct connections and, combined with more frequent meter readings, would be the fastest methods of monitoring usage more often.

The table below lists mechanisms for monitoring water use.

WATER USE MONITORING MECHANISMS (TABLE 28)

Mechanisms for determining actual reductions	Type and quality of data expected
Daily production and distribution records	System-wide changes in demand
Waste water treatment records	System-wide changes showing increased water use
Increased meter reading	Month-to-month changes in water use, and year-to-year changes for key customers
Annual allocation program	Month-to-month changes in water use, and year-to-year changes for key customers

Section 5 – Recycled Water

WATER CODE SECTION – §10633

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

5.1 COORDINATION

FPUD provides water and sewer services for portions of the rural town of Fallbrook. Sewer service is provided for a population of approximately 22,500 in an unincorporated area of about 6.6 square miles. The remainder of customers in the District’s service area is on a septic system. Currently the wastewater treatment plant treats an average of 1.8 million gallons per day (MGD) and has a rated capacity of 2.7 MGD.

PARTICIPATING AGENCIES (TABLE 29)

Participating agencies	Role in plan development
FPUD	Owns and operates treatment plant

5.2 WASTEWATER QUANTITY, QUALITY AND CURRENT USES

The District’s collection system consists of 65 miles of sewer lines, 5 pumping stations and an 18-mile land-line to the ocean outfall in Oceanside. The wastewater treatment plant currently treats an average of 1.8 MGD and has a rated potential to treat 2.7 MGD. The treatment plant treats all wastewater to the tertiary level. Unit processes include preliminary treatment, grit removal, primary treatment, secondary treatment by activated sludge process, tertiary treatment and disinfection.

WASTEWATER COLLECTED AND TREATED AF/Y (TABLE 30)

	2005	2010	2015	2020	2025	2030	2035
Wastewater collected & treated in service area	1,895	1,825	1,769	1,879	2,040	2,188	2,287
Quantity that meets recycled water standard	1,895	1,825	1,769	1,879	2,040	2,188	2,287

Treated effluent is used for agriculture and irrigation purposes and the remainder is discharged to the ocean via our 18-mile ocean outfall. We have 26 recycled water meters over 16 recycled water user sites. Seven of the sites use recycled water for agriculture irrigation and 9 sites use recycled water for landscape irrigation.

DISPOSAL OF WASTEWATER AF/Y (TABLE 31)

Method of disposal	Treatment level	2010	2015	2020	2025	2030	2035
Sold recycled water	Tertiary effluent	485	611	639	689	739	739
Discharge to ocean outfall	Tertiary effluent	1,410	1,158	1,240	1,351	1,449	1,548

Approximately 47% of our recycled water is used for agricultural purposes and 53% is used for landscape irrigation. We have recycled an average of 171 million gallons (MG), or 526 acre-feet per year, over the past five years. It was slightly lower in 2010 due to upsets in the treatment plant.

RECYCLED WATER USES – ACTUAL AF/Y (TABLE 32A)

Type of Use	Treatment level	2010 AF/Y
Irrigation – Agricultural	Tertiary effluent	255
Irrigation – landscape	Tertiary effluent	230
Total		485

5.3 POTENTIAL AND PROJECTED USES, OPTIMIZATION PLAN WITH INCENTIVES

Currently, FPUD recycles an average of 25% of our total plant flow. We estimate wastewater flow increases at the same rate as the population growth, 3% per year. These projections are provided by San Diego Association of Governments (SANDAG), San Diego’s regional planning agency.

RECYCLED WATER USES – POTENTIAL AF/Y (TABLE 32B)

Type of Use	Treatment level	2015	2020	2025	2030	2035
Irrigation – Agricultural	Tertiary effluent	100	100	100	100	100
Irrigation – landscape	Tertiary effluent	26	54	75	104	104
Total		126	154	179	204	204

The present recycled water distribution system and outfall line makes recycling 100% of our flow technically and economically unfeasible. However, there are no current plans to increase recycled water sales until the District can secure funding for recycled storage. This is because demand exceeds supply in the summer peak-demand periods.

PROJECTED FUTURE USE OF RECYCLED WATER IN SERVICE AREA – AF/Y (TABLE 33)

Type of Use	2015	2020	2025	2030	2035
Irrigation – Agricultural	100	100	100	100	100
Irrigation – landscape	26	54	75	104	104
Total	126	154	179	204	204

Below is a comparison of figures from the District's 2005 Urban Water Management Plan and projections from this 2010 Plan.

RECYCLED WATER USES – 2010 PROJECTIONS COMPARED WITH ACTUAL AF/Y (TABLE 34)

Type of Use	2005 Projected for 2010	2010 Actual Use
Irrigation – Agricultural	235	255
Irrigation – landscape	245	230
Total	480	485

PROPOSED ACTIONS TO ENCOURAGE USE OF RECYCLED WATER

FPUD has made recycled water available and its use is mandatory where available and cost-effective. The District made the commitment and commenced its wastewater recycling efforts in 1994. A major component of the commitment to recycle was to enact an ordinance that requires recycled water and other non-potable water be used within the recycled water system's jurisdiction, and where it is technically and financially feasible. The use of potable water for irrigation or other non-potable uses is prohibited where recycled water is suitable and available within the District's service lines.

The District has also established financial incentives for the use of recycled water within its service area. The incentive is determined by the philosophy that recycled water is an offset to potable water; we set the recycled water rate at 80% of the average of our Tier 1 and Tier 2 rates. The exact formula is as follows: We add the Tier 1 rate to the Tier 2 rate. That total is divided by two to get the average of the two tiers. That divided number is multiplied by 80% to obtain the total recycled water rate.

The District received a State loan for the construction of the chlorine contact chamber and the recycled water distribution system. Recycled water site supervisors have taken advantage of training offered by the District's wholesaler, the San Diego County Water Authority. Public awareness programs are undertaken in the form of District newsletters, Earth Day presentations and school education programs.

FPUD's Recycled Water Ordinance Article 27 details the requirements for the use of recycled water whenever feasible. Article 27 is attached in Appendix B.

Section 6 – Water Quality Impacts on Reliability

WATER CODE SECTION – §10634

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

Two water wholesalers, the San Diego County Water Authority and the Metropolitan Water District, provide virtually all FPUD's potable water supply. FPUD gets its water from the Water Authority, which gets its water from Metropolitan. Metropolitan gets its water from two sources: the Colorado River and the State Water Project. However, the Water Authority is focusing on diversifying its sources of water, rather than relying on 100% of water from its wholesaler Metropolitan. The Water Authority entered into a transfer agreement with the Imperial Irrigation District, and has also identified seawater desalination water from water in the Pacific Ocean as a potential supply and is moving forward with development of a 50-million gallon per day seawater desalination facility.



More information on these projects can be found in the Water Authority's 2010 Urban Water Management Plan, and in Metropolitan's Plan.

Both of these sources, the Colorado River and the State Water Project, have unique water-quality issues. Much of this water quality discussion is based on information compiled by the Water Authority.

Colorado River

Areas of concern with the quality of Colorado River water are perchlorate, uranium and salinity as measured by total dissolved solids (TDS). Ammonium perchlorate is used as the main component in solid rocket propellant, and it can also be found in some types of munitions and fireworks. The primary human health concern related to perchlorate is its effects on the thyroid. Perchlorate has been detected at low levels in Metropolitan's Colorado River water supply.

In 2002, Metropolitan adopted a Perchlorate Action Plan. Metropolitan is actively monitoring perchlorate levels and is working to prevent the introduction of perchlorate into the Colorado River system. Currently, it appears that the perchlorate originates from a contaminated area in Nevada that leads to the Las Vegas Wash and eventually the Colorado River. The amount of perchlorate entering the Colorado River has been reduced. Uranium is naturally occurring in the Colorado River under the Maximum Contaminant Levels. There are some mining sites that present a risk of producing elevated uranium levels. This is being addressed by the Department of Energy.

The salinity in Colorado River water is due to naturally occurring saline sediments in the basin and to high-salinity return flows from agriculture. The range of TDS in the Colorado River is 525 milligrams per liter (mg/L) during high flows and 900 mg/L during drought conditions, averaging around 650 mg/L during normal water years. High TDS in water supplies causes high TDS at wastewater plants and can limit the eventual use of recycled water produced by the individual plant. Additionally, high levels of TDS can damage water delivery systems and home appliances.

