

FINAL REPORT

# URBAN WATER MANAGEMENT PLAN 2005 UPDATE

CITY OF MARTINEZ

DECEMBER 2005



DODSON



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# **SECTION ONE**

## **PLAN ADOPTION, PUBLIC PARTICIPATION, AND PLAN COORDINATION**

## SECTION ONE

# PLAN ADOPTION, PUBLIC PARTICIPATION, AND PLAN COORDINATION

### 1.1 PLAN ADOPTION

The City of Martinez has prepared the 2005 update of its Urban Water Management Plan to fulfill the requirements outlined in the California Urban Water Management Planning Act. The updated plan was adopted by the City Council on December 21, 2005. A copy of the Resolution No. 123-05 to adopt the 2005 Urban Water Management Plan is provided in Appendix A. The plan will be submitted to the California Department of Water Resources (DWR) within 30 days of Council approval. This plan includes all information necessary to meet the requirements of California Water Code, Division 6, Part 2.6 (Urban Water Management Planning).

### 1.2 PUBLIC PARTICIPATION

The City of Martinez encourages community participation in its urban water management planning activities. Community input has been encouraged during previous plan development. The 2005 plan format has been revised to coordinate with DWR planning review documents and to incorporate plan requirement changes due to legislative amendments enacted since 2000. Prior to its adoption, the plan was made available for public inspection and a noticed public hearing was held. Prior to the hearing, a notice providing time and place of hearing was published, in accordance with Section 6066 of the Government code.

### 1.3 COORDINATION WITHIN THE CITY

The 2005 Urban Water Management Plan was prepared in coordination with various City departments. Coordination between the Community Development Department and Finance Department was essential in obtaining the information for population projections and current water use required to prepare the plan.

### 1.4 INTER-AGENCY COORDINATION

Coordination between the City of Martinez and other agencies was key in the development of this plan. Agencies which participated and provided valuable information include:

- ◆ Contra Costa Water District – water supply and conservation information
- ◆ Central Contra Costa Sanitary District – recycled water use
- ◆ Mountain View Sanitary District – recycled water use
- ◆ Contra Costa County – treated water customer service in County jurisdiction areas
- ◆ City of Pleasant Hill – treated water customer service in City jurisdiction areas

Implementation of Best Management Practices (BMPs) within the City of Martinez is coordinated with Contra Costa Water District's (CCWD) conservation program. In October 1993, the CCWD board voted to implement BMPs throughout their entire service area, including retail customers within their wholesale water area. CCWD's Future Water Supply Study has identified water conservation as a component in its plan to meet future water demands within its service area.

# **SECTION TWO**

## **MARTINEZ WATER SERVICE AREA DESCRIPTION**

## SECTION TWO

# MARTINEZ WATER SERVICE AREA DESCRIPTION

### 2.1 HISTORY

The City of Martinez is located in north central Contra Costa County along the Carquinez Strait. The water service area is approximately 6,000 acres and served a population of 28,500 in 2005. Water service is provided for residential, commercial, industrial, public and irrigation customers, and for fire protection uses.

On May 26, 1887, a franchise to operate a water system was obtained by the West Hill Water and Electric Light Company from the Town of Martinez. The water system supplied the Town of Martinez and consisted of seven wells. On December 7, 1898, the Port Costa Water Company purchased the system. The Port Costa Water system included a group of wells and a pumping station near Concord. The Port Costa Water Company abandoned this source in 1911 and a new supply of water was obtained from seven artesian wells and a new pumping station.

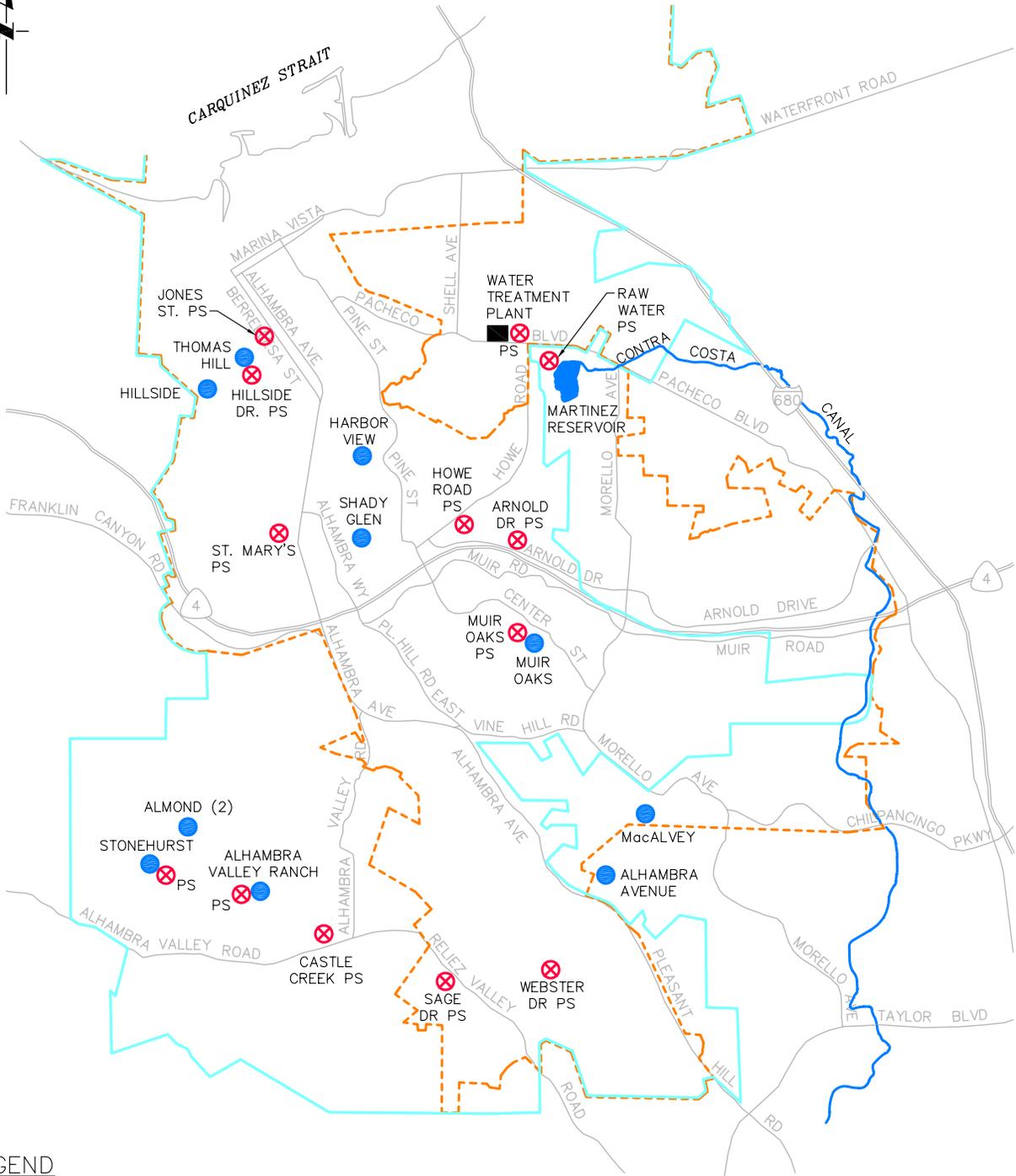
The Town of Martinez purchased the distribution system in 1918 from the Port Costa Water Company who agreed to furnish water to Martinez at wholesale rates on a metered basis. At that time the distribution system included about 9 miles of pipeline. The purchase cost of the distribution system and Thomas Hill Reservoir was \$170,000.

The California Water Service Company purchased the Port Costa Water Company holdings on April 19, 1927. In 1930, the California Water Service Company completed construction of a rapid sand filter plant and a one million gallon storage reservoir and began treatment of water pumped from the Sacramento River. They continued to provide Martinez with water until June 15, 1949. At that time, the City of Martinez put their newly completed rapid sand filter plant in use and began taking water from the Terminal Reservoir of the Contra Costa Canal. This portion of the Water Purification Plant is known as Water Treatment Plant No. 1. In 1968, additional treatment capacity was added as Water Treatment Plant No. 2 was put on line. Both plants operated until 1974 when Water Treatment No. 1. was removed from service. Water Treatment Plant No. 2 has filtering capacity of 11.2 mgd. In 1991, Water Treatment Plant No. 2 was expanded to include ozone application to the water for disinfection and taste and odor control. In 2000, the Plant No. 1 filters were refurbished to add 3.5 mgd filtration capacity, for a total filtration capacity of 14.7 mgd.

### 2.2 CURRENT WATER SERVICE AREA BOUNDARY

In 2005, the service area encompassed over 6,000 acres. Figure 2-1 includes the City water service area boundaries, the City limits, and major pumping and storage facilities within the City.

The water service boundaries for the City's water system are not contiguous with the city limits. The water service area extends outside City limits along the northeast, southeast, and southwest borders of the City. These areas include unincorporated County areas and part of the City of Pleasant Hill. The CCWD provides retail water service to a number of customers within the Martinez City limits along the eastern side of the City. The EBMUD service area is located directly south of the City water service area. Land uses within the water service boundary include residential, commercial, industrial, public agencies, and parks. There is no irrigated agriculture within the water service area. The land use is more diverse in the northern portion of the water service area. The southerly three quarters of the service area is generally residential and park land uses.



**LEGEND**

- - - CITY LIMIT
- WATER SERVICE BOUNDARY
- ⊗ PUMP STATION (PS)
- RESERVOIR

0 1/4 1/2 1 MILE



4327-Fig2-1  
M.J.F. 10/3/05



**CITY OF  
MARTINEZ**

**CITY OF MARTINEZ  
URBAN WATER MANAGEMENT PLAN**

**WATER SERVICE AREA  
AND FACILITY LOCATIONS**

FIGURE NO.

**2-1**

JOB NO.

**4327.09**

## 2.3 SERVICE AREA POPULATION

The current service area population is estimated to be approximately 28,500 persons. The service area does not correspond with the City limits, and the service area census information is not available. The service area population was estimated based on average household size from City census data and number of residential water connections within the service area. Multi-family residential connections were estimated to be about four residences per connection on average. Using this approach with service area connections and City census values for 1990 and 2000, the population estimates of the service area were 68 percent of the City population in 1990 and 75 percent of the City population in 2000. For future planning, the estimated population of the service area was assumed to be 75 percent of the City population as listed in Table 2-1. California drinking water regulations also allow population estimates based on 3.3 persons per service connection, which yield population estimates about 15 percent higher than the tabulated values. The City population for the planning period was based on year 2000 Association of Bay Area Governments (ABAG) estimates. ABAG projections assume a City growth rate of about 1.17 percent per year from 2000 through 2010, and 0.45 percent annual growth from 2010 to 2020. The population for 2005 was based on the year 2000 census of 35,866 persons and a 1.17 percent annual growth rate. The population projection for 2020 through 2030 is based on maintaining a 0.45 percent annual growth rate after 2020.

**TABLE 2-1 WATER SERVICE AREA POPULATION**

	Population					
	2005	2010	2015	2020	2025	2030
City Population	38,000	40,300	41,200	42,100	43,100	44,000
Service Area Population	28,500	30,200	30,900	31,600	32,300	33,000

1. City population estimates for 2010 and 2020 from ABAG Projections 2000. Population estimates through 2030 extrapolated based on 0.45 percent growth annually.
2. Service area population assumed to be 75 percent of City population.

## 2.4 TOPOGRAPHY

Service area elevations range from sea level in the downtown Martinez area to over 700 feet in the Stonehurst development in the southwestern corner of the service area. Nearly all of the service area water demand is included in the two lowest pressure zones. Minimum service pressures of 40 psi are maintained in each pressure zone. The first pressure zone generally includes elevations up to 170 feet and the second pressure zone serves elevations up to 320 feet. A third less-populated pressure zone has elevations between 300 and 460 feet and the highest pressure zone serves elevations up to 670 feet.

## 2.5 CLIMATE

The Martinez service area generally has hot, dry summers and cool, wet winters. In the summer, a steady marine wind blows through the Golden Gate Bridge and up the Carquinez Strait. Velocities of 15 to 25 knots or more are common in the late afternoon and in the evening. In the morning, 10 knots or less can be expected. In December and January, tule fog is common and may last for several days at a time. The average monthly evapotranspiration, rainfall, and temperatures are listed in Table 2-2.

**TABLE 2-2 CLIMATE**

Month	Standard Average ETo (inches)	Average Rainfall (inches)	Average Temperature (degrees F)
January	1.24	4.03	46
February	1.68	3.53	51
March	3.41	2.72	54
April	4.80	1.28	58
May	6.20	0.46	63
June	6.90	0.12	69
July	7.44	0.01	71
August	6.51	0.06	71
September	5.10	0.18	69
October	3.41	0.94	63
November	1.80	2.43	53
December	0.93	3.27	46
Total	49.4	19.02	

1. Standard Average ETo from California Irrigation Management Information System (CIMIS) Reference Evapotranspiration, Department of Water Resources, 1999
2. Average monthly total rainfall at Water Treatment Plant gage from 1952 to present
3. Average temperature from accuweather.com for Martinez, CA

Annual average precipitations for the service area were obtained from the Contra Costa County Public Works Department. The average annual precipitation varies across the City from the rain shadow effect of the East Bay Hills. The higher elevations in the southwestern part of the service area have an annual average precipitation of about 22.5 inches per year. The lower elevation areas to the northeast along the waterfront have an annual average precipitation of about 15 inches per year.

## 2.6 WATER TREATMENT AND DISTRIBUTION FACILITIES

The City's water utility operates treatment, storage, pumping, transmission, distribution and fire protection facilities which deliver water for use by customers located inside and outside City boundaries. Major treatment, pumping and storage facilities are shown on Figure 2-1. Responsibility for operating the system lies with the Community Development Department, which has a Water Superintendent who manages the treatment plant, pump stations, and reservoirs. A Maintenance Superintendent is responsible for system meter reading and maintaining the water distribution system. The Community Development Director is responsible for design and construction of water projects. The City Council of Martinez has responsibility for approving rates and charges for the water utility.

### 2.6.1 RAW WATER CONVEYANCE

Since 1949, the City of Martinez has received its water supply from the Contra Costa Canal, which is part of the Central Valley Project developed by the U.S. Bureau of Reclamation. CCWD operates and maintains the canal system, and the untreated canal water for the City water supply is purchased from CCWD. Water for the City of Martinez's filtration plant is withdrawn from the Contra Costa Canal's Terminal Reservoir through a 30-inch welded steel pipeline. The reservoir is estimated to have capacity of 72 mg (221 acre-feet) based on surveys in 1988. Some additional sedimentation has occurred since that time. The pipeline is approximately 2,000 feet in length and was constructed in

1949. A pumping station is available to pump water from the reservoir to the treatment plant when reservoir water levels are not high enough to provide sufficient flow rates to meet the City's need.

## **2.6.2 WATER TREATMENT PLANT**

The City water treatment plant is located at the corner of Howe Road and Pacheco Avenue along the northern boundary of the City. The plant is a conventional treatment plant with pre-ozonation, coagulation, flocculation, sedimentation, mixed media GAC (granular activated carbon) filtration and intermediate ozonation (after sedimentation).

The plant was constructed in three stages, including Plant No. 1 constructed in 1948, Plant No. 2 constructed in 1968, and the ozone production facility constructed in 1991. The oldest section (Water Treatment Plant No. 1 or Plant No. 1) was built in 1948 and discontinued operation in 1971. However, the filter units in Plant No. 1 were refurbished in 2000 to restore filtration capacity of 3.5 mgd to supplement the treatment capacity of Plant No. 2. The Plant No. 1 raw water influent meter, coagulation, flocculation and sedimentation units are currently out of service and have been abandoned in place.

Water Treatment Plant No. 2, or Plant No. 2, includes facilities for coagulation, flocculation and sedimentation, as well as a majority of the filter capacity of the plant. The filter media and underdrains in Plant No. 2 have a capacity of 11.2 mgd. The plant has a total capacity of 14.7 mgd based on rated filter capacity.

The ozone facilities at the treatment plant were placed into service in 1991. The ozone process is used to provide preconditioning for water coming into the plant and disinfection and taste and odor control for the treated water.

If the treatment plant cannot produce water due to an emergency, treated water can be diverted to the City distribution system from the CCWD distribution system through two interties. One intertie is located at the City water treatment plant and the other is located in the distribution system at Elderwood Drive and Alhambra Avenue. The intertie use is described in greater detail in Section 6.

## **2.6.3 PUMPING STATIONS**

The City currently has six primary pump stations supplying water to four distribution system pressure zones. Each pressure zone provides water pressure based on the overflow elevations of the storage reservoirs in the zone, and water service pressures generally range from 40 psi to 110 psi. Zone 1 serves the lowest elevations in the City and Zone 4 serves the highest elevations. Four small hydropneumatic systems serve areas higher than the adjacent pressure zone.

## **2.6.4 RESERVOIRS**

The City currently operates eleven ground level treated water storage reservoirs, which have a total capacity of 9.57 mg. The clearwell storage at the water treatment plant provides an additional 0.75 mg. The reservoirs are located in each of the four pressure zones in the service area to serve the different elevations within the City. There are three reservoirs each in the two lowest and largest pressure zones, Zones 1 and 2. Two smaller reservoirs each in Zones 3 and 4 provide service for those areas. The Zone 2A has one reservoir.

Storage is primarily used for (1) meeting diurnal fluctuations in demand, (2) providing water to meet fire demands, and (3) providing water during emergencies such as pump failure. The water level in each storage tank will rise and fall a few feet during the course of each day as demand for water changes. The daily variation during maximum day demands is about 5 to 10 percent of the total

storage volume. The storage can also serve overnight demands during low demand periods, allowing the treatment plant to be shut down for maintenance. The storage also provides surge relief.

### **2.6.5 PIPELINES AND VALVES**

The City distribution system contains about 100 miles of pipeline ranging from 2 inch diameter to 18 inch diameter. Approximately 12.5 miles of pipeline are 14 to 18-inch diameter transmission mains. Most of the distribution system within the service area is adequately served by the transmission mains which provide service to the distribution network loops.

Zone valves are provided in system pipelines to separate the high and low pressure zones. In some areas, dual zone valves are provided to prevent accidental over pressurizing of the lower pressure system when a zone valve is mistakenly opened. However, most zone valves are a single valve within a pipeline.