Metropolitan has adopted a Salinity Management Plan to deal with the TDS issues. One part of this plan is to blend Colorado River water with other sources to achieve a blended TDS of less than 500 mg/L. Metropolitan is also involved in the Colorado River Basin Salinity Control Forum, which seeks to intercept and control sources of salt in the basin. More information on this is available in the Water Authority's 2010 Plan.

State Water Project

Water supplies from the State Water Project typically have significantly lower TDS levels than the Colorado River, averaging 250 mg/L. Because of this lower salinity, Metropolitan blends State Water Project water with higher-salinity Colorado River water to reduce the overall salinity levels of delivered water. However, both the supply and the TDS levels of State Water Project water can vary significantly in response to hydrologic conditions in the Sacramento-San Joaquin watersheds.

Water from the State Water Project also has higher levels of bromide and total organic carbon (TOC) than Colorado River water. Total organic carbon and bromide are naturally occurring but are elevated due to agricultural drainage and seawater intrusion as water moves through the delta. These constituents can lead to the formation of disinfection byproducts during treatment with disinfectants such as chlorine.

The formation of disinfection byproducts can be controlled through appropriate technology selection and careful monitoring of water quality in the treatment process and in the distribution system. The potential adverse health effects may not be fully understood, but associations with certain cancers, reproductive and developmental effects are of significant concern. Water agencies began complying with new regulation to protect against the risk of disinfection byproducts exposure in January 2002 under the Disinfection Byproducts rule Stage 1. The U. S. Environmental Protection Agency (EPA) promulgated the Stage 2 rule in January 2006, which has made compliance more challenging. CALFED's Bay-Delta Program calls for a wide array of actions to improve Bay-Delta water quality, which remains the best method for controlling these elements of concern in the drinking water supply.

More information on this is available in the Water Authority's 2010 Plan.

Local Surface Water

Under its agreements with neighboring agencies, it is possible for water from local watersheds to be delivered to the District. In the past, the quality of local water sources has been considered good. The most significant reported problem is algae blooms, which can lead to taste and odor issues.

The Water Authority, the City of San Diego, and the County of San Diego have formed a Regional Water Management Group to develop an Integrated Regional Water Management Plan (IRWMP) for the San Diego region. The IRWMP includes measures to protect and enhance the quality of local water sources. The Water Authority is also working with its member agencies to improve watershed awareness and management. More information on this is available in the Water Authority's 2010 Plan.

Desalinated water from the Pacific Ocean

The proposed regional seawater desalination project at the Encina Power Station in Carlsbad will draw water from the Pacific Ocean. The TDS of the Pacific Ocean in San Diego County averages approximately 34,000 mg/L. The water will undergo a pretreatment process to remove suspended solids and organic material. The desalination facility will then use a reverse osmosis membrane treatment process to reduce the TDS to less than 350 mg/L. The product water will be post-treated to improve its aesthetic quality and to help prevent corrosion

in the distribution system. A residual disinfectant will also be added to the water. The product water will meet all applicable drinking water regulations. The brine discharge will be returned to the ocean through the existing outfall that is used for cooling water at the power plant. This dilution is expected to minimize any adverse impacts on ocean water quality or the marine environment.

Groundwater

FPUD uses very little groundwater in its blend, only about 100 AF per year. Two possible water quality issues with groundwater are contamination with Methyl Tertiary Butyl Ether (MTBE) and high salinity levels. Until recently, MTBE was used as an additive to gasoline in order to reduce air pollution. MTBE can leak from underground storage tanks and make its way to groundwater aquifers. MTBE is very soluble in water and has a low affinity for soil, making treatment of MTBE more difficult than treatment of other gasoline components. Because of these issues, California has phased out the use of MTBE as a gasoline additive. As leaking underground storage tanks are replaced, the risk of MTBE contamination may be reduced.

The groundwater used by FPUD has been tested regularly and has shown no MTBE in the water, and the site is not near any existing or formerly present gas stations. The proposed the Santa Margarita River project is not expected to result in detectable MTBE levels in the final, treated water.

Recycled Water

The primary water quality issue for use of recycled water is salinity, as measured by TDS. Conventional wastewater treatment processes are not designed to remove salinity. Metropolitan's goal for potable water delivery is a TDS level of 500 mg/L, and residential use of water can add 200 to 300 mg/L of TDS. TDS concentrations over 1,000 mg/L in recycled water can lead to restrictions on use in irrigation or other applications.

Section 7 –Water Service Reliability

WATER CODE SECTION – §10635

- (a) *Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional or local agency population projections within the service area of the urban water supplier.*
- (b) *The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.*
- (c) *Nothing in this article is intended to create a right or entitlement to water service or any specific level of water service.*
- (d) *Nothing in this article is intended to change existing law concerning an urban water supplier's obligation to provide water service to its existing customers or to any potential future customers.*

7.1 PROJECTED NORMAL WATER YEAR SUPPLY AND DEMAND

Virtually all FPUD's potable water supply is expected to continue to be supplied by the District's wholesaler, the San Diego County Water Authority until the Santa Margarita River conjunctive-use project is operational. More information on the Water Authority's projections can be found in the Water Authority's 2010 Urban Water Management Plan.

Three sources will provide additional supply: local wells in Fallbrook, surface diversions into the Lake Skinner Filtration Plant, and recycled water produced at FPUD's treatment plant. These supplies are discussed thoroughly in Section 2 of this Plan. The following table illustrates the projected supply and demand under normal weather conditions.

PROJECTED NORMAL YEAR SUPPLY AND DEMAND COMPARISON – AF/Y (TABLE 35)

	2010	2015	2020	2025	2030	2035
San Diego County Water Authority	11,757	14,140	15,043	16,334	17,523	18,313
Groundwater supplier: Santa Margarita River	0	3,100	3,100	3,100	3,100	3,100
Groundwater supplier: local wells in Fallbrook	0	100	100	100	100	100
Surface diversions: rainfall into Lake Skinner	20	300	300	300	300	300
Recycled water	543	611	639	689	739	739
Total Supply	12,320	18,251	19,182	20,523	21,762	22,552
Supply as % of year 2010	100%	148%	156%	167%	177%	183%
Total Demand	12,212	14,683	15,586	16,877	18,066	18,856
Demand as % of year 2010	100%	120%	128%	138%	148%	154%
Difference (supply minus demand)	108	3,568	3,596	3,646	3,696	3,696

7.2 PROJECTED SINGLE-DRY-YEAR SUPPLY AND DEMAND COMPARISON

Since the District’s local potable supplies may not provide reliable water during dry years, the table below indicates how FPUD would meet the projected supply and demand under weather conditions for a single dry year.

Under this condition, FPUD would rely solely on water imported from the Water Authority. The Authority has a detailed, comprehensive plan establishing its ability to continue to supply water to FPUD and its 23 other member agencies, as needed, through at least 2035. The voluminous plan provides specifics detailing how the Authority will use its diverse water portfolio to meet FPUD’s and the other agencies’ needs. In-depth information on the Authority’s projections and plan can be found in the Water Authority’s 2010 Urban Water Management Plan.

Changes in weather can lead to changes in water use. During dry years, water demands can be expected to increase. The Water Authority uses a computer model known as CWA-MAIN to estimate water demands. CWA-MAIN uses demographic and economic data, as well as weather data, to estimate water demands. Using CWA-MAIN, the Water Authority estimated dry-year demands for five-year increments from 2010 through 2035. On average, the dry-year demands were 7% higher than the normal demands. FPUD has elected to use the same 7% factor to estimate its dry-year demands. The District’s recycled water supply is assumed to be “drought-proof” and not subject to reduction during dry periods.

PROJECTED SINGLE DRY-YEAR SUPPLY AND DEMAND COMPARISON – AF/Y (TABLE 36)

	2015	2020	2025	2030	2035
San Diego County Water Authority *	15,021	15,979	17,347	18,607	19,445
Groundwater supplier: Santa Margarita River	0	0	0	0	0
Groundwater supplier: local wells in Fallbrook	0	0	0	0	0
Surface diversions: rainfall into Lake Skinner	0	0	0	0	0
Recycled water	543	543	543	543	543
Total Supply	15,564	16,552	17,890	19,150	19,988
% of Normal year	85%	86%	87%	88%	89%
Total Demand **	15,564	16,521	17,890	19,150	19,987
% of Normal year **	106%	106%	106%	106%	106%
Difference (supply minus demand)	0	0	0	0	0

*SDCWA plans to provide an adequate supply for any single dry year

** Based on 6% increase in demand per SDCWA Master Plan

7.3 PROJECTED MULTIPLE-DRY-YEAR SUPPLY AND DEMAND COMPARISON

The Urban Water Management Planning Act requires agencies to project demands and supplies during multiple dry years. Projections were prepared for five 5-year increments, ending in the following years: 2015, 2020, 2025, 2030 and 2035.

PROJECTED 3 MULTIPLE DRY-YEAR PERIOD ENDING IN 2018 – AF/Y (TABLE 37)

	2016	2017	2018
San Diego County Water Authority *	15,212	15,084	15,384
Groundwater supplier: Santa Margarita River	0	0	0
Groundwater supplier: local wells in Fallbrook	0	0	0
Surface diversions: rainfall into Lake Skinner	0	0	0
Recycled water	543	543	543
Total Supply	15,755	15,627	15,927
% of Normal year	86%	86%	87%
Total Demand **	15,755	15,946	16,137
% of Normal year **	106%	106%	106%
Difference (supply minus demand)	0	(319)	(210)

*SDCWA plans to provide an adequate supply for 2016 and 2% shortage in 2017 and 1.3% shortage in 2018

** Based on 6% increase in demand per SDCWA Master Plan

PROJECTED MULTIPLE DRY-YEAR PERIOD ENDING IN 2023 – AF/Y (TABLE 38)

	2021	2022	2023
San Diego County Water Authority *	16,252	16,526	16,800
Groundwater supplier: Santa Margarita River	0	0	0
Groundwater supplier: local wells in Fallbrook	0	0	0
Surface diversions: rainfall into Lake Skinner	0	0	0
Recycled water	543	543	543
Total Supply	16,795	17,069	17,343
% of Normal year	88%	89%	90%
Total Demand **	16,795	17,069	17,343
% of Normal year **	106%	106%	106%
Difference (supply minus demand)	0	0	0

*SDCWA plans to provide an adequate supply for all 3 years

** Based on 6% increase in demand per SDCWA Master Plan

PROJECTED MULTIPLE DRY-YEAR PERIOD ENDING IN 2028 – AF/Y (TABLE 39)

	2026	2027	2028
San Diego County Water Authority *	16,789	17,244	17,407
Groundwater supplier: Santa Margarita River	0	0	0
Groundwater supplier: local wells in Fallbrook	0	0	0
Surface diversions: rainfall into Lake Skinner	0	0	0
Recycled water	543	543	543
Total Supply	17,332	17,787	17,950
% of Normal year	84%	99%	87%
Total Demand **	17,332	17,787	18,242
% of Normal year **	106%	106%	106%
Difference (supply minus demand)	0	(487)	(1,159)

*SDCWA plans to provide an adequate supply for 2026, 2024 and 1.6% shortage in 2028

** Based on 6% increase in demand per SDCWA Master Plan

PROJECTED 3 MULTIPLE DRY-YEAR PERIOD ENDING IN 2033– AF/Y (TABLE 40)

Fiscal year	2031	2032	2033
San Diego County Water Authority *	18,774	18,454	17,949
Groundwater supplier: Santa Margarita River	0	0	0
Groundwater supplier: local wells in Fallbrook	0	0	0
Surface diversions: rainfall into Lake Skinner	0	0	0
Recycled water	543	543	543
Total Supply	19,317	18,997	18,492
% of Normal year	88.76%	87.29%	84.97%
Total Demand **	19,317	19,484	19,654
% of Normal year **	106%	106%	106%
Difference (supply minus demand)	0	(487)	(1,159)

*SDCWA plans to provide an adequate supply for 2031 and 2.5% shortage in 2032 and 5.9% shortage in 2033

** Based on 6% increase in demand per SDCWA Master Plan

Since the District’s local supplies may not provide a reliable water supply during drought conditions, they are excluded from the dry-year calculations. FPUD could then be 100% reliable on the Water Authority during a drought. It is possible, however, that local weather in Fallbrook could be wetter than the conditions causing a regional drought, and as a result, local water supplies would be available. In order to take a conservative approach, however, to supply planning, these figures are excluded. In a single dry year, the Water Authority is able to meet all its member agencies’ demands, as shown in their 2010 Plan. In multiple dry years, it is estimated that a cutback proportion to the cutback identified in the Water Authority’s 2010 Plan would be required as shown in the tables.

Appendix A
FPUD's Water Conservation Ordinance

Article 26. **Water Shortage Response Program.**

Sec. 26.1 Declaration of Policy.

California Water Code Sections 375 et seq. permit public entities which supply water at retail to adopt and enforce a water conservation program to reduce the quantity of water used by the people therein for the purpose of conserving the water supplies of such public entity. The Board of Directors hereby establishes a comprehensive water conservation program pursuant to California Water Code Sections 375 et seq., based upon the need to conserve water supplies and to avoid or minimize the effects of any future shortage.

26.1.1 IAWP Reduction Program

The Metropolitan Water District of Southern California (MWD) Interim Agricultural Water Program (IAWP) provides discounted wholesale supply and treatment pricing for qualified agricultural users within its service area on the basis that participants receive non-firm, interruptible supply up to the maximum allowed under Section 4901 of the MWD Administrative Code. During periods of water shortages imposed by MWD, those customers who are participating in the IAWP shall abide by the conditions set forth by MWD for implementation of the IAWP Reduction Program. Administration of the IAWP Reduction Plan is incorporated by reference in Article 19 of this Administrative Code.

Sec. 26.2 Findings.

The Board of Directors finds and determines that a water shortage could exist as a result of a general regional water supply shortage due to increased demand or limited supplies.

The Board of Directors also finds and determines that the conditions prevailing in the coastal San Diego County area require that the water resources available be put to maximum beneficial use to the extent to which they are capable, and that the waste or unreasonable use, or unreasonable method of use, of water be prevented and that the conservation of such water encouraged with a view to the maximum reasonable and beneficial use thereof in the interests of the people of the Fallbrook Public Utility District and for the public welfare.

NORMAL CONDITIONS. The District's service area is in a semi-arid climate. Good water management practices dictate that water be used wisely and not wasted at any time. Customers are requested to follow the guidelines presented in Sec. 26.8.1. Under Normal Conditions, the District will provide public education and outreach efforts to emphasize public awareness of the need to always voluntarily use water wisely and practice water conservation measures.

Sec. 26.3 Application.

The provisions of this Administrative Code shall apply to all water served to persons, customers, and property by the Fallbrook Public Utility District.

Sec. 26.4 Determination and Declaration by General Manager of Water Supply Conditions.

Based on information provided by the District's wholesale water agency of water availability supplies, the Fallbrook Public Utility District General Manager (or in the General Manager's absence his designee) is hereby authorized and directed to implement the provisions of this Administrative Code. Additionally, the General Manager (or in the General Manager's absence, his designee) is hereby authorized to make minor and limited exceptions to prevent undue hardship or unreasonable restrictions, provided that water shall not be wasted or used unreasonably and the purpose of this Administrative Code can be accomplished. Any such exceptions shall be reported to the Board of Directors at the next meeting.

The General Manager (or in the General Manager's absence his designee) shall from time to time based upon all available data determine and declare whether the District's water supply is in the following condition and post a notice thereof in the District's lobby, and publish said notice in the local newspaper:

WATER SHORTAGE RESPONSE LEVEL 1 – WATER SHORTAGE WATCH CONDITION. This level applies when the San Diego County Water Authority notifies its member agencies that due to water shortage 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. The General Manager shall declare the existence of a Water Shortage Response Level 1 condition and take action to implement the Level 1 conservation practices identified in Sec. 26.8.2. The District will suspend consideration of annexations to its service area.

The Board of Directors shall from time to time based upon all available data determine and declare whether the District's water supply is in one of the following conditions and post a notice thereof in the District's lobby, and publish said notice in the local newspaper:

WATER SHORTAGE RESPONSE LEVEL 2 – WATER SHORTAGE ALERT CONDITION. This level applies when the San Diego County Water Authority notifies its member agencies that due to cutbacks caused by water shortages or other reduction in supplies, a consumer demand reduction of up to 20 percent is required in order to have sufficient supplies available to meet anticipated demands. The Board of Directors shall declare the existence of a Water Shortage Response Level 2 condition and implement the mandatory Level 2 conservation measures identified in Sec. 26.8.3. The District will suspend consideration of annexations to its service.