# **SECTION THREE**

## **CURRENT AND PLANNED WATER SUPPLIES AND RELIABILITY**

## SECTION THREE

# CURRENT AND PLANNED WATER SUPPLIES AND RELIABILITY

### 3.1 CURRENT AND PLANNED WATER SUPPLY

The City of Martinez purchases untreated water from CCWD. The City water supply comes from the Contra Costa Canal which terminates in the Terminal Reservoir near the City water treatment plant. The water is sold to Martinez based on rate structure per unit of water delivered. The City has received all of its raw water supply from CCWD since 1949, and has no other water supply providers and no other developed water sources.

The Fiscal Year 2005 water supply and future supply projections through 2030 are listed in Table 3-1 and shown on Figure 3-1. The future supply projections were based on no water reductions from CCWD due to future drought conditions. The supply volumes listed in the table were calculated by extrapolation of existing demands based on population projections listed in Section 2. An estimated annual demand of 5,676 acre-feet was assumed for 2005, which is slightly larger than the fiscal year total of 5,105 acre-feet. Since a contract does not exist between CCWD and the City of Martinez for a fixed delivery amount, water supply has been set equal to projected demand. During the drought years in 1977 and 1991, a supply limit was established based on a percentage of the demand from the previous year.

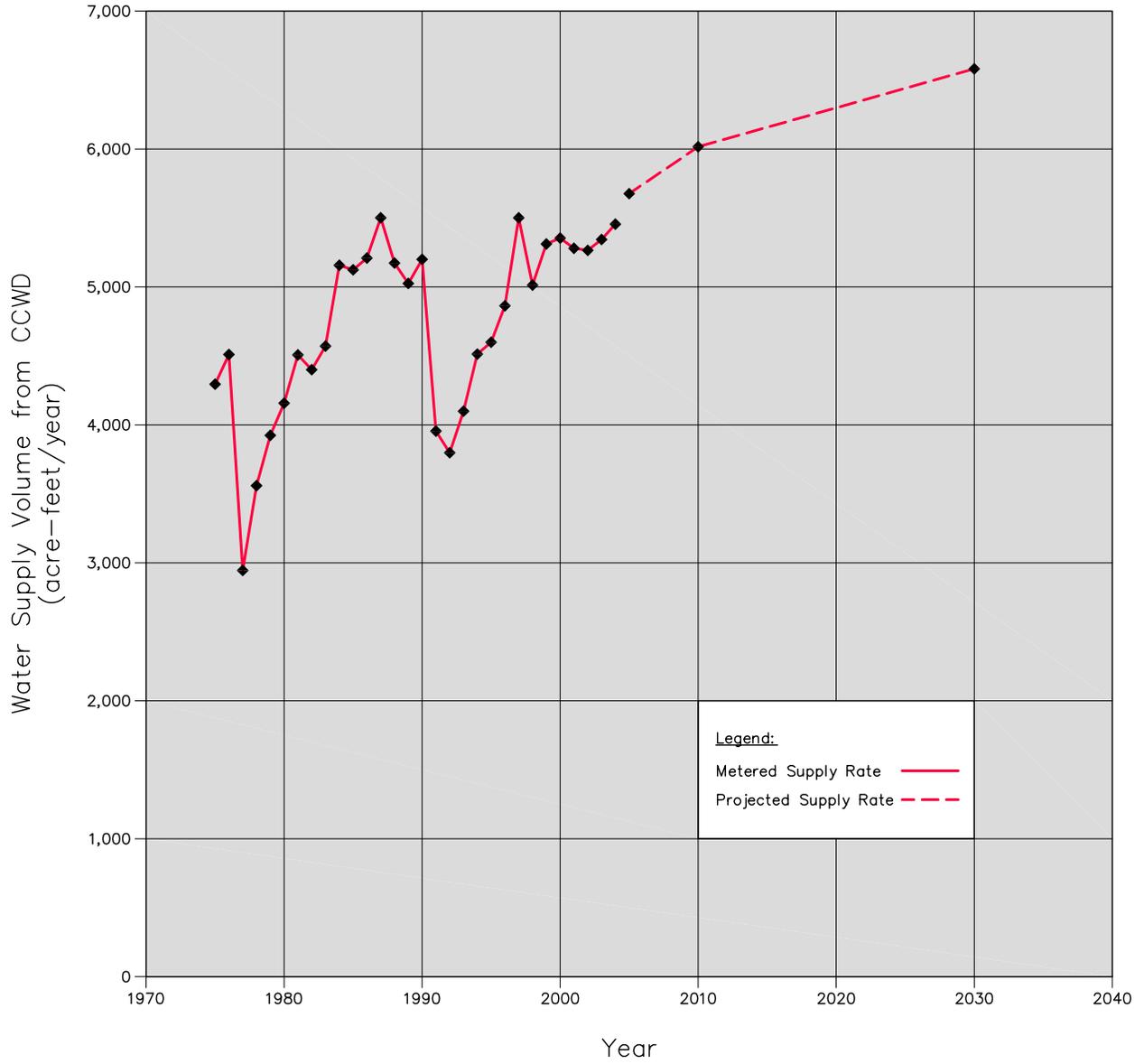
**TABLE 3-1 CURRENT AND PLANNED WATER SUPPLIES**

Water Supply Sources	Water Supply Volume (acre-feet per year)					
	2005 <sup>1</sup>	2010	2015	2020	2025	2030
Wholesale Purchase from Contra Costa Water District	5,105	6,016	6,152	6,292	6,435	6,581
City Groundwater Production	0	0	0	0	0	0
City Surface Water Diversions	0	0	0	0	0	0
Transfers In or Out	0	0	0	0	0	0
Exchanges In or Out	0	0	0	0	0	0
Recycled Water Use	0	0	0	0	0	0
Desalination	0	0	0	0	0	0
<b>Total</b>	5,105	6,016	6,152	6,292	6,435	6,581

1. Fiscal year total

In Fiscal Year 2005, 5,105 acre-feet was delivered to the City of Martinez through the CCWD raw water meter at the Martinez Reservoir. This is equivalent to 1,664 million gallons per year or 4.56 million gallons per day (mgd).

The City has no groundwater production facilities for water supply. There are no major groundwater basins underlying the City. The nearest groundwater basin is the Ygnacio Valley groundwater basin (Basin 2-6) on the east side of Interstate 680. The City has no surface water diversion facilities for water supply. There is no transfer or exchange of untreated water into or out of the water service area. The City has an agreement with CCWD to provide treated water to the Port Costa community west of Martinez in exchange for treated water delivered from the CCWD treated water service area into the City water service area. The delivery of CCWD treated water to the City is



metered at the emergency intertie locations between the two systems. The emergency intertie use is described in greater detail in Section 6.

A portion of the wastewater generated in the City water service area is recycled for reuse and environmental restoration. Recycled water may offset some of the treated water demand in the future, although the implementation date is uncertain. Although three landscape irrigation locations have been identified in the City, the scheduling of the design and the construction of facilities is not currently within the 10-year planning window for the Central Contra Costa Sanitary District (CCCSD) recycled water program. Recycled water use is described in greater detail in Section 7.

The City is adjacent to the Carquinez Strait which is a brackish water source with potential for desalination. The City has no plans to develop desalination facilities for water supply.

### **3.2 WATER SUPPLY RELIABILITY**

During periods of drought, CCWD has reduced water supply to the City by a percentage of the amount of water used in the previous year. This reduction occurred during droughts in 1977 and 1991. The changes in water supply and the recovery of water demands following the drought are shown on Figure 3-1. The resulting water use reduction from the previous year was about 34 percent in 1977, and 24 percent in 1991. Water use was slightly lower in 1992 compared with 1991 as many City residents continued to conserve water.

In 1977 CCWD reduced their water allocation to the City by 30 percent. The water supply for 1977 was limited to 70 percent of the measured water demand for 1976. This was the first time a reduction in the City's water supply was imposed by CCWD. A City resolution was passed in 1977 which established mandatory water rationing and prohibited water waste. A 34 percent water use reduction was achieved by implementing these measures.

On March 6, 1991, the CCWD Board of Directors again passed a resolution to implement an emergency water use reduction plan in response to drought reductions in water supply to the District. The resolution included a reduction goal of approximately 25 percent in raw water supply for the calendar year of 1991 to the Martinez water system. This reduction was based on a 50 percent reduction in the USBR contract entitlement for CCWD, which resulted in approximately 25 percent reduction from the prior year deliveries.

Because of CCWD's water supply reduction, the Martinez City Council adopted Resolution No. 47-91 on April 3, 1991. This resolution established mandatory water use reductions commencing on May 1, 1991, varying by customer classification, for all customers of the Martinez water system.

On June 26, 1991, CCWD amended the Emergency Water Reduction Plan. The revised program provided for a voluntary 15 percent water reduction by all of the District's raw water customers. This change in allocation was made possible by the reduction in use by CCWD water users, CCWD's securing of State of California Water Bank water, reductions in use by Gaylord Paper in Antioch, and by a more favorable revised reduction in water supply allotment imposed on CCWD by the USBR. On July 17, 1991, the City of Martinez changed from a mandatory water rationing program to a voluntary water conservation program.

During the period from May to July of 1991 when a mandatory reduction of 25 percent in water use was imposed, the City of Martinez reduced water use by 30 percent. The water reduction achieved

during the entire 1991 calendar year was 24 percent of the water use in 1990. Appendix B contains information regarding water rationing during the drought conditions in 1977 and 1991.

CCWD provides the entire City raw water supply. CCWD routinely conducts Future Water Supply Studies (FWSS) which address long term supply issues. The City is working in conjunction with CCWD to ensure sufficient and reliable future water supplies by identifying future water reduction and supply augmentation components. CCWD is committed to developing water sources which meet the demands of their retail and wholesale customer's future needs.

The water reliability goal adopted by the CCWD Board of Directors is to meet at least 85 percent of demand in a second or third dry year and 100 percent of demand in other years. CCWD is planning on meeting supply deficits during single and multi-year droughts with water purchases and short-term demand management. The purchase of water would be consistent with their Future Water Supply Implementation Program. Short-term demand management needs include a 5 percent water use reduction in Year 2 of a multi-year drought, and 15 percent water use reduction in Year 3 of a multi-year drought. The supply reliability for the City water service area is listed in Table 3-2

**TABLE 3-2 CCWD WATER SUPPLY RELIABILITY**

Water Supply Conditions	Average Water Year	Single Dry Water Year	Multiple Dry Water Years		
			Year 1	Year 2	Year 3
Expected Water Delivery	100 percent	100 percent	100 percent	95 percent	85 percent

The City of Martinez experienced water supply shortages in 1977 and 1991. In response to each shortage, the City was successful in achieving water reduction beyond the necessary limits in each year. In addition, both reductions from the previous year water use were about 25 percent, which is greater than the required maximum 15 percent demand management reductions identified by the CCWD. As the community continues to implement best management practices (BMPs) and becomes more water efficient, it will become increasingly difficult to reduce water consumption during water shortages. This is known as "Demand Hardening". CCWD incorporates the impacts of demand hardening on its water supply planning and will attempt to avoid imposing reductions on its wholesale customers that would result in economic losses or other undue hardships.

# **SECTION FOUR**

## **CURRENT AND PROJECTED WATER DEMAND**

## SECTION FOUR

# CURRENT AND PROJECTED WATER DEMAND

### 4.1 INTRODUCTION

This section includes a summary of historical water supply, production and future demands by customer class for the City of Martinez. The information includes results from records of metered water supply, treatment plant production and individual water meter service within the City. These records, along with previous Urban Water Management Plans, were used to:

- ◆ Determine current water use by customer classification
- ◆ Estimate unaccounted for water and other losses in the water system
- ◆ Estimate the amount of water used in water production at the treatment plant (municipal use)
- ◆ Project future water use by customer classification

### 4.2 CURRENT WATER DEMAND

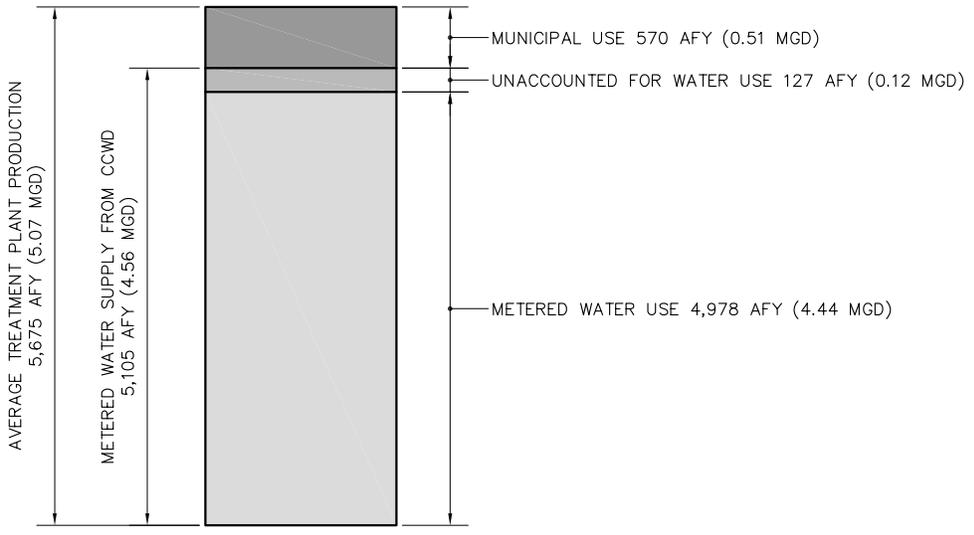
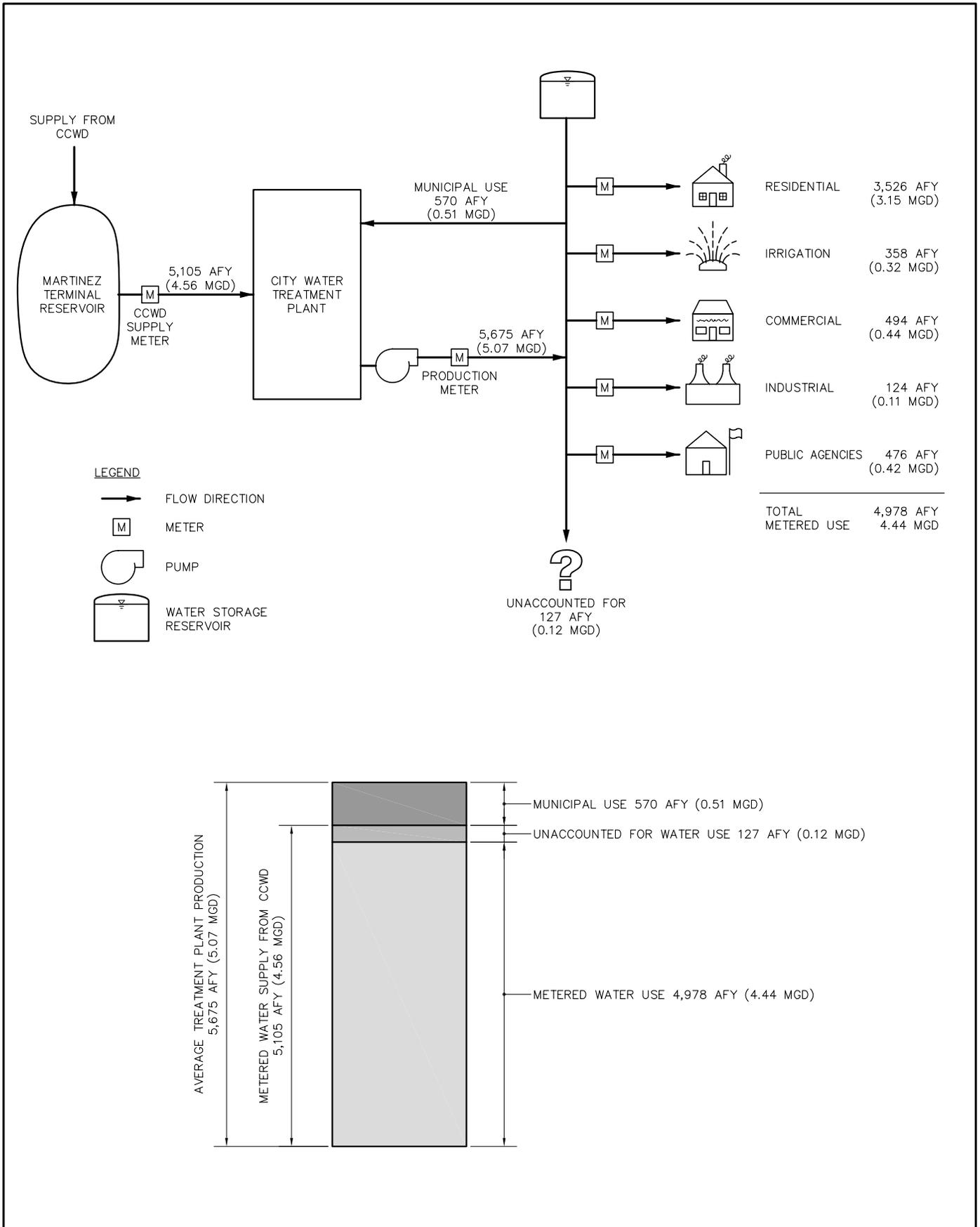
The average annual City water supply rate in Fiscal Year 2005 was 5,105 AFY (4.56 mgd), which is slightly lower than the 2005 annual projection of 5,676 AFY (5.07 mgd). The City water treatment plant Fiscal Year 2005 average day production of 5,675 AFY (5.07 mgd) was about ten percent higher than the supply rate. The annual metered water rate provided to City customers was 4,978 AFY (4.44 mgd) in Fiscal Year 2005. Approximately 2.5 percent of the FY2005 water supply was not delivered to City metered customers and was considered unaccounted for water.

Metered water use included treated water deliveries to the distribution system that were measured at the customer location on a bi-monthly basis. These uses were regularly measured by City-owned water meters at the water service connection to the City system. Metered water use records are maintained by City staff for billing purposes. Metered water use was divided into six customer classifications for the UWMP, including:

- ◆ Single Family Residential
- ◆ Multi-family Residential
- ◆ Commercial
- ◆ Industrial
- ◆ Institutional and Government
- ◆ Landscape Irrigation

Fiscal Year 2005 water use for each customer classification was determined from consumption records by class and meter size provided by the City. The billing and meter classifications used by the City are listed in Appendix C. The total water use from the meter consumption records was 4,947 AFY (4.42 mgd), slightly lower than the annual meter totals calculated from monthly records. All customer classifications were increased by a constant multiplier to match the annual water use of 4,978 AFY (4.44 mgd). The water use for each classification is shown on Figure 4-1.

There are no agricultural users or unmetered water service connections to customers within the City water service area. Some unmetered water use does occur at the treatment plant as treated water is diverted from the distribution system to meet treatment plant operational needs. Since these uses are



generally non-consumptive, they do not increase the water supply needs for the City. However, the plant water uses do cause increases in the plant production rate above the water supply rate. Any incidental water use by the plant would be included in unaccounted for water losses.

The average metered water demand percentages for water use classification included a large residential use classification which made up about 70.9 percent of the total annual water consumption in FY 2005. Other demand classifications included commercial use of 9.9 percent, public agency use of 9.6 percent, irrigation use of 7.2 percent and an industrial use of 2.5 percent. In FY 2005, about 2.5 percent of the City water supply was unaccounted for water. Single and multi-family residential water use measurements are combined on Figure 4-1.

Metered water use does not include unaccounted for water or water used at the treatment plant (municipal use). The 127 AFY (0.12 mgd) of unaccounted for water in FY2005 was determined by the difference between the water supplied from CCWD and the metered water use. The municipal use is defined as the additional water produced to maintain the water treatment processes, including backwash water for filters and water for other plant operations. This additional water was treated to meet metered demand and unaccounted for water use, but was not included in the daily supply delivery. The municipal use water was produced and pumped through the plant production meter into the system, then was diverted back into the plant through unmetered and metered connections from the system. The metered process water use at the City of Martinez Water Treatment Plant was not included in the 4,978 AFY (4.44 mgd) distribution system metered use totals.

### **4.3 PROJECTED WATER DEMANDS AND SERVICE CONNECTIONS**

Historical and projected demands by customer sector are provided in this section. Table 4-1 includes historical water use by customer sector from FY 2000 UWMP for comparison with metered water use during FY 2005 and projections through 2030.

Projected water use for each customer sector was based on historic averages of water use. The percentage of total water use for each of the classifications has remained relatively consistent since 1990. Therefore, the customer classification percentage for projected total water use was based on an average of past percentages. The projected water use for each customer sector listed in Table 4-1 was based on the average amounts of water used by each sector between 1990 and 2003 listed in Table 4-2.

The unaccounted for water use projection was assumed to be 6.25 percent of the water supply based on an approximate average of values calculated from comparisons of metered supply records for FY 2000 and for 2003 developed in the City Water Master Plan. Although this value is higher than the 2.5 percent water loss estimated for Fiscal Year 2005, continued monitoring of unaccounted for water amounts will be used to determine whether meter replacements are necessary. This projected value may be reduced in the future as the City replaces customer water meters and conducts audits for leak detection.

**TABLE 4-1 HISTORIC AND PROJECTED METERED WATER USE**

Customer Sector	Total Water Use (Acre-feet/year)						
	2000 <sup>1</sup>	2005 <sup>1</sup>	2010	2015	2020	2025	2030
Single Family	2,983	2,956	3,248	3,322	3,398	3,475	3,554
Multi-Family <sup>2</sup>	598	571	637	652	667	682	697
Commercial	436	494	519	531	543	555	568
Industrial	175	124	338	346	354	362	370
Institutional and Government	396	476	468	479	490	501	512
Landscape	350	358	429	438	448	458	469
Agricultural	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Unaccounted Losses <sup>3</sup>	488	127	376	385	393	402	411
<b>Total Demand<sup>4</sup></b>	<b>5,426</b>	<b>5,105</b>	<b>6,016</b>	<b>6,152</b>	<b>6,292</b>	<b>6,435</b>	<b>6,581</b>

<sup>1</sup> Measured water use for Fiscal Year 2000 and 2005

<sup>2</sup> Multi-family units are classified as complexes in which one meter serves more than one unit. If a building contains more than one unit (i.e. attached) and each unit contains its own water meter, then each unit has been classified as a single family residence.

<sup>3</sup> Unaccounted losses for FY2005 are the difference between meter customer sector totals and CCWD deliveries.

<sup>4</sup> The non-consumptive water use at the treatment plant is not metered and is not included in this summary table. Water treatment plant production rates are higher than tabulated total demand values to meet water production needs at the plant.

**TABLE 4-2 METERED WATER USE-PERCENTAGE BY CUSTOMER SECTOR**

Customer Sector	Percentage of Total Metered Use		
	1990-2003 Average <sup>1</sup>	FY 2005	Projection Values
Single Family	57.6	59.4	57.6
Multi-Family	11.3	11.5	11.4
Commercial	9.2	9.9	9.2
Industrial	6.0	2.5	6.0
Institutional and Government	8.3	9.6	8.2
Landscape	7.6	7.2	7.6
Agricultural	0.0	0.0	0.0
Other	0.0	0.0	0.0
Total	100.0	100.0	100.0

<sup>1</sup> Average of 1990, 1995, 2000, 2002 and 2003 metered values

The number of City service area water connections in FY 2000 and FY 2005, as well as projections through 2030 is listed in Table 4-3. In October 2005, the City's water accounts totaled 9,972. This is an increase of 264 accounts since 2000 and represents a growth rate of about 0.54 percent per year. Some adjustments in meter connection totals are due to reclassification of meters into different classes. All hydrant meter usage was included in the industrial meter totals. Also, all irrigation meters serving institutional and government connections were included with landscape meter totals.

**TABLE 4-3 HISTORIC AND PROJECTED WATER SERVICE CONNECTIONS**

Customer Sector	Service Connections						
	2000 <sup>1</sup>	2005 <sup>1</sup>	2010	2015	2020	2025	2030
Single Family	8,485	8,638	9,155	9,363	9,576	9,793	10,015
Multi-Family <sup>2</sup>	465	466	494	505	517	528	540
Commercial	355	378	401	410	419	429	438
Industrial	22	164	174	178	182	186	190
Institutional and Government	239	164	174	178	182	186	190
Landscape	142	162	172	176	180	184	188
Agricultural	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
<b>Total Connections</b>	<b>9,708</b>	<b>9,972</b>	<b>10,569</b>	<b>10,809</b>	<b>11,055</b>	<b>11,306</b>	<b>11,562</b>

<sup>1</sup> Year 2000 totals from 2000 UWMP. Year 2005 totals for October 2005.

<sup>2</sup> Multi-family units are classified as complexes in which one meter serves more than one unit. If a building contains more than one unit (i.e. attached) and each unit contains its own water meter, then each unit has been classified as a single family residence.

The percentages of water use in each sector have remained relatively constant through the changes in water demand since 1990. The number of additional service connections for each metered use is considered to be relatively independent of the total demands, and assumed to increase at the same rate as the population. All currently planned development projects within the City water service area do not exceed the population projections. Since actual development schedules continue to vary from initial estimates, the service connections estimates to not reflect the scheduling of individual development projects.

# **SECTION FIVE**

## **WATER CONSERVATION PROGRAMS**

## SECTION FIVE

# WATER CONSERVATION PROGRAMS

The City of Martinez is wholesale raw water customer of CCWD; it receives water supply through the Contra Costa Canal. CCWD is an urban water supplier that is a member of the California Urban Water Conservation Council (CUWCC) and submits annual reports to that council in accordance with the “Memorandum of Understanding Regarding Urban Water Conservation in California,” dated September 1991. In October 1993, the CCWD board voted to implement Best Management Practices (BMPs) throughout their entire service area, including retail customers within their wholesale water area. CCWD's wholesale customers include Diablo Water District (DWD), Antioch, Pittsburg, Martinez, and Southern California Water Company serving Bay Point. These CCWD raw water customers work in conjunction with the District to implement and coordinate the BMP programs.

Prior to 1993, the City of Martinez program consisted of single family surveys and low flow showerhead distribution. These continued to be implemented by CCWD after their program of BMPs was implemented throughout their service area. In 1994, the Ultra Low Flow Toilet (ULFT) replacement program was instituted. The CCWD Program now includes surveys for all customer classes and incentive programs for numerous water saving devices. Both the surveys and the replacement programs have changed to increase the effectiveness of the program and the sustainability of water savings. The CCWD Water Conservation Program is comprised of several key elements, each of which targets a specific customer base and satisfies the requirements of specific BMPs.

The City of Martinez is not a member of the CUWCC and does not submit a Retail Water Agency Annual Report to the CUWCC. A summary of all current Best Management Practices (BMPs) being implemented within the City water service area by either the City or CCWD is provided in the CUWCC reporting format in Appendix D. Further descriptions are provided in the following sections, with the City's current program described for each BMP.

### **BMP 1 - WATER SURVEY PROGRAMS FOR SINGLE FAMILY AND MULTI-FAMILY RESIDENTIAL CUSTOMERS.**

#### *Definition*

*Implementation methods shall be at least as effective as identifying the top 20 percent of water users in each sector, directly contacting them (e.g., by mail and/or telephone) and offering the service on a repeating cycle; providing incentives sufficient to achieve customer implementation (e.g., free shower heads, hose and sprinkler timers, etc.). (Water Code Section 10631(f), 1-A)*

#### **Program**

This BMP is implemented by CCWD within its entire service area. This service area includes not only CCWD's retail customers, but also customers within the service areas of CCWD's wholesale municipal customers. This program was implemented by the City of Martinez prior to October 1993. Since that time, a number of water audits have been completed by CCWD. The City of Martinez water superintendent provides water metering information to the CCWD water conservation coordinator as necessary for implementation of the water survey program.

CCWD's residential survey program is promoted through the distribution of brochures and bill

inserts listings in the City newsletter, and by direct referral from customer service. A trained surveyor spends approximately one to two hours at the customer's home. The surveyor checks for leaks in toilets and faucets, measures the shower flow and installs a low-flow showerhead if necessary, and hands out faucet aerators if needed. A lawn audit is performed if the customer has landscaping. Precipitation tests are conducted on individual sprinkler stations, and a site-specific monthly irrigation schedule is prepared. The irrigation system is analyzed for leaks, etc. In addition, the surveyor spends time with the customer explaining how to program their irrigation timer. After participating in the program, customers are sent four post cards per year to remind them to adjust their watering schedules and to check their irrigation systems.

The CCWD Multi-Family Residential Survey Program targets apartment complexes and other multi-family customers. The program is marketed to the highest water-using customers and is implemented in conjunction with the MF ULFT Replacement Program. During the survey, plumbing fixtures are flow tested and high-efficiency fixtures are installed or provided to replace high-volume fixtures, such as showerheads, faucet aerators and toilet flappers. A report is provided to the customer that lists the number and location of leaks found, an inventory of toilets by flush volume, and a list of showerheads, aerators or flappers installed. The customer is also provided information about other CCWD programs, such as the ULFT Distribution Program, Large Landscape Survey Program and Commercial Clothes Washer Program.

## **BMP 2 - RESIDENTIAL PLUMBING RETROFIT**

### *Definition*

#### *2c. PLUMBING RETROFIT*

*Implementation methods shall be at least as effective as delivering retrofit kits including high quality low-flow shower heads to pre-1980 homes that do not have them and toilet displacement devices or other devices to reduce flush volume for each home that does not already have ULF toilets, offering to install the devices; and following up at least three times. (Water Code Section 10631(f), 1-B)*

### **Program**

The City of Martinez, along with CCWD emphasizes ultra-low flush toilet replacement programs and water use surveys. The City is working with CCWD to implement this BMP. Both the City and CCWD provide free low-flow shower heads, faucet aerators, toilet tank displacement devices and dye tablets at their facilities. CCWD has taken an active role in the Martinez service area since October 1993, and has distributed over 1,500 kits through the Martinez farmer's markets, the survey program and customer pickup.

## **BMP 3 - SYSTEM WATER AUDITS, LEAK DETECTION AND REPAIR**

### *Definition*

*Implementation methods shall be at least as effective as at least once every three years completing a water audit of the water supplier's distribution system using methodology such as that described in the American Water Works Association's "Manual of Water Supply Practices, Water Audits and Leak Detection," advising customers whenever it appears possible that leaks exist on the customer's side of the meter, and performing distribution system leak detection and repair whenever the audit reveals that it would be cost effective. (Water Code Section 10631(f), 1-C)*

## Program

The methodology presented in the American Water Works Association's "Manual of Water Supply Practices, Water Audits and Leak Detection" (AWWA M36) is desirable in reducing water lost to leaks. Many of the recommendations noted in the manual are currently implemented into the City's regular operations and maintenance procedures. For example, the City has recently conducted a pre-screening system audit to determine the need for a full-scale system audit. The pre-screening audit consisted of determining metered sales, other system verifiable uses, and the total supply in the system. The metered sales plus verifiable uses were subtracted from the total supply into the system to arrive with an estimated loss of water due to leaks. During fiscal year 2005, the quantity of water loss within the City's treated water distribution system was 2.5% over the approximately 100 miles of distribution system piping, which is well within industry standards for a well-operated system. Therefore, a full-scale system audit is not necessary at this time. However, since CCWD is the signatory of the MOU, and is the water supplier for the City of Martinez, they are required to complete a system water audit for the Treated Water Service Area once every three years. Therefore, the City of Martinez is planning to contact CCWD to discuss issues regarding expansion of its leak detection and repair activities so that more customer and city-side leaks could be located and repaired.

## **BMP 4 - METERING WITH COMMODITY RATES FOR ALL NEW CONNECTIONS AND RETROFIT OF EXISTING CONNECTIONS.**

### *Definition*

*Implementation methods shall be requiring meters for all new connections and billing by volume of use; and establishing a program for retrofitting any existing unmetered connections and billing by volume of use; for example, through a requirement that all connections be retrofitted at or within six months of resale of the property or retrofitted by neighborhood. (Water Code Section 10631(f), 1-D)*

## Program

All service connections within the Martinez service area are provided with water meters. There are no unmetered water service connections within the City. The City's meters are classified into one of nine sectors, which were reduced to six customer sectors for the UWMP. The nine sectors include single family, multi-family, commercial, industrial, fire service, public City facilities, public facilities other than City facilities, City irrigation and irrigation other than City uses. The meter and consumption classifications are included in Appendix C. The City of Martinez bills each customer based on the volume of water used. Billing is based on a uniform rate structure. Further details on the rate structure are listed under BMP 11.

## **BMP 5 - LARGE LANDSCAPE CONSERVATION PROGRAMS AND INCENTIVES**

### *Definition*

*Implementation methods shall be at least as effective as identifying all irrigators of large (at least 3 acres) landscapes (e.g., golf courses, green belts, common areas, multi-family housing landscapes, schools, business parks, cemeteries, parks and publicly owned landscapes on or adjacent to road rights-of-way); contacting them directly (by mail and/or telephone); offering landscape audits using methodology such as that described in the Landscape Water Management Handbook prepared for the California Department of Water Resources; and cost-effective incentives sufficient to achieve customer implementation; providing follow-up audits at least once every five years; and providing multi-lingual training and information necessary for implementation. In*

*addition, enacting and implementing landscape water conservation ordinances, or if the supplier does not have the authority to enact ordinances, cooperating with cities, counties and the green industry in the service area to develop and implement landscape water conservation ordinances pursuant to the 'Water Conservation in Landscaping Act' (Government Code 65591 et. seq.). (Water Code Section 10631(f), 1-E)*

## **Program**

This BMP is implemented by CCWD on a system-wide basis. The Large Landscape Survey Program is marketed to commercial, institutional, or multi-family customers with the highest landscape water use. These customers are contacted within the City of Martinez through direct mail pieces and phone calls. Since the program's beginning, it has developed an excellent reputation for the assistance it provides and has resulted in a number of completed water audits within the City's service area.

CCWD's surveys include an inspection of the irrigation system, the plant material, and irrigation schedules. A report is then submitted to the property owner or manager, listing improvements that can be made to the irrigation equipment, and/or to the maintenance of the site. Sites with inefficient irrigation timers or other inefficient irrigation devices are encouraged to participate in the irrigation upgrade program, which offers rebates on select irrigation equipment. After participating in the program, customers are sent four (4) post cards each year to remind them to adjust their watering schedules and to check their irrigation systems.

The CCWD Landscape Water Budget Program is directed at those commercial and multi-family sites with dedicated irrigation water accounts. Water Budgets are prepared using real-time local evapotranspiration (ET<sub>o</sub>) data and actual landscape area measurements obtained through an aerial photo. The data is integrated into a detailed water budget equation, which integrates monthly landscape coefficients, irrigation efficiency, and real-time ET<sub>o</sub>. Water Budget site reports are prepared comparing the water budget to actual water use. The program provides participating customers with water budget site reports tailored specifically to their properties. These reports enable the customer to adjust their water use to reflect seasonal weather changes and, therefore, control the costs of their water bills.

The City of Martinez adopted a Model Landscape Ordinance on January 11, 1993. A copy of Ordinance 1195 C.S. is included in Appendix E. These regulations are incorporated into the City's Building and Planning Department plan reviews and permitting processes. The City works with nurseries, landscape designers, contractors and new homeowners, to provide water efficient landscapes. The City of Martinez has distributed various publications to its water customers regarding landscape practices. These publications include:

- ◆ "Put your Garden on a Water Diet and Watch It Grow," California Association of Nurserymen.
- ◆ "Landscape Water Control Guide"
- ◆ "Drought Survival Guide for Home and Garden." Sunset Magazine reprint.

## **BMP 6 - HIGH EFFICIENCY WASHING MACHINE REBATE PROGRAMS**

### *Definition*

*Implementation methods shall be enacted to provide incentives for replacement of older less efficient washing machines with newer, high-efficiency models. (Water Code Section 10631(f), 1-F)*

## Program

CCWD, in coordination with six other water agencies, implemented a Bay Area Regional Clothes Washer Rebate Program. The CCWD program has offered rebates from \$50 to \$100 to residential customers who purchase clothes washers with a minimum water use efficiency, or water factor. The program is marketed primarily through the retail appliance stores. In addition, CCWD markets the program through the CCWD bill insert, the Single Family Survey Program, and through newspaper advertisements.

## BMP 7 - PUBLIC INFORMATION PROGRAMS

### Definition

*Implementation methods shall be at least as effective as ongoing programs promoting water conservation and conservation related benefits including providing speakers to community groups and the media; using paid and public service advertising; using bill inserts; providing information on customer's bills showing use in gallons per day for the last billing period compared to the same period the year before; providing public information to promote other water conservation practices; and coordinating with other governmental agencies, industry groups and public interest groups. (Water Code Section 10631(f), 1-G)*

### Program

The City of Martinez promotes water conservation through public information. The City provides public information through water bill inserts or messages, City newsletter articles, brochures and demonstration gardens. The previous year water usage was formerly included on each bill for water use comparison by the customers. With the change to a new municipal billing system implemented by the City, the previous year water usage is no longer included on the monthly billing.