No new potable water service shall be provided, no new temporary meters or temporary meters shall be provided, and no statements of immediate availability to serve or provide potable water service (such as will serve letters, certificates, or letters of availability) shall be issued.

WATER SHORTAGE RESPONSE LEVEL 3 – WATER SHORTAGE CRITICAL CONDITION. This level applies when the San Diego County Water Authority notifies its member agencies that due to increasing cutbacks caused by water shortages 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. The Board of Directors shall declare the existence of a Water Shortage Response Level 3 condition and implement the Level 3 conservation measures identified in Sec. 26.8.4. The District will suspend consideration of annexations to its service area and no new potable water service shall be provided and no statements of immediate ability to serve or provide potable water service shall be issued.

WATER SHORTAGE RESPONSE LEVEL 4 – DROUGHT EMERGENCY CONDITION. This level applies when the San Diego County Water Authority Board of Directors declares a water shortage emergency pursuant to California Water Code Section 350 and notifies its member agencies that Level 4 requires a demand reduction of more than 40% in order for the District to have maximum supplies available to meet anticipated demands. The District shall declare a Water Shortage Emergency in the manner and on the grounds provided in California Water Code Section 350.

The General Manager is authorized to require submission of water use curtailment plans from those users having the largest effect on overall District consumption in order to protect the minimum supplies necessary to provide for public health, sanitation, and fire protection. Failure to provide curtailment plans in a timely manner or plans that do not meet the required cutbacks shall authorize the District to install flow restrictors at the meter or termination of service.

Sec. 26.5 Implementation of Emergency Water Management Program.

California Water Code Sections 375 et seq. permit public entities which supply water at retail to adopt and enforce a water conservation program to reduce the quantity of water used by the people therein for the purpose of conserving the water supplies of such public entity.

At such time when the Board of Directors of the District finds and determines that by reason of an anticipated general water supply shortage, inadequate San Diego County Water Authority distribution facilities, or the prospect of a major failure of the supply and distribution facilities of the Metropolitan Water District of Southern California exists, the Board may adopt and enforce a water conservation program to reduce the quantity of water used by the people therein for the purpose of conserving the water supplies of such public entity. In addition, the Board may also find and determine that the conditions prevailing in the coastal San Diego county area require that the water resources available be put to maximum beneficial use to the extent to which they are capable, and that the waste or unreasonable use, or unreasonable method of use, of water be prevented and that the conservation of such water encouraged with a view to the maximum reasonable and beneficial use thereof in the interests of the people within the Fallbrook Public Utility District service area and for the public welfare.

The General Manager shall determine the extent of the emergency conservation required in order for the District to prudently plan for and supply

water to its customers. Thereafter, the General Manager may order that the Emergency Water Management Program be implemented or terminated in accordance with the applicable provisions of this Article of the Administrative Code. The declaration of a water emergency shall be made by public announcement and notice shall be published a minimum of three (3) consecutive times in a newspaper of general circulation and shall become effective immediately upon announcement.

The declaration shall be reported to the Board of Directors at its next regular meeting. The Board of Directors shall thereupon ratify the declaration or rescind the declaration, and may adopt such additional rules and regulations to limit water use during the emergency as it deems appropriate.

Sec. 26.6 Duration of Declaration.

As soon as a particular condition is declared to exist, the water conservation measures provided for herein for that condition shall apply to all District water service until a different condition is declared.

Sec. 26.7 Mandatory and Discretionary Use of Recycled Water.

Nothing in this Administrative Code shall prohibit or limit the use of recycled water for any purposes listed herein. No customer of the District shall make, cause, use or permit the use of potable water supplied by the District for construction grading on major subdivisions, paved surface cleaning, or greenbelt uses, including, but not limited to, cemeteries, playing fields, parks, and highway landscaped areas, when, following notice and a hearing, the District finds that recycled water is available under the following conditions:

1. the recycled water is of adequate quality and is available for use.
2. the recycled water may be furnished to such areas at a reasonable cost, equal to or less than the cost of supplying potable domestic water.
3. the State Department of Health Services has determined that such use would not be detrimental to public health.
4. the use of recycled water will not adversely affect downstream water rights, and will not degrade water quality.

Sec. 26.8 Water Conservation Stages.

26.8.1 NORMAL CONDITIONS.

During Normal Conditions, customers are asked to use water wisely and to practice water conservation measures so that water is not wasted.

No water furnished by the District will be wasted. All water withdrawn from District facilities shall be put to reasonable beneficial use. Waste of water includes, but is not limited to:

1. Do not wash down paved surfaces, including but not limited to sidewalks, driveways, parking lots, tennis courts, or patios, except when it is necessary to alleviate safety or sanitation hazards.
2. Eliminate 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, hardscapes, roadways, or structures.
3. Irrigate residential and commercial landscape before 10 a.m. and after 6 p.m. only.
4. 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.
5. 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.
6. Use re-circulated water to operate ornamental fountains.
7. 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 when additional water is required due to evaporation.
8. Serve and refill water in restaurants and other food service establishments only upon request.
9. Offer guests in hotels, motels, and other commercial lodging establishments the option of not laundering towels and linens daily.
10. Repair all water leaks within five (5) days of notification by the Fallbrook Public Utility District unless other arrangements are made with the General Manager.
11. Use recycled or non-potable water for construction purposes when available.

26.8.2 WATER SHORTAGE RESPONSE LEVEL 1 – WATER SHORTAGE WATCH CONDITION.

During a Level 1 Water Shortage Watch condition, the District will increase its public education and outreach efforts to emphasize increased public awareness of the need to implement water conservation practices.

All persons using District water shall comply with Normal Conditions water conservation practices during a Level 1 Water Shortage Watch, as identified in Sec. 26.8.2.

Upon declaration of a Level 1 Water Shortage Watch condition, the District will suspend consideration of annexations to its service area except under the following circumstances:

1. 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 Fallbrook Public Utility District.

26.8.3 WATER SHORTAGE RESPONSE LEVEL 2 – WATER SHORTAGE ALERT CONDITION.

During a Level 2 Water Shortage Alert condition, all persons using District water shall comply with Normal and Level 1 Water Shortage Watch water conservation practices during a Level 2 Water Shortage Alert, as identified in Sec. 26.8.2 and 26.8.3, and shall also comply with the following additional conservation measures:

1. During the months of June through October, limit residential and commercial landscape irrigation to no more than three (3) assigned days per week on a schedule established by the General Manager and posted by the Fallbrook Public Utility District. During the months of November through May, landscape irrigation is limited to no more than once per week on a schedule established by the General Manager and posted by the Fallbrook Public Utility District. During extreme Santa Ana conditions (temperature > 80 and easterly winds > 20 mph), one additional day per week of watering is allowed. This section shall not apply to commercial growers or nurseries. 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.

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 governed by section 5 (b) (1), on the same schedule set forth in section 5 (b) (1) by using a bucket, hand-held hose with a positive shut-off nozzle, or low-volume non-spray irrigation.

4. Repair all leaks within seventy-two (72) hours of notification by the Fallbrook Public Utility District unless other arrangements are made with the General Manager.

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

6. No new potable water service shall be provided, no new temporary meters or temporary meters shall be provided, and no statements of immediate availability 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:

- (a) A valid, unexpired building permit has been issued for the project; or
- (b) The project is necessary to protect the public's health, safety, and welfare; or
- (c) Unless the Board of Directors determines that the new request for service will have no impact on water demand for the district (any water demand associated with a proposed action is completely offset by conservation, reclamation, or new water supplies, etc.); and 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 the District.