CCWD also provides supporting services to the City of Martinez's public information program on a service area-wide basis. CCWD provides Martinez water system customers with the following:

- ◆ Brochures for each conservation program
- ◆ Information booths: Farmer's markets, Earth Day, Annual Spring and Fall Home and Garden shows
- ◆ Sunset re-prints and brochures
- ◆ Speakers bureau
- ◆ Internet conservation page
- ◆ Demonstration gardens
- ◆ ON TAP newsletters
- ◆ Peaking Plan newspaper ads and fliers
- ◆ "Just Add Water" education teacher brochure
- ◆ Conservation post cards
- ◆ School newsletters

## **BMP 8 - SCHOOL EDUCATION PROGRAMS**

### *Definition*

*Implementation methods shall be at least as effective as ongoing programs promoting water conservation and conservation related benefits including working with the school districts in the water supplier's service area to provide educational materials and instructional assistance. (Water Code Section 10631(f), 1-H)*

### **Program**

The school education program reaches students in private and public schools with information on water issues and conservation. CCWD provides school education programs within the Martinez water service area. Grades targeted include first through twelfth while reaching approximately 28,000 students and teachers per year. CCWD provides assemblies, books, maps, charts, posters, professional plays, science fairs, teacher grants, teacher training, tours, videos, water awareness month activities and student newsletters. The City of Martinez also provides students with tours of their Water Treatment Plant.

## **BMP 9 - CONSERVATION PROGRAMS FOR COMMERCIAL, INDUSTRIAL, AND INSTITUTIONAL (CII) ACCOUNTS**

### *Definition*

*Implementation methods shall be at least as effective as identifying and contacting the top 10 percent of the industrial and commercial customers directly (by mail and/or telephone); offering audits and incentives sufficient to achieve customer implementation; and providing follow-up audits at least once every five years if necessary. (Water Code Section 10631(f), 1-I)*

### **Program**

BMP 9 is implemented by CCWD on a service area-wide basis, and includes both wholesale and retail customers. The Commercial survey program focuses on toilets, showers, kitchens, cooling systems, icemakers and other interior water uses, as well as exterior portions, which was discussed in BMP 5. The program markets the top 20% of the District's Commercial, Industrial and Institutional customers through direct mail pieces and phone calls. Rebates are offered as an incentive to upgrade to more efficient equipment.

## **BMP 9A - CII ULFT WATER SAVINGS**

### **Program**

The program targets various commercial and institutional customers either through direct mail, bill inserts, or through the CII Survey Program. Customers are offered a rebate of 100% of the material cost up to \$150 per ULFT. In addition, the District negotiated with local plumbing wholesalers to offer select high quality toilets at wholesale prices to any participant. This assures that toilets installed will have long-term savings and customer satisfaction.

## **BMP 10 - WHOLESALE AGENCY PROGRAMS**

### *Definition*

*Implementation shall consist of at least the following actions: Wholesale Water Agency shall provide conservation-related technical support and information; financial incentives, or equivalent resources; and,*

*when mutually agreeable and beneficial, operate all or any part of the conservation-related activities which a given retail supplier is obligated to implement under the BMP's cost-effectiveness test. (Water Code Section 10631(f), 1-J)*

## **Program**

The City of Martinez is not a wholesale water agency and therefore does not implement this BMP.

## **BMP 11 - CONSERVATION PRICING**

### *Definition*

*Implementation methods shall be at least as effective as eliminating nonconserving pricing and adopting conserving pricing. For signatories supplying both water and sewer, this BMP applies to pricing of both water and sewer service. Signatories that supply water but not sewer service shall make a good faith effort to work with sewer agencies so that those sewer agencies adopt conservation pricing for sewer service. (Water Code Section 10631(f), 1-K)*

## **Program**

The City of Martinez has a uniform rate structure for water service within its service area. Residential customers who qualify receive a lifeline allotment. A copy of the rate structure used during 2004-2005 is attached in Appendix F. The uniform rate structure does not encourage high water use. Most of the customers of the Martinez water system receive sewer service from either Central Contra Costa Sanitary District (CCCSD) or Mountain View Sanitary District. A small portion of customers outside the western City limit are served by septic systems. Both sanitary districts impose fixed rates for sewer service on single family and multi-family residential customers. Sewer rates for commercial, industrial and public customers are based on water usage and are billed at a uniform rate. Sewer service fees based on water usage would promote water conservation.

## **BMP 12 - CONSERVATION COORDINATOR**

### *Definition*

*Implementation methods shall be at least as effective as designating a water conservation coordinator responsible for preparing the conservation plan, managing its implementation, and evaluating the results. For very small water suppliers, this might be a part-time responsibility. For larger suppliers this would be a full-time responsibility with additional staff as appropriate. This work should be coordinated with the supplier's operations and planning staff. (Water Code Section 10631(f), 1-L)*

## **Program**

The City of Martinez has designated the Water Superintendent responsible for the position of Water Conservation Coordinator. Since many of the BMP are implemented by CCWD, the City's Water Conservation Coordinator does not spend a large amount of time dedicated to water conservation programs. The City continues to be involved in water conservation programs implemented by CCWD.

## **BMP 13 - WATER WASTE PROHIBITION**

### *Definition*

*Implementation methods shall be enacting and enforcing measures prohibiting gutter flooding, sales of*

*automatic (self regenerating) water softeners, single pass cooling systems in new connections, non-recirculating systems in all new conveyer car wash and commercial laundry systems and non-cycling decorative water fountains. (Water Code Section 10631(f), 1-M)*

## **Program**

The City of Martinez has an ordinance for water waste which is adopted during water shortages. This ordinance prohibits gutter flooding, non-recirculating fountains, hosing of hand surfaces, non-commercial washing of motor vehicles, boats and trailers, filling of swimming pools, and use of water from a water hydrant. This ordinance is provided in Appendix G.

## **BMP 14 - RESIDENTIAL ULTRA LOW FLUSH TOILET REPLACEMENT**

### *Definition*

*An Implementation program for replacement of existing high-water-using toilets with ultra-low-flush toilets (1.6 gallons or less) in residential, commercial and industrial buildings shall be enacted. Such programs would be at least as effective as offering rebates of up to \$100 for each replacement that would not have occurred without the rebate, or requiring the replacement at time of resale, or requiring the replacement at the time of change of service. (Water Code Section 10631(f), 1-N)*

## **Program**

CCWD offers both single family and multi-family residential customers with free Ultra Low Flow toilets (ULFTs). The program is marketed directly to customers with homes built prior to 1992 and through the survey programs. Eligible customers receive a voucher and pick up their new ULFT at a specific vendor who contracts with the District. Customers are responsible for installation and the District conducts random inspections to ensure proper installation. Multi-family customers who replace more than six toilets receive free delivery. Prior to the ULFT Distribution Program, the District offered rebates to single family customers as an incentive to install ULFTs.

Since the inception of the program in 1994, CCWD has replaced more than 34,000 toilets with ULFTs.

# **SECTION SIX**

## **WATER SHORTAGE CONTINGENCY ANALYSIS**

## SECTION SIX

# WATER SHORTAGE CONTINGENCY ANALYSIS

### 6.1 INTRODUCTION

City preparations for water shortages generally include two components:

- ◆ Identification of additional supply sources in case of water shortage
- ◆ Management of demands from existing customers when shortage occurs

The anticipated water supply for the City water service area and the water shortage contingency plan are described in this section.

### 6.2 CITY WATER SERVICE AREA SUPPLY AND RELIABILITY

The City of Martinez receives its entire raw water supply from CCWD. The City demand projections provided to CCWD are listed in Table 6-1. The CCWD has identified and quantified planned sources of water for a normal year and will provide water supply to meet the projected City service area demands through 2030.

**TABLE 6-1 WATER SERVICE AREA DEMAND PROJECTIONS**

	Water Demand Projection (AFY)					
	2005	2010	2015	2020	2025	2030
Service Area Demand Projection	5,676	6,016	6,152	6,292	6,435	6,581
CCWD Available Supply During Normal Year	5,676	6,016	6,152	6,292	6,435	6,581

When the United States Bureau of Reclamation (USBR) imposes reductions in water supply to CCWD, CCWD will purchase water from other sources to supplement the available water from USBR; however some water supply reductions will be passed along to its wholesale customers. The water supply reliability goal adopted by the CCWD Board of Directors is to meet at least 85 percent of demand in a second or third dry year and 100 percent of demand in all other years. Beginning in 2010, during the second and third years of a multi-year drought, short-term water purchases by CCWD will only cover 95 and 85 percent of total demand. The reliability of the CCWD supply is listed in Table 6-2.

**TABLE 6-2 CCWD SUPPLY RELIABILITY**

	Normal Year	Single Dry Year	Multiple Dry Years		
			Year 1	Year 2	Year 3
Percentage of Normal Year	100	100	100	95	85

CCWD has several short-term supplemental supply options available during a water shortage. These options include application of a "hardship" water request to the USBR, potential water purchases from a "State Water Bank", possible arrangements with East Contra Costa Irrigation District and Bethel Byron Irrigation District, desalination at Mallard Slough, new groundwater facilities, and

increased water recycling. During the 1991 water shortage, only the State Water Bank, increased water recycling and increased groundwater pumping were used. Due to these supplemental supplies and the shutdown of a major industry, mandatory rationing was only imposed for a short period and changed to a voluntary 15 percent reduction. This increase in available water supply was then passed along to the City of Martinez and other CCWD wholesale customers.

Since the CCWD is developing additional sources of water supply for drought, the City of Martinez has not independently sought to develop other supplies. The City could possibly utilize desalination of brackish water from Carquinez Strait due to its waterfront location; however, no desalination projects are currently planned due to the excessive capital and operating cost for this water source compared with delivery of raw water from CCWD.

### **6.3 CITY OF MARTINEZ WATER SHORTAGE CONTINGENCY PLAN**

The City of Martinez must plan for conditions of water shortage caused by reduction in supply from CCWD or by failure of conveyance and treatment facilities within the City to provide treated water to the distribution system. The greatest water shortage experienced by the City occurred in response to a drought. In 1977, the City of Martinez was imposed a 30 percent reduction in water supply from the previous year's demand. The City recognizes that shortages greater than 30 percent are possible in the future and must be planned for by the City, and this section outlines reduction goals up to 50 percent.

The City of Martinez developed its first formal Urban Water Shortage Contingency Plan in 1992 and submitted it to the California Department of Water Resources. The Plan was developed based on experience obtained during water shortages in 1977 and 1991. This plan is used to aid the City in anticipating drought conditions and to mitigate impacts including a supply shortfall, financial hardships on both the community and the City, and deterioration of customer relations. The 1992 Urban Water Shortage Contingency Plan is provided in Appendix H.

The plan addresses a four stage reduction sequence which includes water rationing up to a 50 percent reduction. The plan includes Resolution No 47-91, "Establishing Water Conservation Measures and Reducing the Use of Water Furnished by the Martinez Water System during the Water Shortage Emergency." This resolution was first implemented in 1991 to meet the 25 percent reduction in raw water supply from CCWD. The resolution establishes restrictions on new service connections, prohibits and enforces water waste and non-essential water use, outlines water rationing restrictions, billing changes and penalties, and establishes exceptions and appeal procedures. Resolution No. 47-91 is provided in Appendix G.

#### **6.3.1 THREE YEAR MINIMUM WATER SUPPLY**

Table 6-3 is a listing of the three-year estimated minimum water supply starting with 2005. Yearly supply needs are linearly interpolated from the water demand projections in Table 6-1, and supply is reduced by 5 percent and 15 percent respectively based on CCWD supply reliability from Table 6-2. The City water supply is provided by CCWD which obtains almost all its water supply from the Delta. The primary source for CCWD water is the United States Bureau of Reclamation's (USBR) Central Valley Project (CVP). CVP water consists of unregulated and regulated flows from storage releases from Shasta, Folsom, and Clair Engle reservoirs into the Sacramento River. The driest three year periods experienced in the Central Valley Basin occurred during longer droughts in 1928-1934 and more recently in 1987-1992. The second drought required implementation of water rationing and other demand management measures as described in Section 3.2. Although this supply has a

minimum allocation of 75 percent of adjusted historical use until irrigation allocations fall below 25 percent, CCWD has planned other water supply projects to supplement the CVP supply and maintain a minimum of 85 percent of the demand in a second or third dry year.

**TABLE 6-3 THREE YEAR ESTIMATED MINIMUM WATER SUPPLY**

Source	Normal Year (AFY)	Multiple Dry Years Supply (AFY)		
		Year 1	Year 2	Year 3
Wholesale Purchase from CCWD	5,676	5,676	5,455	4,938

### 6.3.2 EMERGENCY SUPPLY FOR CATASTROPHIC WATER SUPPLY INTERRUPTIONS

Since natural disasters or major accidents can occur at any time, whether they are caused by nature or man made, the City of Martinez has developed an Emergency Response Plan (ERP) for the water system. The plan was first created in 1994, and was updated in 2004. The City water system ERP provides a framework for directing City-wide responses to a number of emergency situations including associated with natural disasters such as earthquakes, technological incidents, and terrorist operations. A description of the ERP contents is included in Appendix I.

The City of Martinez ERP is a series of documents and worksheets that provide valuable information that should be used in the event of an emergency. In addition to providing contact information, water system information, and procedural information, the ERP provides insight into personnel safety and training, and background information on state and federal emergency operations systems.

The ERP is reviewed and updated often to ensure that the information is not out of date. Martinez Water System staff and supervisors are familiar with the information and procedures outlined in these documents. The ERP is considered a living document that is constantly evolving and revised as the functions, facilities and personnel of the water system change.

This plan is intended to set in motion automatically and without direct orders, the preliminary steps required to provide water customers the maximum amount of potable water necessary to ensure healthful standards. The manual contains pertinent information, such as guidelines for prioritizing water distribution and interconnecting with other water systems.

Loss of power will impact water supply operations. The plant site has emergency power available; treatment plant power needs are supplied by a generator should a power failure occur. However, the plant capacity and distribution system pumping capacities will be limited since generators do not provide complete power needs. The plant operation with use of generator power alone is tested annually to ensure system operation.

Since the CCWD is the sole source of raw water for the City, a loss of raw water supply for CCWD would also impact the City. The City service area receives its raw water supply from Martinez Reservoir, which provides a few days of water supply storage should deliveries from the canal system become interrupted by loss of canal or shortcut pipeline facilities. The number of days of supply will be dependent on City water use and Shell refinery withdrawals from Martinez Reservoir. The capacity of the reservoir has been reduced by sedimentation that has occurred since its construction. The volume is currently estimated to be 79.6 MG volume based on 2003 bathymetry. If Martinez Reservoir or the raw water intake structure is damaged and cannot provide raw water supply, the City must be supplied by potable water through interties with the CCWD.

A City treatment plant failure could cause a loss of treated water supply to the City water service area. Potential emergency conditions include:

- ◆ Failure (leakage, collapse or rupture) of the raw water delivery pipeline to City treatment plant
- ◆ Failure of City water treatment plant process units

If the treatment plant cannot produce water due to any of the emergency conditions listed, treated water can be diverted to the City distribution system from the CCWD distribution system through two interties. The Pacheco Boulevard intertie is located at the City water treatment plant and the Elderwood Drive intertie is located in the distribution system at Elderwood Drive and Alhambra Avenue. Each intertie is expected to provide about 1,400 gpm of treated water, for a total of 2,800 gpm supply (4 mgd) to the City water service area. These two interties can supply approximately 70 to 75 percent of the projected average daily demands through 2020, and less than 40 percent of the projected maximum day demands. However, water demands would likely be reduced by mandatory water use restrictions described in Section 6.3.3 should any of the emergency conditions occur.

The two interties discharge into two different pressure zones within the City, allowing both pressure zones to be served independently in an emergency condition. The intertie at the treatment plant is served from the CCWD Zone 1 system, which operates on a reservoir overflow elevation of 220 feet. Since this level is 40 feet lower than the 260 feet overflow elevation of the City’s Zone 1, the treated water must be diverted to the plant clearwell for pumping into the distribution system by the treatment plant pumping station. This intertie has rarely been used, and then only during short treatment plant shutdowns required during construction of treatment plant upgrades. This intertie could not be used for service during a failure of the treatment plant clearwell and/or treatment plant pumping and piping since these facilities must be used to boost the pressure to the City Zone 1 pressure level.

The second intertie connection into the City’s Zone 2 at Elderwood Drive and Alhambra Avenue is served from the CCWD Zone 4. This CCWD zone is a hydropneumatic system that draws water from reservoirs with 440 feet overflow elevations. The City Zone 2 reservoirs have overflow elevations of 410 feet, and should be easily supplied by the system pressure from CCWD Zone 4.

### 6.3.3 RATIONING STAGES AND REDUCTION GOALS

The City has developed a four-stage rationing plan which is used during a water supply shortage. This plan involves both voluntary and mandatory rationing up to a 50 percent reduction in water use. The rationing stage implemented depends on the restriction imposed by CCWD on the City. A water crisis within the water service area could also cause the shortage conditions and implementation of any rationing stage as appropriate. Table 6-4 outlines each reduction stage.

**TABLE 6-4 WATER RATIONING STAGES AND REDUCTION GOALS**

Shortage Condition	Stage	Description	Customer Reduction Goal	Type of Rationing Program
Up to 15%	I	Voluntary Conservation	15%	Voluntary
15-30%	II	Water Alert	30%	Mandatory
30-40%	III	Water Emergency	40%	Mandatory
40-50%	IV	Water Crisis	50%	Mandatory

### Stage I - Voluntary Conservation

Stage 1 involves voluntary rationing up to 15 percent. This is similar to rationing imposed in 1991. Stage 1 usage reduction is instigated through public information from numerous sources. The Martinez water system customers responded with a concerted effort in reducing their water use during the 1991 water shortage. A reduction of 25 percent was achieved during the 1991 calendar year, even though the goal was 15 percent.

### Stage II - Mandatory Rationing

Stage II rationing requires rationing efforts between 15 and 30 percent. This program was implemented in 1977 and again for a short period in 1991 to meet water supply reductions. The City of Martinez believes a 30 percent reduction in water use is possible through increased public information efforts and water conservation regulations outlined in Resolution No. 47-91. There were no penalties issued in 1991.