For Levels 2 and above, the District may establish a water allocation for property served by the Fallbrook Public Utility District using a method that does not penalize persons for the implementation of conservation methods or the installation of water saving devices and allows for the banking and subsequent use of unused allocations. For domestic and mult-unit classes, the district may instead of allocations establish a tiered pricing structure which promotes conservation. These rates shall be calculated as follows:

Normal/Shortage Level 1

<u>Domestic</u>	<u>Multi-Unit</u>
Units 1-10 @ .87 x Base Rate (\$2.55)*	Units 1-6 @ .87 x Base Rate (\$2.17)
Units 11-30 @ Base Rate (\$2.94)	Units 7-18 @ Base Rate (\$2.95)
Units 31+ @ 1.1 x Base Rate (\$3.24)	Units 19+ @ 1.1 x Base Rate (\$3.25)

* If use ≤ 12 units

Shortage Level 2

<u>Domestic</u>	<u>Multi-Unit</u>
Units 1-9 @ .87 x Base Rate (\$2.55)*	Units 1-5 @ .87 x Base Rate (\$2.56)
Units 10-27 @ Base Rate (\$2.94)	Units 6-17 @ Base Rate (\$2.95)
Units 28-54 @ 1.5 x Base Rate (\$4.41)	Units 18-34 @ 1.5 x Base Rate (\$4.43)
Units 55-81 @ 1.75 x Base Rate (\$5.15)	Units 35-50 @ 1.75 x Base Rate (\$5.16)
Units 82+ @ 2 x Base Rate (\$5.88)	Units 51+ @ 2 x Base Rate (\$5.90)

* If use ≤ 11 units

Shortage Level 3

<u>Domestic</u>	<u>Multi-Unit</u>
Units 1-8 @ .87 x Base Rate (\$2.55)*	Units 1-5 @ .87xBase Rate (\$2.56)
Units 9-22 @ Base Rate (\$2.94)	Units 6-14 @ Base Rate (\$2.95)
Units 23-45 @ 1.75 x Base Rate (\$5.15)	Units 15-22 @ 1.75 x Base Rate (\$5.16)
Units 46-67 @ 2 x Base Rate (\$5.88)	Units 23-31 @ 2 x Base Rate (\$5.90)
Units 68+ @ 2.5 x Base Rate (\$7.35)	Units 32+ @ 2.5 x Base Rate (\$7.38)

* If use ≤ 10 units

Shortage Level 4

<u>Domestic</u>	<u>Multi-Unit</u>
Units 1-7 @ .87 x Base Rate (\$2.55)*	Units 1-4 @ .87 x Base Rate (\$2.56)
Units 8-15 @ Base Rate (\$2.94)	Units 5-9 @ Base Rate (\$2.95)
Units 16-30 @ 2 x Base Rate (\$5.88)	Units 10-18 @ 2 x Base Rate (\$5.90)
Units 31-45 @ 2.5 x Base Rate (\$7.35)	Units 19-27 @ 2.5 x Base Rate (\$7.38)
Units 46+ @ 3 x Base Rate (\$8.82)	Units 28+ @ 3 x Base Rate (\$8.85)

* If use ≤ 9 units

(See Exhibits A and B for FY 2009-10 Rates)

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 ongoing 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 the amount of the current Metropolitan Water District of Southern California (MWD) Tier 2 rate, times 2, for each unit of usage greater than the allocation but less than 115% of the allocation, and a penalty equal to the MWD Tier 2 rate, times four, for each unit of water in excess of 115% of the allocation. The penalty for excess water usage shall be cumulative to any other remedy or penalty that may be imposed for violation of this ordinance.

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.

26.8.4

WATER SHORTAGE RESPONSE LEVEL 3 – WATER SHORTAGE CRITICAL CONDITION.

During a Level 3 Water Shortage Critical condition, all persons using District water shall comply with Normal, Level 1 Water Shortage Watch and Level 2 Water Shortage Alert water conservation practices during a Level 3 Water Shortage Critical condition and shall also comply with the following additional mandatory conservation measures:

1. During the months of June through October, limit residential and commercial landscape irrigation to no more than two (2) assigned days per week on a schedule established by the General Manager and posted by the Fallbrook Public Utility 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 governed by section 6 (b) (1), on the same schedule set forth in section 6 (b) (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 level under this ordinance.
4. Stop washing vehicles except at commercial carwashes that recirculate water, or by high pressure/low volume wash systems.

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

26.8.5

WATER SHORTAGE RESPONSE LEVEL 4 – WATER SHORTAGE EMERGENCY CONDITION.

During a Level 4 Water Shortage Emergency condition, all persons using District water shall comply with Normal, Level 1 Water Shortage Watch, Level 2 Water Shortage Alert, and Level 3 Water Shortage Critical water conservation practices during a Level 4 Water Shortage Emergency 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 Fallbrook Public Utility 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 section 6 (b) (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 Fallbrook Public Utility District 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 section 6 (b) (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 Fallbrook Public Utility District unless other arrangements are made with the General Manager.

The District may establish a water allocation for property served by the District. 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 ongoing 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 the amount of the current Metropolitan Water District of Southern California (MWD) Tier 2 rate, times 2, for each unit of usage greater than the allocation but less than 115% of the allocation, and a penalty equal to the MWD Tier 2 rate, times four, for each unit of water in excess of 115% of the allocation. The penalty for excess water usage shall be cumulative to any other remedy or penalty that may be imposed for violation of this ordinance.

3. Agricultural (IAWP) customers as defined in the Metropolitan Water District Code must abide by any IAWP restrictions that may be in place.

Water consumed during each billing period will be compared to the assigned target. Any use below the target will be accumulated and carried forward. The customer's cumulative use will be compared with the cumulative target, and any total usage above the target will be billed at the "above target" rates. This cumulative comparison will continue as long as these special water conservation rates are in effect. Below target usage "credits" will be carried forward until the cumulative target is exceeded, at which time, all cumulative "over target" use will be billed at the "above target" rates and the cumulative comparison process will start over.

Sec. 26.9 Implementation of Conservation Levels.

The General Manager shall monitor the projected supply and demand for water by its customers on a daily basis. The General Manager shall determine the extent of the conservation required through the implementation and/or termination of particular conservation stages in order for the District to prudently plan for and supply water to its customers. Thereafter, the General Manager may order or recommend to the Board of Directors that the appropriate level of water conservation be implemented or terminated in accordance with the applicable provision of this Administrative Code. The declaration of any level beyond Water Shortage Response Level 1 shall be made by public announcement and notice shall be published a minimum of three (3) consecutive times in a newspaper of general circulation. The level designated shall become effective

immediately upon announcement. The declaration of any level beyond Water Shortage Response Level 1 shall be by action of the Board of Directors.

Sec. 26.10 Variances.

If, due to unique circumstances, a specific requirement of this Article of the Administrative Code would result in undue hardship to a person using District water or to property upon which the District water is used, that is disproportionate to the impacts to the District water users generally or to similar property or classes of water uses, then the person may apply for a variance to the requirements as provided in this section.

The variance may be granted or conditionally granted, only upon a written finding of the existence of facts demonstrating an undue hardship to a person using District water or to property upon which the District water is used, that is disproportionate to the impacts to the District water users generally or to similar property or classes of water use due to specific and unique circumstances of the user or the user's property.

A Citizens Appeals Committee may be established by the Board of Directors to handle appeals to allocations for special circumstances that exist in Levels 2, 3 or 4 allocations. All appeals must be in writing. The determination of the Citizens Appeals Committee will be provided to the customer in writing. The following are some examples of appealable circumstances, but is not intended to be all inclusive:

1. commercial buildings that were empty or partially occupied during base period but are now occupied to a greater degree and require more water.
2. a grove with new trees planted a year before the base period began that, in the third year of growth, would need additional water.
3. agricultural land used for annual crops that had abnormally low irrigation application during the base year.
4. customers with more than one water service account and wish to transfer portions of one meter allocation to another.
5. domestic (3/4" bi-monthly billing) customers whose usage would more appropriately be assigned a Target and billed monthly like the domestic (1") accounts, or vice versa.

26.10.1 Application.

Application for a variance shall be a form prescribed by Fallbrook Public Utility District and shall be accompanied by a non-refundable processing fee in an amount of Fifty Dollars (\$50.00) for FY 2009-10. which shall increase annually by the percentage increase in the Cost of Living for the San Diego Area.

26.10.2 Supporting Documentation.

The application shall be accompanied by photographs, maps, drawings, and other information, including a written statement of the applicant.

26.10.3 Required Findings for Variance.

An application for a variance shall be denied unless the approving authority finds, based on the information provided in the application, supporting documents, or such additional information as may be requested, and on water use information for the property as shown by the records of the Fallbrook Public Utility District, all of the following:

- A. That the variance does not constitute a grant of special privilege inconsistent with the limitations upon other Fallbrook Public Utility District customers.
- B. That because of special circumstances applicable to the property or its use, the strict application of this ordinance would have a disproportionate impact on the property or use that exceeds the impacts to customers generally.
- C. That the authorizing of such variance will not be of substantial detriment to adjacent properties, and will not materially affect the ability of the Fallbrook Public Utility District to effectuate the purpose of this chapter and will not be detrimental to the public interest.
- D. That the condition or situation of the subject property or the intended use of the property for which the variance is sought is not common, recurrent or general in nature.

26.10.4. Approval Authority.

The Citizens Appeals Committee or the General Manager shall exercise approval authority and act upon any completed application no later than 20 days after submittal and may approve, conditionally approve, or deny the variance. The applicant requesting the variance shall be promptly notified in writing of any action taken. Unless specified otherwise at the time a variance is approved, the variance applies to the subject property during the term of the mandatory drought response.

26.10.5 Appeals to Fallbrook Public Utility District Board of Directors.

An applicant may appeal a decision or condition of the Citizens Appeals Committee or the General Manager on a variance application to the Fallbrook Public Utility District Board of Directors within 10 days of the written

decision upon written request for a hearing. The request shall state the grounds for the appeal. Any determination not appealed within ten (10) days is final. At a public meeting, the Fallbrook Public Utility District Board of Directors shall act as the approval authority and review the appeal de novo by following the regular variance procedure. The decision of the Fallbrook Public Utility District Board of Directors is final.

Sec. 26.11 Violations and Penalties.

Any person who uses, causes to be used, or permits the use of water in violation of this Article is guilty of an offense punishable as provided herein. Each day that a violation of this Article occurs is a separate offense. Administrative fines may be levied for each violation of a provision of this section as follows:

- A. One hundred dollars (\$100.00) for a first violation within any 12-month period.
- B. Two hundred dollars (\$200.00) for a second violation of any provision of this Article within any twelve-month period.
- C. Five hundred dollars (\$500.00) for each additional violation of this Article within any twelve-month period.
- D. Violation of a provision of this Article is subject to enforcement through installation of a flow-restricting device in the meter.

Each violation of this Article may be prosecuted as a misdemeanor punishable by imprisonment in the county jail for not more than thirty (30) days or by a fine not exceeding \$1,000.00, or by both as provided in Water Code section 377.

Willful violations of the mandatory conservation measures and water use restrictions as set forth in Section 8.0 and applicable during a Level 4 Water Shortage Emergency condition may be enforced by discontinuing service to the property at which the violation occurs as provided by Water Code section 356.

ARTICLE 26
Sec. 26.6 – Rev. 7/97
Sec. 26.4, Sec. 26.5,
Sec. 26.8.2 – Rev. 10/07
Article 26 revised in its entirety – 6/08
Sec. 26.8.3, 26.9, 26.10 , 26.10.1, 26.10.2, 26.10.3, 26.10.4, 26.10.5, and addition of Domestic Class and Multi-Unit Class rates– Rev. 6/09
Sec. 26.8.3 –Rev. 10/09

Appendix B
FPUD's Recycled Water Ordinance

Article 27. **Recycled Water Program**

Sec. 27.1 Declaration of Policy.

The Board of Directors of the Fallbrook Public Utility District hereby finds that it is in the best interest of the District and its customers to establish that recycled water and other non-potable water shall be used within its jurisdiction. It is further found that use of such water is financially and technically feasible, and consistent with preservation of public health, safety, welfare, and the environment. The District may provide for non-potable water on a temporary or permanent basis.

The use of potable water for irrigation or other non-potable uses is prohibited where non-potable water is suitable and available.

Ordinance No. 241

Sec. 27.2 Definitions.

a) Agricultural Uses

Agricultural uses include: Annual Agricultural Products, field and row crops grown for seed or other annual plants; Perennial Agricultural Products, field and nursery crops, trees, vines and other perennial plants, and the watering of livestock.

b) Approved Backflow Prevention Device

A device installed to protect the potable water supply from contamination by recycled water. This device shall be recognized and approved for use for this purpose by The Foundation For Cross Connection Control of the University of Southern California.

c) Artificial Lake

A man-made lake, pond, lagoon, or other body of water that is used wholly or partly for landscape, scenic or non-contact recreational purposes.

d) Board

The duly elected and constituted Board of Directors of the Fallbrook Public Utility District.

e) Cross-Connection

Any unprotected connection between any part of a water system used or intended to supply potable water and any source or system containing recycled or other water or substance that is not potable for human consumption.

f) Designated User

A user whose uses the Board of Directors has determined can best be served by the application of non-potable water under the provisions of this Article of the Administrative Code.

g) District

The Fallbrook Public Utility District, a duly constituted Public Agency of the State of California, and located in San Diego County, California.

h) Greenbelt Areas

Greenbelt areas include, but are not limited to, golf courses, playing fields, cemeteries, parks, and landscaping.

i) Industrial Process Water

Water used by any industrial facility with process water requirements which includes, but is not limited to, rinsing, washing, cooling and circulation, or construction.

j) Manager

The duly appointed General Manager of the Fallbrook Public Utility District, or his designee.

k) Non-Potable Water

Water which does not conform to federal, state, and local standards for human consumption.

l) Non-Potable Water Distribution System

A piping system intended for the delivery of non-potable water only, and which is maintained separate from any potable water distribution system.

m) Non-Potable Water Transmission Mains

Non-potable water lines and appurtenance owned by the District.

n) Non-Potable Water Use Area

The property, or portion of property, which has been approved by the District for non-potable water service.

o) Notice of Determination

The notice provided to a designated user by the District.

p) Off-Site Facilities

Those facilities located off the user's site and under the control of the District, including the service meter, and any backflow prevention devices installed with the meter.

q) On-Site Facilities

Facilities under the control of the customer beginning at the meter.

r) Potable Water

That water furnished to the customer that is satisfactory for domestic consumption, and conforms to the standard set forth in the latest edition of the United States Public Health Service Drinking Water Standards, the California Safe Drinking Water Act, or any other applicable standards.

s) Recycled Water

Water that is defined in Title 22, Division 4, Chapter 3, Article 60301, paragraph 8, of the California Administrative Code and shall mean water which, as a result of filtration and disinfection of domestic wastewater, is suitable for a direct beneficial use or a controlled use that otherwise would not occur.

t) Recycled Water Facilities

Facilities used in the storage, pumping, and conveyance of recycled water. Recycled water facilities are intended to provide reclaimed water for uses such as landscape irrigation, agricultural irrigation, construction, or industrial process water.

u) Recycled Water Service Connection

The point of connection of the customer's recycled water line with the recycled water service line of the District, which shall normally be the downstream end of the recycled water meter tailpiece.

v) User's Water Supervisor

A qualified person, designated by a recycled water user and approved by the District, who shall be knowledgeable in the construction and operation of on-site facilities, irrigation systems, and in the application of the guidelines, criteria, standards, rules, and regulations for use of recycled water.

Sec. 27.3 Administration.

a) Manager

The District General Manager shall administer, implement, and enforce the provisions of this Article of the Administrative Code. Any duties imposed upon the Manager may be delegated by him to persons in the employ of the District.

b) Regulations

The Manager shall make and enforce regulations necessary to the administration of this Article of the Administrative Code.

c) Non-Potable Water Master Plan

Manager shall prepare a Non-Potable Water Master Plan. The Plan shall include, but not be limited to, actual and future planning for non-potable water use. Approvals of developments shall be consistent with the Plan in all respects including developer piping for non-potable uses.

d) Public Awareness Program

The District shall establish a comprehensive non-potable water Public Awareness and Assistance Program.

e) Coordination Among Agencies

The District shall examine the potential for initiating a coordinated effort between the District and other public agencies. The purpose of this effort shall be to share in the production and utilization of non-potable water.

f) Fees and Charges

All fees and charges for the use of non-potable water shall be established separately by the Board in Article 20 of the Administrative Code.

g) Payment for On-Site Facilities

The Designated User shall pay for all on-site facilities, including backflow prevention devices that may be necessary to protect the health and safety of on-site residents or employees. The Designated User of non-potable water shall comply with all requirements of applicable federal, state, and local statutes, ordinances and regulations.

Sec. 27.4 Suspension or Termination of Service.