### Stage III - Mandatory Rationing

Mandatory rationing for a Stage III water supply shortage is necessary to reduce water use between 30 and 40 percent. These levels are reached by reducing water allocations for each customer sector to lower percentages than those required by Stage II rationing. The City of Martinez has not been faced with rationing at these levels in the past. Penalties for non-compliance may be similar to those imposed by Resolution 47-91 in 1991.

### Stage IV - Mandatory Rationing

A Stage IV mandatory rationing program requires water use to be reduced by 40 to 50 percent. This program requires drastic reductions in water use by all customer sectors. Penalties for non-compliance with Stage IV rationing may be more severe than was shown in Resolution 47-91 for rationing in 1991.

### Water Shortages and Triggering Mechanisms

Water rationing has occurred in 1977 and in 1991 in the City of Martinez water supply system. Both of these rationing conditions occurred because of reduction in raw water supply by CCWD. Although a water shortage may occur due to water contamination or a problem with a water facility or process, a water shortage has not occurred in the past for any other reason than a drought. During a drought imposed water supply shortage, the City imposes the same degree of water reduction on its customers that is imposed by CCWD.

### 6.3.4 WATER ALLOCATION METHODS

The City has established allocation methods for each customer sector. Single family and multi-family customers are allocated water through percentage reductions, gallons per dwelling unit, and gallons per capita depending on the particular rationing stage implemented. Commercial, industrial, irrigation and public customer sectors are allocated water on a percentage reduction from the previous year. These allocations are listed in Table 6-5. A certain amount of water is allocated for fire prevention purposes.

The City of Martinez determines the water allocation to each customer and calculates their allotment according to the information shown in Table 6-5. Each bill for water service states the water ration for the service applicable to the following billing period. If a customer's use is under the allotment in any given billing period, the water may be "banked" for future use during that year. A written appeal may be filled to request an exception to the granted water allotment.

**TABLE 6-5 WATER ALLOCATION FOR RATIONING STAGES**

Water Use Sector	Stage II	Stage III	Stage IV
Single Family	200 gal/DU/day	90 gpcd (single occupant) then 50 gpcd additional	50 gpcd
Multi-Family	85%	70 gpcd (single occupant) then 50 gpcd additional	50 gpcd
Commercial	75%	70%	60%
Industrial	85%	75%	70%
Institutional and Government	75%	70%	60%
Landscape	25%	25%	5%

### Priority by Use

During various stages of water rationing, each customer sector had varying water supply allocations based on the previous year demand. Numerous factors were used in the development of each allocation. These factors include minimum health and safety standards as well as minimum water requirements for commercial and industrial customers so employment can be maintained within the City. Each customer sector's allocated water supply percentage for Stages II through IV is listed in Table 6-5. Since certain customers may be unable to meet their specific allocated water supply, a list of exceptions has been compiled and an appeal procedure developed. Grounds for granting an exception include the following:

- ◆ Mandated allocation would cause an unnecessary and undue hardship to the applicant, including but not limited to adverse economic impacts such as loss of production or jobs.
- ◆ Mandated allocation would cause an emergency condition affecting the health, sanitation, fire protection or safety of the applicant or the public.
- ◆ Medical requirements with written verification by physician (if requirements are limited by household size.)
- ◆ Household size-single family residence, presence of more than four permanent residents (must reside in residence more than 4 months per year.)
- ◆ Care of livestock (if requirements are limited by household size.)
- ◆ Small multi-family dwelling units with a lower allocation than an equivalent single family dwelling unit (based on total number of occupants.)
- ◆ Other reasons may be considered through the appeal process.

### Health and Safety Requirements

During Stage I and II shortages, residential customers may need to adjust water use to meet the voluntary goal or the Stage II allocated 200 gallons per dwelling unit per day. This amount of water is sufficient for essential interior water use without habit or plumbing fixture changes. Under Stage III and IV rationing, a sufficient amount of water has been allocated to each customer to meet health and safety requirements. Customers may be required to make changes in their interior water use habits such as flushing toilets less frequently and reducing shower length.

### 6.3.5 MANDATORY PROHIBITIONS ON WATER WASTING

During water shortages, the City of Martinez mandates prohibition of water waste and non-essential use of water. These restrictions are part of Resolution 47-91. The resolution states that no water

furnished by the Martinez water system shall be wasted. All water withdrawn from the Martinez water system facilities shall be put to reasonable beneficial use. Water shall not be used for any purpose declared to be non-essential by the resolution. The following uses of water are declared to be non-essential:

- ◆ Washing a sidewalk, driveway, parking area, tennis court, patio or other exterior paving area, except for public safety or sanitary purposes
- ◆ Using water in a decorative fountain.
- ◆ Irrigating any turf or ground cover planted after adoption of the resolution.
- ◆ Non-commercial washing of any motor vehicle, trailer or boat with a hose except when using a shut-off nozzle.
- ◆ Filling any swimming pool constructed under a building permit issued after adoption of the resolution, except with water from a source acceptable to the Martinez water system.
- ◆ Completely refilling an existing swimming pool, except a publicly owned pool refilled for reasons of public health or except where the water is recycled.
- ◆ Any use of water from a fire hydrant, except to fight fire and except such specified uses from specific hydrants which the Martinez water system from time to time determines to be necessary in the public interest.

If and when the Martinez water system becomes aware of a violation of any provisions listed above, a written notice is delivered to the premises where the violation occurred and mailed to the person who is regularly billed for the service. Notice may also be given to any other person known to the Martinez water system to be responsible for the violation or its correction. The notice describes the violation and orders that it be corrected, cured or abated immediately or within such specified time as the Martinez water system determines is reasonable under the circumstances. If the order is not complied with, the Martinez water system may disconnect the service or place flow restrictors where the violation occurred without further notice. Flow restrictors are to remain in place a minimum of three (3) days and the charge for removal is fifty dollars (\$50.00). Upon a second such violation and each subsequent violation, a similar notice is delivered and the water to that connection is disconnected or restricted for a minimum of seven (7) days. The charge is one hundred dollars (\$100.00) to have the service restored to normal.

### **6.3.6 RATE STRUCTURE UNDER RATIONING**

Proposed measures to overcome revenue impacts of rationing include development of reserves and a drought surcharge on water use. The City of Martinez bases its water system budget on previous year use and anticipated drought conditions. Revenue reduction caused by a reduction in water usage could be taken out of reserves, or a drought surcharge could be imposed on water users of the system as it was done during the 1991 drought. Although no significant expenditures are anticipated to implement water conservation measures during a drought, large expenditures may be necessary under a catastrophic supply interruption. Funding for these would be taken from reserves or obtained through State and Federal aid packages.

During the 1991 rationing program, an extra charge was established for water withdrawn from the Martinez water system by any service connection in excess of its allotted amount. This penalty is outlined in Resolution No. 47-91. Table 6-6 shows the penalties imposed in 1991. This rate structure will be reviewed and modified prior to implementation of a future rationing program.

**TABLE 6-6 1991 EXCESS USE CHARGES PER BILLING PERIOD<sup>1</sup>(STAGE II RATIONING)**

Customer Sector	Excess Use Above Allotment	Excess Charge
Single Family	First 500 cubic feet	2 X Unit Price
	Next 500 cubic feet	3 X Unit Price
	Additional 100 cubic feet	4 X Unit Price
All Other Users	First 10% excess	2 X Unit Price
	Next 10% excess	3 X Unit Price
	Additional excess	4 X Unit Price

<sup>1</sup>Billing period is bi-monthly.

During the 1991 rationing program, Resolution No. 47-91 also called for installation of flow restrictors in services where the quantity of water withdrawn exceeded the water ration allotment by 20 percent and 20 hundred cubic feet for service during two (2) consecutive billing periods. Flow restrictors remain in place a minimum of seven (7) days the first time installed and fourteen (14) days each consecutive time thereafter. The fee for removal is one hundred dollars (\$100.00) for each time installed. Fee must be paid before the flow restrictor can be removed.

### 6.3.7 WATER USE MONITORING MECHANISMS

The primary consumption reduction method for demand management is voluntary conservation and mandatory water rationing. The measure implementation and the projected reductions are listed in Table 6-4. Since the Martinez water service area is a fully metered distribution system, violators can easily be identified and excessive water usages be remedied through financial penalties and disruption of service.

Water use can be monitored on a daily basis at the water treatment plant. Raw water supplied to the Martinez Water Treatment Plant is metered as it enters the facilities and the exact amount of potable water produced is measured continually and recorded on a daily basis. The Water Superintendent evaluates the water production in relation to the allotted water supply. If the rationed allotment is exceeded, the Water Superintendent will contact the Community Development Director, who will then inform the City Council of Martinez so corrective action can be taken.

# **SECTION SEVEN**

## **RECYCLED WATER OPPORTUNITIES**

## SECTION SEVEN

# RECYCLED WATER OPPORTUNITIES

### 7.1 WASTEWATER COLLECTION AND TREATMENT FOR WATER SERVICE AREA

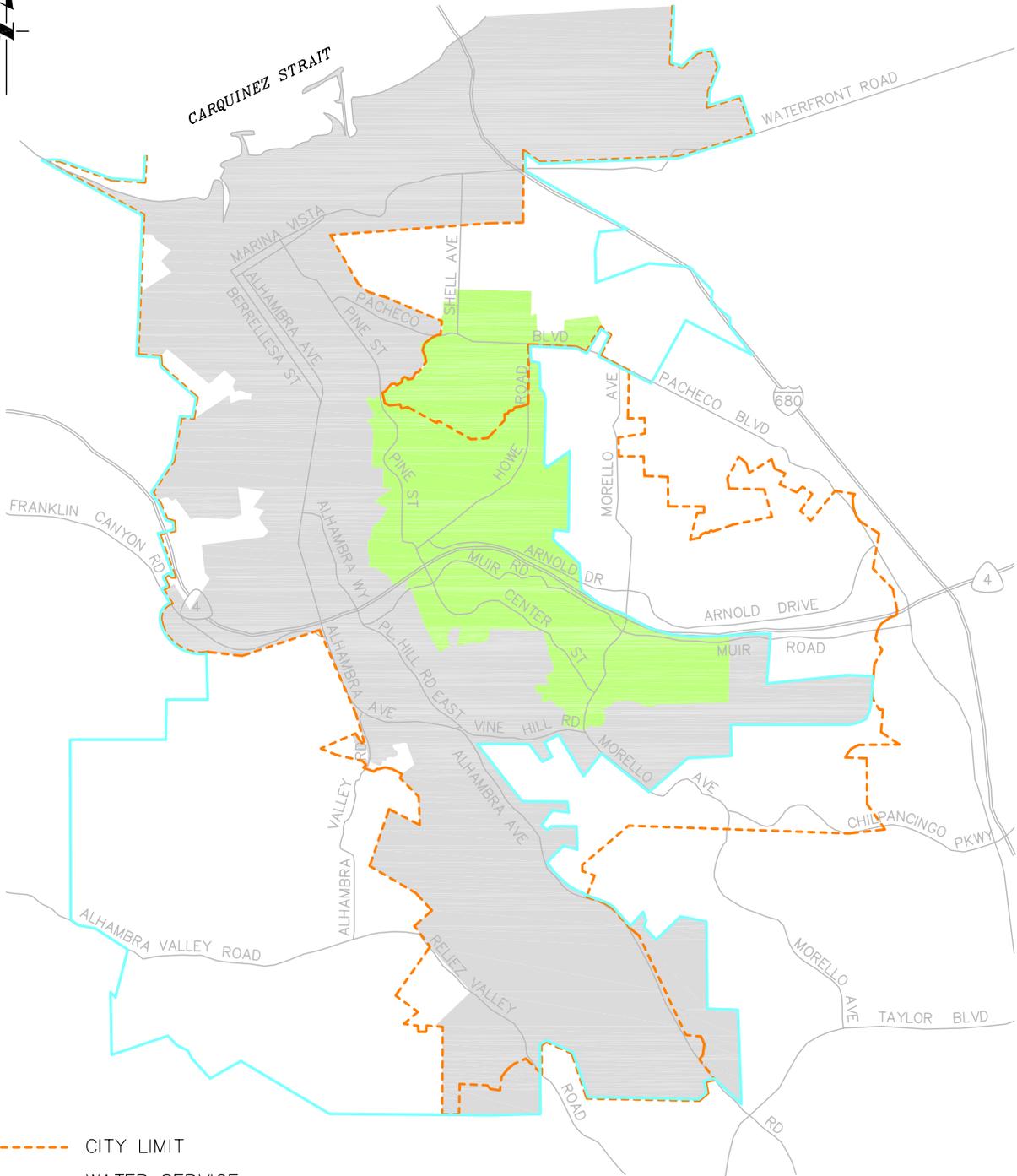
Two sanitary districts provide wastewater collection and treatment for the Martinez water service area as shown on Figure 7-1. Central Contra Costa Sanitary District collects and treats about two-thirds of the wastewater generated within the Martinez water service area. The remainder of the wastewater from the east central portion of the water service area is collected and treated by Mountain View Sanitary District. This area is roughly bounded by Pacheco Boulevard on the north, Bush and Pine Streets on the west, and Center Street on the south. Both sanitary districts also serve portions of the CCWD treated water service area.

#### 7.1.1 Central Contra Costa Sanitary District (CCCSD)

The CCCSD Wastewater Treatment Plant is located in Martinez at the intersection of I-680 and Highway 4. CCCSD currently serves portions of Martinez, Concord, Clayton, Pleasant Hill, Orinda, Lafayette, Walnut Creek, Moraga, Alamo, Danville, and San Ramon. CCCSD was created in 1946 to serve central Contra Costa County's rapidly growing population. For health and environmental reasons, central county residents needed a modern sewage system that included both a sewer pipeline system and a treatment plant. During the first decade, more than 300 miles of sewer pipelines were installed and a 4.5 mgd primary treatment plant constructed. During the 1950s and 1960s wastewater flows increased and by 1968 the plant was sized to treat 30 mgd. In 1973, CCCSD started construction of an advanced wastewater treatment plant to include filtration for water reclamation for industrial reuse. However, the regulations requiring advanced wastewater treatment were eliminated while the plant was under construction, and completing the plant as originally designed became financially impractical. Instead, the current treatment facility was successfully completed as a secondary treatment plant. Effluent from the activated sludge secondary treatment process is disinfected and discharged to an outfall in Suisun Bay. The plant has a current NPDES permit capacity of 53.8 mgd, with an average dry weather flow of about 40 mgd.

A portion of the wastewater plant effluent is recycled for industrial reuse and irrigation. The CCCSD tertiary filtration plant was originally designed for 20 mgd capacity, but has been impacted by turbidity fluctuations of filter feed water. The maximum recycled water plant production capacity is currently being studied by CCCSD to identify process limiting equipment or operating conditions. Recycled water is currently used for in-plant use and irrigation water supply to a number of CCWD irrigation customers such as Contra Costa County Club Golf Course, Buchanan Fields Golf Course, and Chilpancingo Park. Recycled water use includes 1,120 AFY (1 mgd) for in-plant uses and about 620 AFY (200 mg per year) for irrigation uses outside the treatment plant.

The distribution system for the recycled water is being constructed in phases. In each phase, additional customers are added as the distribution pipelines are constructed to the customer service location. The first phase of the project (Pleasant Hill Zone, formerly known as Zone 1), was completed in 1997 and delivers recycled water to large landscape CCWD customers. In FY 2005, recycled water use in the Pleasant Hill Zone was about 620 AFY (200 mg). CCCSD is currently negotiating with EBMUD for Phase 2, which will provide reclaimed water to customers in Lafayette, Orinda, and Moraga (LaMorinda Zone, formerly known as Zone 4). The Martinez Zone (formerly known as Zone 2) includes customers in both the CCWD and City service area, and is the third phase of the project.



- CITY LIMIT
- WATER SERVICE BOUNDARY
- MT. VIEW SANITARY DISTRICT SERVICE AREA
- CENTRAL CONTRA COSTA SANITARY DISTRICT SERVICE AREA

0 1/4 1/2 1 MILE



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M.J.F. 10/21/05



CITY OF  
MARTINEZ

CITY OF MARTINEZ  
URBAN WATER MANAGEMENT PLAN

WASTEWATER  
SERVICE AREAS

FIGURE NO.

7-1

JOB NO.

4327.09

## **7.1.2 MOUNTAIN VIEW SANITARY DISTRICT (MVSD)**

The MVSD Wastewater Treatment Plant is located near the Shell Oil Refinery on unincorporated land. The MVSD was established in 1923 to provide sewer service to unincorporated areas east of the City of Martinez. The District currently operates a wastewater filtration system with an ultraviolet disinfection system, which was the first full scale operation of this type in Northern California when constructed.

The District's initial sewer system fed into a large community septic tank. In 1951, the District installed primary treatment units. Secondary treatment began in 1968 with the addition of a secondary clarifier, digester, thickener, and a high rate biofilter. To meet effluent disposal limits outlined by the Regional Water Quality Board in 1974, the District reclaimed valuable wetlands rather than discharging into a deep water outfall line. As the flows of wastewater to the treatment plant increased, the acreage of the wetlands has grown from 20 to 86 acres, and another 100 acres was gained as a result of joint management with other agencies.

MVSD now serves approximately 25,000 residents in the both the City of Martinez and in unincorporated areas by treating an average daily flow of 2,240 AFY (2.0 mgd). The plant capacity is 3,584 AFY (3.2 mgd). Effluent from the plant is discharged to maintain wetlands in the vicinity of the site. Reclaimed effluent from the wetlands discharges to Suisun Bay via Payton Slough.

## **7.2 RECYCLED WATER USE IN THE CITY WATER SERVICE AREA**

### **7.2.1 COORDINATION OF RECYCLED WATER PLAN**

The CCCSD recycled water plan has included coordination with local water service providers including the City of Martinez, CCWD and East Bay Municipal Services District (EBMUD). In 1996, CCCSD and the CCWD reached agreement allowing CCCSD to supply recycled water to specific areas of Concord and Pleasant Hill. CCCSD is working with EBMUD to develop the Lamorinda Recycled Water Project. The Pleasant Hill and Lamorinda projects will eventually deliver 1,680 AFY (1.5 mgd) and 2,240 AFY (2.0 mgd) of recycled water, respectively.

### **7.2.2 CURRENT RECYCLED WATER USE**

There are currently no customers within the Martinez water service area that use recycled water as a replacement for treated water supplied by the City. Recycled water service to the Shell Refinery has not occurred since drought conditions in 1991. However, wastewater generated from the water service area is recycled and used outside the water service area boundaries.

A portion of the wastewater from the City water service area is currently recycled for use in nearby wetlands and for landscaping and industrial uses. All wastewater treated by the MVSD is assumed to be used for maintaining wetlands in the vicinity of the treatment site. The recycled water produced by the CCCSD plant is generally distributed by pipeline to various irrigation water users.

The amount of recycled water generated from the City water service area is not known due to the overlapping of boundaries for the City, the City water service area, and the sanitary districts serving both the City of Martinez and other areas. Instead, the recycled water from the water service area was estimated by assuming the City water service area comprises about 40 percent of the MVSD flow and about 3 percent of the CCCSD flow. The amount of service area water recycled by MVSD for wetland restoration and wildlife habitat is estimated to be 900 AFY. The amount of service area water recycled by CCCSD for irrigation reuse is estimated to be about 100 AFY, although all recycled water use is outside of the Martinez water service area.

During droughts, the Shell Oil Company refinery located within the water service area has offset some of their raw water supply from CCWD with recycled water from CCCSD. During the drought in 1991, as a response to the drought emergency, CCCSD distributed approximately 400 acre-feet (130 mg) of recycled water to Shell and Tosco refineries for landscape use in lieu of raw water use. In addition, a truck fill station was built to provide recycled water for construction use, which could be used for construction in the City service area.

### 7.2.3 POTENTIAL RECYCLED WATER USE

The potential recycled water use includes continued treated wastewater flows for the MVSD wetlands restoration project, and potential offset of potable water demand in the City water service by 2030. The effluent produced from MVSD can be expected to increase at approximately the same rate as the service area population discharging to the MVSD, adding another 135 AFY from the water service area to the wetland restoration project by 2030. Since wetlands restoration efforts are expected to continue or broaden, effluent from MVSD is not considered available for reuse by customers in the City water service area.

Some recycled water use may be possible for irrigation customers in the City water service area in the future. The CCCSD filtration plant currently produces quality Title 22 unrestricted use effluent near the City service area, making potential recycled water use very realistic. Recycled water may offset some of the treated water demand in the future, although the implementation date is uncertain. Four landscape irrigation locations have been identified in the City, including:

- ◆ Pine Meadows Golf Course
- ◆ Hidden Valley Park
- ◆ Nancy Boyd Park
- ◆ John Swett Elementary School

The recycled water use for these areas is expected to be about 150 AFY, and would offset potable water use at the sites. The scheduling of design and construction of facilities is not currently within the 10-year planning window for the Central Contra Costa Sanitary District (CCCSD) recycled water program; therefore no date for implementation of recycled water supply to these sites has been set. However the prioritized CCCSD recycled water service area expansions include the City water service area irrigation users in the third phase of the system expansion.

The irrigation and industrial water customers within the City water service area are relatively small water users compared with the CCCSD currently targeted large water users. However, the City expects that recycled water use will increase such that the distribution system will need to be expanded further into the Martinez service area. To achieve this, the City of Martinez will continue to coordinate with CCCSD and CCWD to implement recycled water projects that will offset the use of treated water to irrigation and industrial users in the City service area.

In the Martinez 2000 UWMP, an estimated 183 AFY (60 mg per year) was expected to be delivered to large landscape irrigation customers in 2005. These customers were located near a 10-inch diameter pipeline formerly owned by Shell Oil along Alhambra Avenue that was proposed to be converted to a recycled water pipeline. After further study of the pipeline for recycled water conveyance, it was not considered feasible. No recycled water customers were developed in the Martinez water service area between 2000 and 2005.

The City of Martinez shares the renewed interest in recycled water in the CCCSD and MVSD service areas, and the involvement and commitment of multiple water and sanitary agencies.

## **7.3 RECYCLED WATER MARKETING IN CITY WATER SERVICE AREA**

### **7.3.1 MARKETING AND PLANNING STRATEGY**

CCCSD, along with local water agencies, has focused on education and public involvement to gain acceptance for recycled water use. The CCCSD Planning Department developed an extensive program to evaluate various issues regarding recycled water use. These issues included:

- ◆ Identification of potential customers
- ◆ Establishing technical requirements
- ◆ Evaluating regulatory requirements
- ◆ Establishing water quality standards
- ◆ Development of customer service regulations
- ◆ Conducting environmental assessments
- ◆ Determining existing water service capacity
- ◆ Development of implementation schedule
- ◆ Conducting reliability assessment
- ◆ Establishing emergency backup supply
- ◆ Conducting economic and financial assessments

Irrigation and industrial reuse customers identified were contacted regarding interest in recycled water and any special needs that they would require. These customers were not segregated by their proximity to the CCCSD filtration plant or reclaimed water pipelines.

### **7.3.2 ECONOMIC FEASIBILITY**

As described previously, only customers with large demands near the reclaimed water facilities were included in the four initial phases of the project. This was necessary for implementation of a cost effective project. CCCSD has received support among current and potential recycled water customers and does not plan to implement a mandatory use ordinance. The current costs for providing recycled water service in the CCWD service area include the costs for treatment and CCWD facilities offset fees to cover the sunk costs of current water supply facilities. Under the current rate structure, the sum of the CCWD offset costs for existing facilities and the recycled water treatment costs is slightly higher than potable water or raw canal water delivery costs. Cost reductions for recycled water production could occur with grant funding of capital projects for recycled water treatment. This would reduce the recycled water delivery cost to be competitive with current treated and raw water delivery costs.

### **7.3.4 PROPOSED ACTIONS TO ENCOURAGE USE OF RECYCLED WATER**

Recycled water use provides many advantages to its customers, including reduced costs for water and fertilizer and increased reliability during drought conditions. As described previously, recycled water rates are lower than potable water rates by approximately 20 percent. Recycled water also contains basic nutrients which makes recycled water attractive to landscape customers. Although cost and nutrients encourage reclaimed water use, the largest advantage is reliability. During periods

of water rationing, recycled water customers will not be affected by quantity restrictions or increased water rates.

### **7.3.5 PLAN FOR OPTIMIZING THE USE OF RECYCLED WATER**

The CCCSD Planning Department worked with the City of Martinez, CCWD, EBMUD, and various consultants to develop a list of potential reclaimed water customers. Although the ultimate distribution system contains 326 of the 333 potential customers identified, only customers with large demands located near the treatment facility and main distribution lines were determined economically feasible for the initial project. These customers are included in the three phases currently planned for the CCCSD recycled water project.

# **SECTION EIGHT**

## **WATER SUPPLY AND DEMAND COMPARISONS**

## SECTION EIGHT

# WATER SUPPLY AND DEMAND COMPARISONS

The anticipated water supply and demand for the City water service area under normal conditions and three year drought conditions are described in this section.

### 8.1 NORMAL WATER SUPPLY AND DEMAND CONDITIONS

The City of Martinez receives its entire raw water supply from CCWD. The City demand projections provided to CCWD are listed in Table 8-1. The CCWD has identified and quantified planned sources of water for normal year supply and will provide water supply to meet projected City Service Area demands through 2030.

**TABLE 8-1 PROJECTED NORMAL WATER SUPPLY AND DEMAND**

	2010	2015	2020	2025	2030
Supply Volume (AFY)	6,016	6,152	6,292	6,435	6,581
Percentage of Year 2005	106.0	108.4	110.9	113.4	115.9
Demand Volume (AFY)	6,016	6,152	6,292	6,435	6,581
Percentage of Year 2005	106.0	108.4	110.9	113.4	115.9
Difference (AFY)	0	0	0	0	0
Difference as Percentage of Supply	0	0	0	0	0
Difference as Percentage of Demand	0	0	0	0	0

### 8.2 SINGLE DRY YEAR WATER SUPPLY AND DEMAND CONDITIONS

During a single dry year, CCWD will provide 100 percent of water demands. The City water service area demands are assumed to be equivalent to a normal year condition. The increased irrigation uses due to lack of rainfall are considered to be equivalent to voluntary conservation efforts performed by water customers during that year.

**TABLE 8-2 PROJECTED SINGLE DRY YEAR WATER SUPPLY AND DEMAND**

	2010	2015	2020	2025	2030
Supply Volume (AFY)	6,016	6,152	6,292	6,435	6,581
Percentage of Year 2005	106.0	108.4	110.9	113.4	115.9
Demand Volume (AFY)	6,016	6,152	6,292	6,435	6,581
Percentage of Year 2005	106.0	108.4	110.9	113.4	115.9
Difference (AFY)	0	0	0	0	0
Difference as Percentage of Supply	0	0	0	0	0
Difference as Percentage of Demand	0	0	0	0	0

### 8.3 MULTIPLE DRY YEAR WATER SUPPLY AND DEMAND CONDITIONS ENDING IN 2010

During a multiple dry years, CCWD will provide 100 percent of water demands, 95 percent of the water demand for the second dry year, and 85 percent of the water demand for the third dry year. The City water service area demands are assumed to be equivalent to a normal year condition for the first dry year, but lowered due to voluntary conservation or imposition of a Stage II Water Alert

condition with mandatory water rationing if voluntary conservation methods are not providing the necessary 5 to 15 percent reduction in water use during the second and third dry year respectively.

**TABLE 8-3 PROJECTED MULTIPLE DRY YEAR WATER SUPPLY AND DEMAND ENDING IN 2010**

	2008	2009	2010
Supply Volume (AFY)	5,877	5,649	5,113
Percentage of Projected Normal	100	95	85
Demand Volume (AFY)	5,877	5,649	5,113
Percentage of Projected Normal	100	95	85
Difference (AFY)	0	0	0
Difference as Percentage of Supply	0	0	0
Difference as Percentage of Demand	0	0	0

## 8.4 MULTIPLE DRY YEAR WATER SUPPLY AND DEMAND CONDITIONS ENDING IN 2015

During a multiple dry years, CCWD will provide 100 percent of water demands, 95 percent of the water demand for the second dry year, and 85 percent of the water demand for the third dry year. The City water service area demands are assumed to be equivalent to a normal year condition for the first dry year, but lowered due to voluntary conservation or imposition of a Stage II Water Alert condition with mandatory water rationing if voluntary conservation methods are not providing the necessary 5 to 15 percent reduction in water use during the second and third dry year respectively.

**TABLE 8-4 PROJECTED MULTIPLE DRY YEAR WATER SUPPLY AND DEMAND ENDING IN 2015**

	2013	2015	2015
Supply Volume (AFY)	6,097	5,818	5,229
Percentage of Projected Normal	100	95	85
Demand Volume (AFY)	6,097	5,818	5,229
Percentage of Projected Normal	100	95	85
Difference (AFY)	0	0	0
Difference as Percentage of Supply	0	0	0
Difference as Percentage of Demand	0	0	0

## 8.5 MULTIPLE DRY YEAR WATER SUPPLY AND DEMAND CONDITIONS ENDING IN 2020

During a multiple dry years, CCWD will provide 100 percent of water demands, 95 percent of the water demand for the second dry year, and 85 percent of the water demand for the third dry year. The City water service area demands are assumed to be equivalent to a normal year condition for the first dry year, but lowered due to voluntary conservation or imposition of a Stage II Water Alert condition with mandatory water rationing if voluntary conservation methods are not providing the necessary 5 to 15 percent reduction in water use during the second and third dry year respectively.

**TABLE 8-5 PROJECTED MULTIPLE DRY YEAR WATER SUPPLY AND DEMAND ENDING IN 2020**

	2018	2019	2020
Supply Volume (AFY)	6,236	5,951	5,348
Percentage of Projected Normal	100	95	85
Demand Volume (AFY)	6,236	5,951	5,348
Percentage of Projected Normal	100	95	85
Difference (AFY)	0	0	0
Difference as Percentage of Supply	0	0	0
Difference as Percentage of Demand	0	0	0

## 8.6 MULTIPLE DRY YEAR WATER SUPPLY AND DEMAND CONDITIONS ENDING IN 2025

During a multiple dry years, CCWD will provide 100 percent of water demands, 95 percent of the water demand for the second dry year, and 85 percent of the water demand for the third dry year. The City water service area demands are assumed to be equivalent to a normal year condition for the first dry year, but lowered due to voluntary conservation or imposition of a Stage II Water Alert condition with mandatory water rationing if voluntary conservation methods are not providing the necessary 5 to 15 percent reduction in water use during the second and third dry year respectively.

**TABLE 8-6 PROJECTED MULTIPLE DRY YEAR WATER SUPPLY AND DEMAND ENDING IN 2025**

	2023	2024	2025
Supply Volume (AFY)	6,377	6,086	5,470
Percentage of Projected Normal	100	95	85
Demand Volume (AFY)	6,377	6,086	5,470
Percentage of Projected Normal	100	95	85
Difference (AFY)	0	0	0
Difference as Percentage of Supply	0	0	0
Difference as Percentage of Demand	0	0	0

# APPENDICES

# **APPENDIX A**

## **RESOLUTION OF THE CITY COUNCIL ADOPTING THE URBAN WATER MANAGEMENT PLAN**

RESOLUTION NO. 123-05

ADOPTING UPDATED CITY OF MARTINEZ  
2005 URBAN WATER MANAGEMENT PLAN

WHEREAS, the California Legislature enacted Assembly Bill 797 (Water Code Section 10610 et seq., known as the Urban Water Management Planning Act, ("Act")) and amended subsequently, which mandates that every supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre feet of water annually, prepare an Urban Water Management Plan, primary objective of which is to plan for the conservation and efficient use of water; and

WHEREAS, the plan shall be periodically reviewed at least once every five years, and the City shall make any amendments or changes to its plan which are indicated by the review; and

WHEREAS, the City commenced a review of its existing Urban Water Management Plan in 2005, and based upon such review has prepared a revised and updated District Urban Water Management Plan for adoption in 2005; and

WHEREAS, a draft of the 2005 Urban Water Management Plan has been made available for public inspection and all comments received from the public and from public agencies have been reviewed and considered, and a duly noticed public hearing was conducted by the City Council on December 21, 2005, prior to adoption of the proposed revisions to the City's Urban Water Management Plan, all in accordance with the Act; and

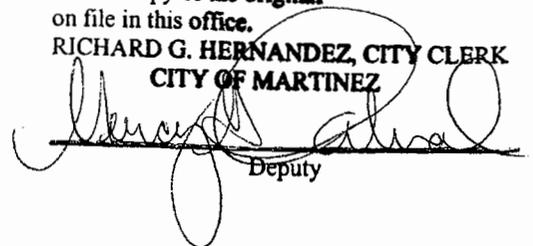
WHEREAS, the City of Martinez did prepare, and shall file, said Plan with the California Department of Water Resources by December 31, 2005.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Martinez that the Urban Water Management Plan, as presented, is adopted.

\* \* \* \* \*

I HEREBY CERTIFY that this instrument is a true and correct copy of the original on file in this office.

RICHARD G. HERNANDEZ, CITY CLERK  
CITY OF MARTINEZ

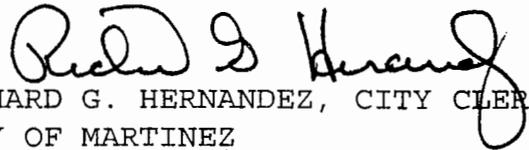
  
Deputy

I **HEREBY CERTIFY** that the foregoing is a true and correct copy of a resolution duly adopted by the City Council of the City of Martinez at a Regular Meeting of said Council held on December 21, 2005 by the following vote:

AYES: Councilmembers Kennedy, Ross, Wainwright, Vice Mayor DeLaney, and Mayor Schroder

NOES: None

ABSENT: None



RICHARD G. HERNANDEZ, CITY CLERK  
CITY OF MARTINEZ

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# **APPENDIX B**

## **WATER RATIONING DOCUMENTS FROM PAST DROUGHTS**

RESOLUTION NO. 47-91  
ESTABLISHING WATER CONSERVATION MEASURES  
AND REDUCING THE USE OF WATER FURNISHED BY THE  
MARTINEZ WATER SYSTEM DURING THE WATER SHORTAGE EMERGENCY

The CITY COUNCIL RESOLVES AS FOLLOWS:

Section 1. Authority and Purpose.

(a) This Resolution is enacted pursuant to the emergency powers of the City Council.

(b) The Contra Costa Water District has allocated the City of Martinez Water System 1300 million gallons of water for 1991 which is 75% of the water sold to the City in 1990.

(c) The purpose of this Resolution is to assure that during the water shortage emergency condition that exists in the Contra Costa Water District the water supply to the City is conserved for the greatest public benefit with particular regard to the requirements of water for public health, fire protection and domestic use; to prevent waste; to prohibit non-essential uses of water; and ration the water supplies of the Martinez Water System fairly and equitably.

Section 2. Effect of Resolution.

This Resolution shall take effect May 1, 1991, and shall remain in effect until the City Council declares that the water shortage emergency has ended.

Section 3. Restrictions on New Service Connections.

During the period this Resolution is in effect, no new services will be connected to the water distribution system of the City unless the land to be served by the new connection is within the Martinez Water Service Area.

Section 4. Waste of Water Prohibited.

No water furnished by the Martinez Water System shall be wasted. All water withdrawn from the Martinez Water System facilities shall be put to reasonable beneficial use. Waste of water includes, but is not limited to: permitting water to flow on a sidewalk, driveway or street, or to escape in a gutter, ditch or other surface drain; or the failure to repair a controllable leak of water.

Section 5. Prohibition of Non-Essential Use of Water.

No water furnished by the Martinez Water System shall be used for any purpose declared to be non-essential by this Resolution. The following uses of water are declared to be non-essential:

(a) Washing a sidewalk, driveway, parking area, tennis court, patio or other exterior paving area, except for public safety or sanitary purposes.

(b) Using water in a decorative fountain;

(c) Irrigating any turf or ground cover planted after adoption of this Resolution;

(d) Non-commercial washing of any motor vehicle, trailer or boat with a hose except when using a shut-off nozzle.

(e) Filling any swimming pool constructed under a building permit issued after adoption of this Resolution, except with water from a source acceptable to the Martinez Water System;

(f) Completely refilling an existing swimming pool, except a publicly owned pool refilled for reasons of public health or except where the water is recycled;

(g) Any use of water from a fire hydrant, except to fight fire and except such specified uses from specific hydrants which the Martinez Water System from time to time determines to be necessary in the public interest.