27.4.1 Suspension of Non-Potable Water Service. Non-potable water service may be suspended or terminated at any time by the Manager. Reasons for suspension or termination shall include, but not be limited to, the following:

1. Failure by a Designated User to adhere to the provisions of this Ordinance.
2. The protection of health, safety, and welfare.
3. The protection of non-potable water facilities or to make repairs thereto.
4. Failure of any Designated User to pay all of the fees and charges outlined in Article 20 of the Administrative Code.

27.4.2 Procedure. Where the District determines that service should be suspended or terminated, a written notice shall be mailed by regular mail to the customer at least ten (10) days prior to the date of proposed suspension or termination of services. This notice shall set forth the reasons therefore. In the event the District determines an emergency condition prevails at the time the written notice of proposed suspension or termination is mailed to the customer, the District may immediately suspend non-potable water service pending a determination of any appeal.

If an emergency condition does not prevail, the user shall have ten (10) days to come into compliance. Thereafter, the District may commence suspension or termination procedures herein.

27.4.3 Appeals. The customer may appeal the determination of the District as follows:

No later than ten (10) days following the date upon which the District Manager forwards to the customer a Notice of Suspension or Termination, the customer may appeal to the Board of Directors. The Board of Directors shall conduct a hearing concerning the proposed determination within thirty (30) days of receipt of this written appeal. Within a reasonable time thereafter, the Board of Directors shall render a decision which shall be final.

27.4.4 Prohibited Connections. No person shall make any connection to the non-potable water facilities of the District unless the District has executed a written Agreement with said person as Designated User of non-potable water service in accordance with the provisions of this Article of the Administrative Code.

Sec. 27.5 Implementation.

27.5.1 Designation of Users. A Notice of Determination that a specific water user shall be a Designated User of non-potable water shall be mailed to the potential Designated User by certified mail. A general description of the obligations of the potential Designated User shall accompany this notification. A proposed schedule for implementation of the use of non-potable water shall be included in this Notice.

27.5.2 Appeal. The potential Designated User may file a Notice of Appeal with the District within thirty days after the "Notice of Determination" has been sent. Upon receipt of the Appeal, the District Manager shall schedule a hearing of the appeal before the Board of Directors and provide notice in accordance with the rules of the District.

Following this hearing, the determination of the Board shall be final and binding.

- 27.5.3 Design and Construction of On-Site Facilities. The Designated User shall provide and install, at his expense, all on-site non-potable water facilities. Non-potable water facilities shall conform to state and local statutes, ordinances, regulations, and other requirements. The Designated User shall make, at his expense, any modifications to the potable water system on the premises which are required by the District in order to permit the safe use of non-potable water service. Such facilities shall include, but not be limited to, installation of approved backflow devices. Specifications and record drawings of on-site non-potable water facilities shall be prepared and be available for inspection or use on the premises of the Designated User and at the District office.
- 27.5.4 Non-Potable Water Supervisor. The Designated User shall designate a Users' Water Supervisor and shall keep the District informed of his identity. The Water Supervisor shall be responsible for overseeing non-potable water service and maintaining on-site facilities on the property receiving such service. The Users' Water Supervisor shall be responsible for the prevention of any cross connections on the property and shall promptly advise the District of any cross connections that could occur or threaten to occur.
- 27.5.5 Conversion of Existing Facilities. Where a Designated User proposes a conversion of any existing potable water system to a non-potable water system, a comprehensive investigation of the system shall be performed at the expense of the Designated User. No potable water facility shall be connected or incorporated into the non-potable water system where such facilities have not been inspected and approved by the District.
- 27.5.6 User Agreement Form. Upon the final determination by the District that a property, or a portion of the property, shall be served with non-potable water, the Designated User shall execute a User Agreement with the District to implement the provisions of this Article of the Administrative Code. The District shall provide a general form of agreement.

Sec. 27.6 Water Meter Required.

All non-potable water used on any premises approved for non-potable water service must be metered. The District shall be responsible for the enforcement of this requirement.

Sec. 27.7 Future Extension.

A project on any property of potential benefit as a result of future extension of the non-potable system must provide for the extension of the non-potable system at the time of project construction.

A property of potential benefit is defined as any subdivision lying on or within 1500 feet of a line running from Lange Reservoir to Martin Reservoir.

Sec. 27.8 Public Safety Requirements.

- 27.8.1 Cross-Connections. No Designated User or other party shall install or create cross connections between a potable water system and a non-potable water system.
- 27.8.2 Drinking Fountains. Any and all drinking fountains located within an area approved for use for non-potable water shall be protected by siting or shielding from contact with non-potable water, whether by windblown spray or by direct application through irrigation or otherwise approved uses.
- 27.8.3 Hose Bibs. No Designated User or other party shall use or install hose bibs on any on-site non-potable water facilities. Quick couplers shall be permitted subject to the approval of the District.
- 27.8.4 Fire Hydrants. No Designated User or other party shall use or install fire hydrants on any on-site system that is designed to operate with non-potable water regardless of the fire hydrant construction or identification.
- 27.8.5 Marking. Where any property subject to non-potable water service is served by, or contains, dual or multiple water systems and piping, the exposed portions of the pipelines for both potable and non-potable water shall be painted, banded, or marked to distinguish clearly which is used for potable and which is used for non-potable water. In addition, all new buried pipe installed on such property shall be similarly painted, banded, or marked with marker tape. All non-potable water outlets should be posted with the words, "NON-POTABLE WATER. DO NOT DRINK" and will be posted in English, Spanish and the international symbols where appropriate. All potable water outlets intended for drinking purposes shall be plainly marked. Main shut-off valves shall be clearly identified to distinguish between potable water and non-

potable water. The District shall approve all painting, banding, or marking prior to installation.

27.8.6 Backflow Protection at the Meter. If a non-potable water customer requires potable water service on the same property, an RP back-flow preventer must be installed at the potable meter. The installation and maintenance cost will be a District expense.

Sec. 27.9 Regulations for Truck Load Delivery.

Delivery of recycled water by truck load delivery shall be made only to those authorized by permit granted by the San Diego Regional Water Quality Control Board to accept delivery in this manner.

Sec. 27.10 Miscellaneous.

If any section, subsection, sentence, clause or phrase of this Article of the Administrative Code is for any reason held to be unconstitutional or invalid, such decision shall not affect the validity of the remaining portions of this Article of the Administrative Code. The Board of Directors hereby declares that it would have passed each section, subsection, sentence, clause, or phrase thereof irrespective of the fact that any one or more sections, subsections, or sentences, clauses or phrases may be unconstitutional or invalid.

27.10.1 Non-Liability. The District will not be responsible or liable for any suspension in service of, or failure to supply, non-potable water, or for any damage or injury to person or property relating to the provision of non-potable water.

ARTICLE 27

Program Adopted 2/94
Sec. 27.9 – Rev. 6/95
Sec. 27.1-27.4, 27.6, 27.9, & 27.10 –
Rev. 7/97

Appendix C

Self-certifying our BMPs

We have not yet received our coverage reports, indicating we are in compliance, from DWR for our BMPs. This section will be amended once they are received.

Appendix D

Board Adopted Resolution Certification

Appendix E

Board Adopted Resolution Certification

Little fish. Big drought. It's over. For now. But how do we stop it from impacting Fallbrook again?

On June 4, 2008, Governor Schwarzenegger declared a drought in California. On March 30, 2011, Governor Jerry Brown declared the end of the drought due to above-average rainfall. Now the state's reservoirs have been replenished. The snowpack in the Sierra Mountains – which is like a giant, frozen reservoir for California – is also above normal.

While the ending of the drought is good news for California, there are still ongoing water supply issues. In 2007, the court ordered the massive pumps that send water south to be shut off completely. These pumps in the Sacramento/San Joaquin Delta were being blamed for killing a tiny, one-inch fish called the Delta Smelt, an endangered species. The reason? When the huge pumps were on, the fish were sucked into the pipes and died.



The court has allowed the pumps to resume pumping some of our water, but not all of it. This means another dry year could put us back in a drought again. What needs to

happen, to prevent the fish from dying and another drought plaguing the state, is a major, long-term fix in the Delta. A new way of pushing water around, under or through the river system needs to be built. New reservoirs need to be built to capture any rainfall we get in wet years. Since San Diego is a desert-like region and the Delta provides almost 50% of our water, we need to support and continue working with the governor, the legislature and water agencies in our region to implement a long-term water solution.