Section 6. Enforcement of Sections 4 and 5.

(a) If and when the Martinez Water System becomes aware of any violation of any provisions of Sections 4 or 5 of this Resolution, a written notice shall be delivered to the premises where the violation occurs and shall be mailed to the person who is regularly billed for the service. Notice may also be given to any other person known to the Martinez Water System who is responsible for the violation or its correction. Said notice shall describe the violation and order that it be corrected, cured or abated immediately or within such specified time as the Martinez Water System determines is reasonable under the circumstances. If said order is not complied with, the Martinez Water System may thereupon disconnect the service or place flow restrictors where the violation occurs without further notice. Flow restrictors will be in place a minimum of three days and the charge for removal will be Fifty Dollars (\$50.00).

(b) Upon the second such violation and each subsequent violation, a similar notice as described in (a) of this Section 6 shall be delivered and the water to that connection shall be disconnected, or restricted for a minimum of seven (7) days. The charge shall be One Hundred Dollars (\$100.00) to have the service restored to normal.

Section 7. Rationing of Water Furnished by the Martinez Water System.

(a) The minimum quantity of water which may be used by each service connection to the water distribution system of the Martinez Water System after April 3, 1991, or such later date as the City Council shall establish, and during the period this Resolution is in effect shall be determined as provided in this Section 7 and is hereinafter referred to as the "water ration".

(b) Each bill for water service shall state the water ration for the service applicable to the following billing period.

(c) Water banking. If customer use is under the allotment in any given billing, water can be "banked" for future use. This would be carried for customers through 12/31/91.

(d) The water ration for each separately metered residence for each billing period shall be three hundred (300) gallons per day for up to four (4) permanent residents; an increase of fifty (50) gallons per day for each additional permanent resident will be allocated upon written request and verification by City that the household exceeds four (4) persons.

(e) The water ration for each service connection shall be based on its 1990 usage during the same billing period as follows:

Multi-family Residential	80%
Industrial	85%
Commercial	75%
Public Buildings	75%
Irrigation	50%

(f) If any connection did not receive full service throughout 1990, the assumed average daily use shall be computed by the Martinez Water System on the basis of its records of use by similar connections.

Section 8. Penalties for Exceeding Martinez Water System Ration.

(a) Commencing with the first full billing period after adoption of this Resolution, an extra charge shall be made for water withdrawn from the Martinez Water System by any service connection in excess of its water ration.

(b) The extra water charge for the billing period that the water ration is exceeded shall be as follows:

Single-family Residential Quantity [Above Ration Amount]  
Per Hundred Cubic Feet (hcf)

first 5 hcf	2 times rate
next 5 hcf	3 times rate
add'l hcf	4 times rate

Other Users

first 10% excess	2 times rate
next 10% excess	3 times rate
additional excess	4 times rate

A service may have a flow restrictor installed if the quantity of water withdrawn exceeds the water ration by 20 percent and 20 hundred cubic feet for the service during two (2) consecutive billing periods.

Flow restrictors will be in place a minimum of seven (7) days the first time installed and fourteen (14) days each consecutive time thereafter. The fee for removal will be one hundred dollars (\$100.00) for each time installed. Fee must be paid before the flow restrictor can be removed.

Section 9. Exceptions/Appeals Procedure.

If the City of Martinez Water System finds that unusual circumstances exist which make it fair, equitable and in the public interest to increase the maximum quantity of water which may be used by a particular service, under the guidelines listed in 9.3., an increase may be granted. Any customer may apply to the Martinez Water System for an increase in the maximum quantity of water which may be used by a particular service.

Application appeal procedure for exceptions:

1. Written applications for exceptions shall be accepted, and may be granted by the City Manager's designee with approval of the Administrative Services Director and the City Manager.
2. Denials of applications may be appealed in writing to the City Council or a Subcommittee thereof.
3. Grounds for granting such applications are:
  - a. mandated allocation would cause an unnecessary and undue hardship to the applicant, including, but not limited to: adverse economic impacts such as loss of production or jobs
  - b. mandated allocation would cause an emergency condition affecting the health, sanitation, fire protection or safety of the applicant or the public
  - c. medical requirements with written verification by physician (if requirements are limited by household size)
  - d. household size - single family residence - presence of more than four permanent residents (must reside in residence more than 4 months per year)
  - e. care of livestock (if requirements are limited by household size)
  - f. small multi-family dwelling units with a lower allocation than an equivalent single family dwelling unit (based on total number of occupants)
  - g. other reasons may be considered through the appeal process

Section 10. Implementing Rules and Regulations.

The City Council may from time to time adopt rules and regulations establishing procedures for implementing and enforcing this Resolution.

\* \* \* \* \*

I HEREBY CERTIFY that the foregoing is true and correct copy of a resolution duly adopted by the City Council of the City of Martinez at a regular meeting of said Council held on the 3rd day of April, 1991 by the following vote:

AYES: Councilmembers Farley, Smith, Woodburn, Vice Mayor McDowell and Mayor Menesini

NOES: None

ABSENT: None

GUS S. KRAMER, CITY CLERK

By Sherry M. Kelly  
Sherry M. Kelly, Deputy City Clerk

D R A F T

# City of Martinez Water System

## 1990 Water Usage vs Allocation by CCWD

Customer class	Customer number	1990 Water usage*	CCWD allocation	Water available*
Single family	7,867	894	280**	804
Multifamily	436	188	85%	160
Commercial	357	142	75%	106
Public	189	189	75%	142
Industrial	17	125	85%	106
Irrigation	54	91	25%	23
Temporary, Fire Services, misc.	101	109	0	0
total	9021	1728		1341

\* million gallons

\*\* gallons per dwelling unit per day

CITY OF MARTINEZ

M E M O R A N D U M

DATE: July 8, 1991

TO: JIM JAKEL, CITY MANAGER

FROM: RICHARD CULLEN, PUBLIC SERVICES DIRECTOR *RRC*

SUBJECT: MONTHLY 1991 WATER USAGE REPORT

FILE: 15.10.6

Listed below are water usage comparisons for 1990 and 1991. Water usage figures are in million gallons (m.g.).

	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>April</u>	<u>May</u>	<u>June</u>	
1990 (actual)	97	94	108	137	156	179	
1991 (actual)	97	83	80	93	102	124	
% 1991 Monthly Reduction vs 1990	- -	11.7%	25.9%	32.1%	34.6%	30.7%	

	<u>July</u>	<u>Aug</u>	<u>Sept</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Total</u>
1990 (actual)	200	198	174	159	119	107	1728
1991 (actual)							*
% 1991 Monthly Reduction vs 1990							

1. Cumulative reduction thru June, 1991 vs. same period 1990: 24.9%
2. Percent of total annual allocation used thru June, 1990: 44.6%
3. Percent of total annual allocation used thru June, 1991: 39.4%
4. \*City raw water allocation from CCWD 1991: 1469 m.g.  
(allocation for 1991 amended 7/1/91; based on  
85% of 1990 consumption)

WP/RRC/lf.224

c: Ron Peterson



CONTRA COSTA  
WATER DISTRICT

1331 Concord Avenue  
P.O. Box H20  
Concord, CA 94524  
(415) 674-8000 FAX (415) 674-8122

(415) 439-9169 Toll Free from  
Eastern Contra Costa County

Directors  
Bette Boatman  
President

Ronald E. Butler  
Vice President

Donald P. Freitas  
Daniel L. Pellegrini  
Paul F. Hughey

Ed Seegmiller  
General Manager

July 2, 1991

Mr. Walter Pease  
Plant Superintendent  
City of Martinez  
525 Henrietta Street  
Martinez, CA 94553

Dear Walter:

At their June 26th meeting, the Board of Directors of the Contra Costa Water District amended the District's Emergency Water Rationing Program. The revised program provides for a voluntary 15 percent water reduction by all of the District's customers. The Board was able to ease the rationing restrictions due to the purchase of additional water from the State Water Bank and the excellent conservation efforts by our customers during the past several months. The 15 percent reduction applies to the period from June 26 through December 31.

Although the water rationing restrictions are voluntary, it must be emphasized that the drought emergency is not over. We are relying on all of our customers to meet the 15 percent reduction goal. We will be closely monitoring consumption to ensure that the voluntary program is working.

Your continued cooperation in this drought situation will be greatly appreciated. Should you have any questions, please contact me at 674-8042.

Very truly yours,

  
William J. Zenoni  
Director of Finance

WJZ/df



CITY OF MARTINEZ

M E M O R A N D U M

COUNCIL AGENDA - 7/17/91

DATE: JULY 9, 1991

TO: CITY MANAGER AND CITY COUNCIL

FILE: 15.10.6

FROM: PUBLIC SERVICES DIRECTOR *RF*

PREPARED BY: WATER SUPERINTENDENT

SUBJECT: WATER RATIONING PROGRAM

RECOMMENDATION:

Adopt the Resolution Rescinding Resolution No. 47-91 and Establishing Voluntary Water Conservation Measures for Water Furnished by the Martinez Water System During the Water Shortage.

DISCUSSION:

On March 6, 1991 the Contra Costa Water District Board of Directors (CCWD) passed a resolution rationing water which included a reduction of approximately 25% of raw water for calendar year 1991 to the Martinez Water System. This was a result of the reduction by 50% of CCWD's raw water supply from the United States Bureau of Reclamation.

Because of the reduction of raw water, the City Council adopted Resolution No. 47-91 on April 3, 1991. This Resolution established mandatory reductions commencing on May 1, 1991, varying by customer classification, for all customers of the Martinez Water System.

On June 26, 1991 CCWD amended the District's Emergency Water Rationing Plan. The revised program provides for a voluntary 15% water reduction by all of the District's raw water customers.

This change in allocation was made possible by the reduction in use by Contra Costa water users, by the ability of CCWD to obtain water from the State of California Water Bank and by the reduction in use by Gaylord Paper in Antioch.

The City of Martinez is proposing to change from the mandatory water rationing program that it had implemented to a voluntary water conservation program. The voluntary water conservation program addresses restriction and penalties for wasting water. Limitations in water use, such as planting of new groundcover, are removed.

Attached is a copy of CCWD's letter of July 2, 1991, formally notifying the City of CCWD's change to a voluntary 15% reduction plan. Also attached is the monthly water usage report through June, 1991.

RRC/WP/lf.169

22.

RESOLUTION NO. \_\_\_\_\_

RESCINDING RESOLUTION NO. 47-91  
"ESTABLISHING WATER CONSERVATION MEASURES AND  
REDUCING THE USE OF WATER FURNISHED BY THE  
MARTINEZ WATER SYSTEM DURING THE WATER SHORTAGE EMERGENCY"  
AND ESTABLISHING VOLUNTARY WATER CONSERVATION MEASURES FOR WATER  
FURNISHED BY THE MARTINEZ WATER SYSTEM DURING THE WATER SHORTAGE

WHEREAS, the City Council of the City of Martinez did adopt Resolution No. 47-91, "Establishing Water Conservation Measures and Reducing the Use of Water Furnished by the Martinez Water System During the Water Shortage Emergency", on April 3, 1991.

WHEREAS, said Resolution was adopted pursuant to a reduction of 25% by Contra Costa Water District of City's raw water allocation for calendar year 1991; and

WHEREAS, on June 26, 1991, the Contra Costa Water District Board of Directors has modified the allocation to the City of Martinez Water System to a voluntary 15% reduction which would reduce the need for mandatory rationing by the customers of the Martinez Water System and would enable the System to meet its goals by a voluntary water conservation program by its customers.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Martinez that in consideration of the above, Resolution No. 47-91 is hereby rescinded; and

BE IT FURTHER RESOLVED voluntary water conservation measures are adopted as follows:

SECTION 1. Authority and Purpose.

(a) This Resolution is enacted pursuant to the emergency powers of the City Council.

(b) The Contra Costa Water District has requested the City of Martinez Water System to use an amount equal to 85% of the water sold to the City in 1990 for 1991.

(c) The purpose of this Resolution is to rescind Resolution 47-91 and to assure that during the water shortage that exists in the Contra Costa Water District the water supply to the City is conserved for the greatest public benefit with particular regard to the requirements of water for public health, fire protection and domestic use; to prevent waste; to prohibit non-essential uses of water; and use the water supplies of the Martinez Water System fairly and equitably.

SECTION 2. Effect of Resolution.

This Resolution shall take effect July 17, 1991, and shall remain in effect until the City Council declares that the water shortage emergency has ended.

SECTION 3. Restrictions on New Service Connections.

During the period this Resolution is in effect, no new services will be connected to the water distribution system of the City unless the land to be served by the new connection is within the Martinez Water Service Area.

SECTION 4. Waste of Water Prohibited.

No water furnished by the Martinez Water System shall be wasted. All water withdrawn from the Martinez Water System facilities shall be put to reasonable beneficial use. Waste of water includes, but is not limited to: permitting water to flow on a sidewalk, driveway or street, or to escape in a gutter, ditch or other surface drain; or the failure to repair a controllable leak of water.

SECTION 5. Prohibition of Non-Essential Use of Water.

No water furnished by the Martinez Water System shall be used for any purpose declared to be non-essential by this Resolution. The following uses of water are declared to be non-essential:

- (a) Washing a sidewalk, driveway, parking area, tennis court, patio or other exterior paving area, except for public safety or sanitary purposes.
- (b) Using water in a decorative fountain;
- (c) Non-commercial washing of any motor vehicle, trailer or boat with a hose except when using a shut-off nozzle.

SECTION 6. Enforcement of Sections 4 and 5.

(a) If and when the Martinez Water System becomes aware of any violation of any provisions of Sections 4 or 5 of this Resolution, a written notice shall be delivered to the premises where the violation occurs and shall be mailed to the person who is regularly billed for the service. Notice may also be given to any other person known to the Martinez Water System who is responsible for the violation or its correction. Said notice shall describe the violation and order that it be corrected, cured or abated immediately or within such specified time as the Martinez Water System determines is reasonable under the circumstances. If said order is not complied with, the Martinez Water System may thereupon disconnect the service, or may place flow restrictors where the violation occurs without further notice. Flow restrictors, if installed, will be in place a minimum of three days. A fine of Twenty-Five Dollars (\$25.00) shall be charged to the account.

(b) Upon the second such violation and each subsequent violation, a similar notice as described in (a) of this Section 6 shall be delivered and the water to that connection may be disconnected, or may be restricted for a minimum of seven (7) days. A fine of Twenty-Five Dollars (\$25.00) shall be charged to the account.

SECTION 7. Implementing Rules and Regulations.

The City Council may from time to time adopt rules and regulations establishing procedures for implementing and enforcing this Resolution.

\* \* \* \* \*

I HEREBY CERTIFY that the foregoing is true and correct copy of a resolution duly adopted by the City Council of the City of Martinez at a regular meeting of said Council held on the 17th day of July, 1991 by the following vote:

AYES:

NOES:

ABSENT:

GUS S. KRAMER  
CITY CLERK

By: \_\_\_\_\_  
Sherry M. Kelly  
Deputy City Clerk

lf/245.170



CERTIFIED A TRUE COPY OF THE ORIGINAL  
Janice B. Booker, District Secretary  
Contra Costa Water District

RESOLUTION NO. 77-4

A RESOLUTION OF THE BOARD OF DIRECTORS OF CONTRA COSTA  
COUNTY WATER DISTRICT DECLARING THE EXISTENCE OF A  
WATER SHORTAGE EMERGENCY CONDITION IN THE DISTRICT

BE IT RESOLVED by the Board of Directors of Contra Costa County Water District that this Board of Directors does hereby find and declare as follows:

1. On March 9, 1977, this Board held a public hearing on the matter of declaring the existence of a water shortage emergency condition at which hearing all persons present and desiring to be heard were heard. No protest was made to said declaration.

2. Said hearing was noticed and held in all respects as required by law.

3. As a result of drought, a water shortage emergency condition exists in the District such that the ordinary demands and requirements of the water consumers of the District cannot be satisfied without depleting the water supply available to the District to the extent that there would be insufficient water for human consumption, sanitation and fire protection.

\* \* \* \* \*

I hereby certify that the foregoing is a true and complete copy of a resolution duly and regularly adopted by the Board of Directors of Contra Costa County Water District at a regular meeting thereof held on March 9, 1977, by the following vote:

AYES: Directors Randall, Lasell, Stitt, Weir and Boatman

NOES: None

ABSENT: None

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John L. Potts  
Secretary to Board of Directors of  
Contra Costa County Water District

# **APPENDIX C**

## **CITY METERING AND WATER CONSUMPTION CLASSIFICATIONS**

## APPENDIX C

### CITY METER AND CONSUMPTION CLASSIFICATIONS

The City meter and consumption classification are listed below. The UWMP includes six defined water use that are pertinent to the City water use classifications.

Meter	UWMP Classification
C Commercial	Commercial
F Fire Service	Industrial
H Industrial/Hydrant	Industrial
I Irrigation – Other than City Uses	Landscape
M Residential Multi-Unit	Multi-Family
P Public Uses Except City	Institutional and Government
Q City of Martinez Irrigation	Landscape
R Residential	Single Family
Z City of Martinez - Domestic	Institutional and Government

# **APPENDIX D**

## **CALIFORNIA URBAN WATER CONSERVATION COUNCIL BEST MANAGEMENT PRACTICES RETAIL WATER AGENCY ANNUAL REPORT**

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

Reporting Unit: **City of Martinez**      BMP Form Status: **Not Applicable**      Year: **FY2005**

### A. Implementation

- |   |                |
|---|----------------|
| 1. Based on your signed MOU date, (none), your Agency STRATEGY DUE DATE is:   | Not Applicable |
| 2. Has your agency developed and implemented a targeting/ marketing strategy for SINGLE-FAMILY residential water use surveys? | Through CCWD   |
| a. If YES, when was it implemented?   | 07/01/2000     |
| 3. Has your agency developed and implemented a targeting/ marketing strategy for MULTI-FAMILY residential water use surveys?  | Through CCWD   |
| a. If YES, when was it implemented?   | 07/01/2000     |

### B. Water Survey Data

Survey Counts:	Single Family Accounts	Multi-Family Units
1. Number of surveys offered:	8,638	466
2. Number of surveys completed:	Unspecified	Unspecified

#### Indoor Survey:

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

#### Outdoor Survey:

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

### C. Water Survey Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0 <sup>a</sup>	0
2. Actual Expenditures	0 <sup>a</sup>	

### D. "At Least As Effective As"

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

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

### E. Comments

The BMP is performed in partnership with Contra Costa Water District (Raw water wholesaler). Information regarding customer records is provided to CCWD for their review. Martinez water customers are notified of CCWD survey availability in City of Martinez billing inserts and the City newsletter. The numbers of Martinez water customer survey totals are unspecified, but are included in CCWD total surveys completed.