Upcoming public hearings

We buy all our water from our wholesaler, the San Diego County Water Authority. We won't increase our FPUD rates this year, but since we are nonprofit, we will discuss passing through the Authority's rate increases. Come be a part of our rate discussion.

Rate hearing

- **June 22, 4 p.m.** on our final budget

We're drafting our Urban Water Management Plan which forecasts our water supply and needs through 2035.

Water Plan hearing

- **May 23, 4 p.m.** on our draft plan
- **June 27, 4 p.m.** on our final plan

Solar panels will save big bucks

Saving a buck is always a good thing. Saving around 70% of an SDG&E bill is even better. And getting free money to do it – that ranks the highest.

A 2,700 panel solar project is set to go online in early June at our wastewater treatment plant on Alturas Road, supplying enough juice to power 70% of the plant.

With the combination of \$3.8 million in state rebates and low-cost government loans allocated as part of the federal stimulus plan, the \$7.2 million project only cost half that amount to build.

By the time it's paid off in 17 years, the project will essentially be free thanks to rebates, cheap loans and SDG&E savings. After that, we'll save millions in electricity bills.

FPUD news

Keeping Fallbrook informed



Thanks for voting for the pig.



Thanks to you and your votes, **we won a \$1,500 grant** for our educational “Grease in the Can, Not the Drain” campaign and elementary school project. (See grease can, at left, decorated to look like a “bacon grease” pig.)

The grant comes from Rainbird sprinkler system’s “4th Annual Intelligent Use of Water Awards.” We’ll use the grant to buy empty cans students decorate, and then parents keep on the kitchen counter, line with a plastic bag, and pour grease into. The reason? Grease cools in the pipes, hardens in sewer lines and clogs them, resulting in sewer spills.

Upcoming public hearings

Public hearings on our Budget:

All our water is imported. We purchase it from the San Diego County Water Authority. As water is becoming more scarce in California, the water they sell us is getting more expensive, just like the rising cost of gasoline.

Their preliminary budget indicates their wholesale increases could be as high as 18%. Since we sell our water at-cost, which means we don’t make a profit, we will discuss incorporating those costs into our own budget. Come be a part of our rate discussion.

- **April 20 at 6 p.m.** on our preliminary budget
- **June 22 at 4 p.m.** on our final budget

Public hearings on Longterm plans:

Our Urban Water Management Plan forecasts our supply and needs through 2035.

- **May 23 at 4 p.m.** on our draft plan
- **June 27 at 4 p.m.** on our final plan

UV Treatment Plant wins award

Our state-of-the-art ultraviolet treatment processing plant that disinfects our water stored at Red Mountain Dam has won an engineering award.

The American Society of Civil Engineers will present us with the “award of excellence” on May 14.

Zapping water with UV is very safe, much cheaper and faster than the old-fashioned filtration method.

FPUD is the first in the state to use this technology. We received grants and rebates to build it.

Free showertimers

Limiting showers to no more than five minutes can be tricky. Come in and get a free shower timer to help. It’s a first-come, first-served freebie, so hurry in!

The drought is over, for now. Thanks for your help!

Thanks to the storms this winter, and our customers’ **extraordinary** conservation for more than a year, our water shortage challenges have eased for now.

Our reservoirs throughout the state have been replenished for the short-term. But for the long-term, we must continue to advance toward a solution to the water crisis in the Sacramento/San Joaquin Delta. It is a delicate balance between getting Californians the water we need, and balancing the delicate ecosystem there. Long-term challenges are still ahead of us, but thanks for all your conservation to improve the short-term conditions.

We recycle our sewage sludge, then sell it as a high-grade soil amendment

Buying in bulk? It's cheap. Only want a little? It's free.

Flushing a Fallbrook toilet has its environmental advantages: The sewage sludge that winds its way underground, to our sewage treatment plant, gets recycled. State-of-the-art machinery dries the sludge and then transforms it into an organic, Class A soil amendment.

We then sell this renewable resource for a bargain price: \$20 a ton. But as more toilets keep flushing, more of the safe amendment is produced, leaving us with a surplus. It's one of the downsides to going green, leaving us looking for a few more buyers.



Buying it is pretty simple: Anyone can head in to the treatment plant at 1425 Alturas Road and pick it up, pay the \$20, and then haul it off himself. Call Jeff Parks to make an appointment, 760.728.1125, ext. 2102, or email jeffp@fpud.com.

Only need a gallon or two? Beginning in June, smaller quantities can be picked up free. Look for a big bin by the FPUD sign on Alturas Road, at the top of the hill by the community garden entrance. It will be available Wednesday through Saturday, 8 a.m. to 4 p.m.

The soil amendment is highly concentrated—in other words, you don't need as much as you would with fertilizer from at a home-improvement store. More information can be found at www.fpod.com, on the Community Relations tab.

Free community forum

Our water wholesaler, the San Diego County Water Authority, is holding a community forum May 31, from 5 to 7 p.m. at the Kearny Mesa office.

This is an opportunity for the public to come to “their house” and learn more about key water issues: supply challenges, factors that drive water rates, the strategy to meet future water demands, and what the Authority is doing to protect ratepayers and manage this precious resource.

Space is limited. RSVP www.sdcwa.org/water-talks

Rate increase projections lowered

We buy all our water from the San Diego County Water Authority. Last week, the Authority lowered its original rate increase projections. As a result, we're lowering ours. We don't have any in-house increases of our own, but since we're nonprofit, we're forced to pass through the Authority's rate increases. June 22 is our final public hearing on our rates.

June 27 is a public hearing

We've drafted our Urban Water Management Plan which forecasts our water supply and needs through 2035. The draft is on our website and the library. Comments? Contact Noelle Denke, noelle@fpud.com.

public hearing

Fallbrook Public Utility District

We're drafting our
Urban Water Management Plan
which forecasts our water supply
and needs through 2035.

Come be a part of the discussion.

Water Plan hearing

- **May 23, 4 p.m.** on our draft plan
- **June 27, 4 p.m.** on our final plan

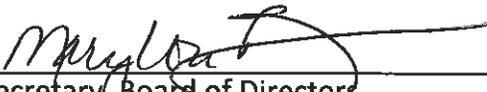


CERTIFICATION

* * * * *

I, Mary Lou Boultinghouse, Secretary of the Board of Directors of the FALLBROOK PUBLIC UTILITY DISTRICT, do hereby certify that the attached and foregoing is a full, true, and correct copy of Resolution No. 4725 of said Board adopted at a regular meeting of the Board of Directors on June 27, 2011.

DATE: July 5, 2011



Secretary, Board of Directors
FALLBROOK PUBLIC UTILITY DISTRICT



RESOLUTION NO. 4725

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE FALLBROOK PUBLIC UTILITY DISTRICT ADOPTING THE 2010 URBAN WATER MANAGEMENT PLAN UPDATE FOR FALLBROOK PUBLIC UTILITY DISTRICT

* * * * *

WHEREAS, the proper and most effective conservation of our public water resources is essential to ensuring adequate water supplies now and in the future; and,

WHEREAS, water conservation must be a permanent way of life for all residents living in semi-arid southern California; and,

WHEREAS, the Fallbrook Public Utility District has updated their Urban Water Management Plan (the "Plan") pursuant to the requirements of California Water Code Section 10621, et. seq.; and,

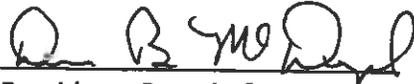
WHEREAS, the Plan is the formal document to discuss past, current, and projected water demands; current and alternate conservation measures; water supply deficiencies and future water management practices for the Fallbrook service area.

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

1. The Board of Directors of the Fallbrook Public Utility District approves and adopts the updated Plan entitled "2010 Urban Water Management Plan update for Fallbrook Public Utility District."
2. The General Manager of the District is authorized and directed to implement the water conservation measures included in the updated Plan as the District's part in the local, regional, and statewide water conservation effort.

PASSED AND ADOPTED by the Board of Directors of the Fallbrook Public Utility District at a regular meeting of the Board held on the 27th day of June 2011, by the following vote:

AYES: BATTLE, HAYDEN, MCDOUGAL, MCPHEE
NOES: NONE
ABSENT: DAVIES
ABSTAIN: NONE



President, Board of Directors

ATTEST:



Secretary, Board of Directors