<sup>a</sup> Costs included in raw water rates

## BMP 02: Residential Plumbing Retrofit

Reporting Unit:  
City of Martinez

BMP Form Status:  
Not Applicable

Year:  
FY2005

### A. Implementation

- |   |     |
|---|-----|
| 1. Is there an enforceable ordinance in effect in your service area requiring replacement of high-flow showerheads and other water use fixtures with their low-flow counterparts? | no  |
| a. If YES, list local jurisdictions in your service area and code or ordinance in each:   |     |
| 2. Has your agency satisfied the 75% saturation requirement for single-family housing units?  | no  |
| 3. Estimated percent of single-family households with low-flow showerheads:   | 70% |
| 4. Has your agency satisfied the 75% saturation requirement for multi-family housing units?   | no  |
| 5. Estimated percent of multi-family households with low-flow showerheads:  | 70% |
| 6. If YES to 2 OR 4 above, please describe how saturation was determined, including the dates and results of any survey research.   |     |

### B. Low-Flow Device Distribution Information

- |   |            |
|---|------------|
| 1. Has your agency developed a targeting/ marketing strategy for distributing low-flow devices? | yes        |
| a. If YES, when did your agency begin implementing this strategy?                               | 07/01/1991 |
| b. Describe your targeting/ marketing strategy.<br>Performed through CCWD Conservation Program  |            |

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

### C. Low-Flow Device Distribution Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0 <sup>a</sup>	0
2. Actual Expenditures	0 <sup>a</sup>	

### D. "At Least As Effective As"

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

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

### **E. Comments**

BMP performed in partnership with Contra Costa Water District (Raw water wholesaler). Distribution within Martinez Water System is unspecified. BMP coverage is assumed similar to CCWD service area percentage.

<sup>a</sup> Costs included in raw water rates

## BMP 03: System Water Audits, Leak Detection and Repair

Reporting Unit:

BMP Form Status:

Year:

City of Martinez

Not Applicable

FY2005

### A. Implementation

1. Has your agency completed a pre-screening system audit for this reporting year? yes
2. If YES, enter the values (AF/Year) used to calculate verifiable use as a percent of total production:
  - a. Determine metered sales (AF) 4,978
  - b. Determine other system verifiable uses (AF) 0
  - c. Determine total supply into the system (AF) 5,105
  - d. Using the numbers above, if  $(\text{Metered Sales} + \text{Other Verifiable Uses}) / \text{Total Supply}$  is  $< 0.9$  then a full-scale system audit is required. 0.975
3. Does your agency keep necessary data on file to verify the values used to calculate verifiable uses as a percent of total production? yes
4. Did your agency complete a full-scale audit during this report year? no
5. Does your agency maintain in-house records of audit results or the completed AWWA audit worksheets for the completed audit? yes
6. Does your agency operate a system leak detection program? no
  - a. If yes, describe the leak detection program:

### B. Survey Data

1. Total number of miles of distribution system line. 100
2. Number of miles of distribution system line surveyed. 0

### C. System Audit / Leak Detection Program Expenditures

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

### D. "At Least As Effective As"

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

### E. Comments

This BMP is implemented by the City of Martinez within its service area. Implementation is based on Martinez Water Service area supply and metered demand.

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

Reporting Unit:  
City of Martinez

BMP Form Status:  
Not Applicable

Year:  
FY2005

### A. Implementation

- |   |     |
|---|-----|
| 1. Does your agency require meters for all new connections and bill by volume-of-use?                         | yes |
| 2. Does your agency have a program for retrofitting existing unmetered connections and bill by volume-of-use? | no  |
| a. If YES, when was the plan to retrofit and bill by volume-of-use existing unmetered connections completed?  |     |
| b. Describe the program:<br>Program is not necessary since all accounts are metered.                          |     |
| 3. Number of previously unmetered accounts fitted with meters during report year.                             | 0   |

### B. Feasibility Study

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

### C. Meter Retrofit Program Expenditures

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

### D. "At Least As Effective As"

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

### E. Comments

All connections to the Martinez water system are metered, except for a few unmetered diversions into the treatment plant that are used for plant operations and are estimated by plant operations staff.

## BMP 05: Large Landscape Conservation Programs and Incentives

Reporting Unit:  
City of Martinez

BMP Form Status:  
Not Applicable

Year:  
FY2005

### A. Water Use Budgets

- |  |             |
|--|-------------|
| 1. Number of Dedicated Irrigation Meter Accounts:  | 162         |
| 2. Number of Dedicated Irrigation Meter Accounts with Water Budgets:                       | unspecified |
| 3. Budgeted Use for Irrigation Meter Accounts with Water Budgets (AF):                     | 0           |
| 4. Actual Use for Irrigation Meter Accounts with Water Budgets (AF):                       | 0           |
| 5. Does your agency provide water use notices to accounts with budgets each billing cycle? | no          |

### B. Landscape Surveys

- |  |                              |
|--|------------------------------|
| 1. Has your agency developed a marketing / targeting strategy for landscape surveys?   | yes                          |
| a. If YES, when did your agency begin implementing this strategy?  | 07/01/1990                   |
| b. Description of marketing / targeting strategy:<br>Water use by irrigation meter accounts within Martinez water service area is provided to CCWD conservation coordinator for use in developing strategy for targeting. The availability of CCWD surveys is provided with City billing data and in City newsletter to all residents. |                              |
| 2. Number of Surveys Offered.  | All users,<br>9,972 accounts |
| 3. Number of Surveys Completed.  | unspecified                  |
| 4. Indicate which of the following Landscape Elements are part of your survey:   |                              |
| a. Irrigation System Check   | yes                          |
| b. Distribution Uniformity Analysis  | yes                          |
| c. Review / Develop Irrigation Schedules   | yes                          |
| d. Measure Landscape Area  | yes                          |
| e. Measure Total Irrigable Area  | yes                          |
| f. Provide Customer Report / Information   | yes                          |
| 5. Do you track survey offers and results?   | yes                          |
| 6. Does your agency provide follow-up surveys for previously completed surveys?  | yes                          |
| a. If YES, describe below:<br>CCWD provides follow up to resolve questions and for replacement of landscape managers at each surveyed facility.  |                              |

### C. Other BMP 5 Actions

- |  |     |
|--|-----|
| 1. An agency can provide mixed-use accounts with ETo-based landscape budgets in lieu of a large landscape survey program.<br>Does your agency provide mixed-use accounts with landscape budgets? | no  |
| 2. Number of CII mixed-use accounts with landscape budgets.  | 0   |
| 3. Do you offer landscape irrigation training?   | yes |
| 4. Does your agency offer financial incentives to improve landscape water use efficiency?  | yes |

Type of Financial Incentive:

Budget (Dollars/ Year)

Number Awarded to Customers

Total Amount Awarded

a. Rebates	unspecified	unspecified
b. Loans		
c. Grants		
5. Do you provide landscape water use efficiency information to new customers and customers changing services?		no
a. If YES, describe below:		
6. Do you have irrigated landscaping at your facilities?		yes
a. If yes, is it water-efficient?		yes
b. If yes, does it have dedicated irrigation metering?		yes
7. Do you provide customer notices at the start of the irrigation season?		no
8. Do you provide customer notices at the end of the irrigation season?		yes

#### **D. Landscape Conservation Program Expenditures**

	<b>This Year</b>	<b>Next Year</b>
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

#### **E. "At Least As Effective As"**

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

#### **F. Comments**

Water use budgets and landscape surveys implemented in partnership with Contra Costa Water District (raw water wholesaler) Information regarding customer records is provided to CCWD for their review. Martinez water customers are notified of CCWD survey availability in City of Martinez billing inserts and the City newsletter. The numbers of Martinez water customer survey totals are unspecified, but are included in CCWD total surveys completed.

<sup>a</sup> Costs included in raw water rates

## BMP 06: High-Efficiency Washing Machine Rebate Programs

Reporting Unit:  
City of Martinez

BMP Form Status:  
Not Applicable

Year:  
FY2005

### A. Implementation

1. Do any energy service providers or waste water utilities in your service area offer rebates for high-efficiency washers? yes
  - a. If YES, describe the offerings and incentives as well as who the energy/waste water utility provider is.  
PG&E offered rebates for energy star rated washers, but program was discontinued.
2. Does your agency offer rebates for high-efficiency washers? yes
3. What is the level of the rebate? 50
4. Number of rebates awarded. unspecified

### B. Rebate Program Expenditures

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

### C. "At Least As Effective As"

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

### D. Comments

Contra Costa Water District (raw water wholesaler) implements this rebate program for the Martinez water service area.

<sup>a</sup> Costs included in raw water rates

## BMP 07: Public Information Programs

Reporting Unit:  
City of Martinez

BMP Form Status:  
Not Applicable

Year:  
2004

### A. Implementation

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

- a. If YES, describe the program and how it's organized.  
Partnership with Contra Costa Water District.

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

Public Information Program Activity	Yes/No	Number of Events
a. Paid Advertising	yes	0
b. Public Service Announcement	yes	0
c. Bill Inserts / Newsletters / Brochures	yes	11
d. Bill showing water usage in comparison to previous year's usage	no	
e. Demonstration Gardens	yes	0
f. Special Events, Media Events	yes	3
g. Speaker's Bureau	yes	61
h. Program to coordinate with other government agencies, industry and public interest groups and media	yes	

### B. Conservation Information Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0 <sup>a</sup>	0
2. Actual Expenditures	0 <sup>a</sup>	

### C. "At Least As Effective As"

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

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

### D. Comments

Program done in partnership with Contra Costa Water District (raw water wholesaler) and includes all CCWD events.

<sup>a</sup> Costs included in raw water rates

## BMP 08: School Education Programs

Reporting Unit:  
**City of Martinez**

BMP Form Status:  
**Not Applicable**

Year:  
**2004**

### A. Implementation

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

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

Grade	Are grade-appropriate materials distributed?	No. of class presentations	No. of students reached	No. of teachers' workshops
Grades K-3rd	yes	135	9,450	0
Grades 4th-6th	yes	283	19,836	4
Grades 7th-8th	yes	13	455	0
High School	no	5	140	0

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

4. When did your Agency begin implementing this program? 7/01/1980

### B. School Education Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0 <sup>a</sup>	0
2. Actual Expenditures	0 <sup>a</sup>	

### C. "At Least As Effective As"

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

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

### D. Comments

Program done in partnership with Contra Costa Water District (raw water wholesaler)

<sup>a</sup> Costs included in raw water rates.

## BMP 09: Conservation Programs for CII Accounts

Reporting Unit:  
City of Martinez

BMP Form Status:  
Not Applicable

Year:  
FY2005

### A. Implementation

- |  |     |
|--|-----|
| 1. Has your agency identified and ranked COMMERCIAL customers according to use?    | yes |
| 2. Has your agency identified and ranked INDUSTRIAL customers according to use?    | yes |
| 3. Has your agency identified and ranked INSTITUTIONAL customers according to use? | yes |

### Option A: CII Water Use Survey and Customer Incentives Program

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

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

### Option B: CII Conservation Program Targets

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

1991.

8. Estimated annual savings (AF/yr) from non-site-verified actions taken by agency since 1991. 0

**B. Conservation Program Expenditures for CII Accounts**

	<b>This Year</b>	<b>Next Year</b>
1. Budgeted Expenditures	0 <sup>a</sup>	0
2. Actual Expenditures	0 <sup>a</sup>	

**C. "At Least As Effective As"**

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

**D. Comments**

The BMP is performed in partnership with Contra Costa Water District (Raw water wholesaler). Information regarding customer records is provided to CCWD for their review. Martinez water customers are notified of CCWD survey availability in City of Martinez billing inserts and the City newsletter. The numbers of Martinez water customer survey totals are unspecified, but are included in CCWD total surveys completed.

<sup>a</sup> Costs included in raw water rates

## BMP 09a: CII ULFT Water Savings

Reporting Unit:  
**City of Martinez**

BMP Form Status:  
**Not Applicable**

Year:  
**2004**

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

Yes

### A. Targeting and Marketing

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

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

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

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

### B. Implementation

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

Yes

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

Yes

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

Unspecified

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

6. Does your agency use outside services to implement this program?

a. If yes, check all that apply.

7. Participant tracking and follow-up.

8. Based on your program experience, please rank on a scale of 1 to 5, with 1 being the least frequent cause and 5 being the most frequent cause, the following reasons why customers refused to participate in the program.

a. Disruption to business 4

b. Inadequate payback 4

c. Inadequate ULFT performance

d. Lack of funding

e. American's with Disabilities Act

f. Permitting

g. Other. Please describe in B. 9.

9. Please describe general program acceptance/resistance by customers, obstacles to implementation, and other issues affecting program implementation or effectiveness.

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

This BMP performed in partnership with Contra Costa Water District (raw water wholesaler)

### C. Conservation Program Expenditures for CII ULFT

1. CII ULFT Program: Annual Budget & Expenditure Data

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

2. CII ULFT Program: Annual Cost Sharing

a. Wholesale agency contribution

b. State agency contribution

c. Federal agency contribution

d. Other contribution

e. Total 0

### D. Comments

Program done in partnership with Contra Costa Water District (raw water wholesaler).

## BMP 11: Conservation Pricing

Reporting Unit:  
**City of Martinez**

BMP Form Status:  
**Not Applicable**

Year:  
**FY2005**

### A. Implementation

#### Rate Structure Data Volumetric Rates for Water Service by Customer Class

##### 1. Residential

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Non-volumetric Flat Rate
c. Total Revenue from Volumetric Rates	\$3,664,968.00
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$0

##### 2. Commercial

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Non-volumetric Flat Rate
c. Total Revenue from Volumetric Rates	\$513,064.80
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$0

##### 3. Industrial

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Non-volumetric Flat Rate
c. Total Revenue from Volumetric Rates	\$115,687.20
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$0

##### 4. Institutional / Government

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Non-volumetric Flat Rate
c. Total Revenue from Volumetric Rates	\$N/A
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$0

##### 5. Irrigation

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Needed
c. Total Revenue from Volumetric Rates	\$372,067.20
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$0

##### 6. Other

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Non-volumetric Flat Rate
c. Total Revenue from Volumetric Rates	\$507,086.40
d. Total Revenue from Non-Volumetric Charges, Fees	\$0

and other Revenue Sources

**B. Conservation Pricing Program Expenditures**

	<b>This Year</b>	<b>Next Year</b>
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

**C. "At Least As Effective As"**

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

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

**D. Comments**

The water rate structure is set by the City of Martinez, and includes conservation program costs that are inherent in the raw water rates set by CCWD. Revenue estimates are based on water use for classes and appropriate rates.

## BMP 12: Conservation Coordinator

Reporting Unit:  
**City of Martinez**

BMP Form Status:  
**Not Applicable**

Year:  
**FY2005**

### A. Implementation

1. Does your Agency have a conservation coordinator? yes
2. Is this a full-time position? no
3. If no, is the coordinator supplied by another agency with which you cooperate in a regional conservation program ? yes
4. Partner agency's name: Contra Costa Water District
5. If your agency supplies the conservation coordinator:
  - a. What percent is this conservation coordinator's position? 5%
  - b. Coordinator's Name Alan Pellegrini
  - c. Coordinator's Title Water Superintendent
  - d. Coordinator's Experience and Number of Years 30 yrs experience
  - e. Date Coordinator's position was created (mm/dd/yyyy) 12/1/1986
6. Number of conservation staff, including Conservation Coordinator. 1

### B. Conservation Staff Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	5,000	5,000
2. Actual Expenditures	5,000	

### C. "At Least As Effective As"

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

### D. Comments

Water Conservation Program is operated in partnership with Contra Costa Water District (CCWD), who is the raw water wholesaler. Most of funding is done through CCWD and is included in raw water rates. Coordinator position provides City metering and water use information to CCWD for their use.

## BMP 13: Water Waste Prohibition

Reporting Unit:  
City of Martinez

BMP Form Status:  
Not Applicable

Year:  
FY2005

### A. Requirements for Documenting BMP Implementation

1. Is a water waste prohibition ordinance in effect in your service area? Yes, in drought emergency
  - a. If YES, describe the ordinance:  
Implemented only in drought emergency. Waste of water prohibited. No person shall waste any water provided by the city. Waste of water shall include without limitation, permitting water to flow on a sidewalk, driveway or street, or escape in a gutter, ditch or other service drain; or the failure to repair a controllable leak of water.
2. Is a copy of the most current ordinance(s) on file with CUWCC? no
  - a. List local jurisdictions in your service area in the first text box and water waste ordinance citations in each jurisdiction in the second text box:  
None None

### B. Implementation

1. Indicate which of the water uses listed below are prohibited by your agency or service area.
  - a. Gutter flooding yes
  - b. Single-pass cooling systems for new connections no
  - c. Non-recirculating systems in all new conveyor or car wash systems no
  - d. Non-recirculating systems in all new commercial laundry systems no
  - e. Non-recirculating systems in all new decorative fountains no
  - f. Other, please name no
2. Describe measures that prohibit water uses listed above:  
Waste of water prohibited. No person shall waste any water provided by the city. Waste of water shall include without limitation, permitting water to flow on a sidewalk, driveway or street, or escape in a gutter, ditch or other service drain; or the failure to repair a controllable leak of water.

#### Water Softeners:

3. Indicate which of the following measures your agency has supported in developing state law:
  - a. Allow the sale of more efficient, demand-initiated regenerating DIR models. yes
  - b. Develop minimum appliance efficiency standards that:
    - i.) Increase the regeneration efficiency standard to at least 3,350 grains of hardness removed per pound of common salt used. yes
    - ii.) Implement an identified maximum number of gallons discharged per gallon of soft water produced. yes
  - c. Allow local agencies, including municipalities and special districts, to set more stringent standards and/or to ban on-site regeneration of water softeners if it is demonstrated and found by the agency governing board that there is an adverse effect on the reclaimed water or groundwater supply. yes
4. Does your agency include water softener checks in home water audit programs? yes
5. Does your agency include information about DIR and exchange-type water softeners in educational efforts to encourage replacement of less efficient timer models? yes

### C. Water Waste Prohibition Program Expenditures

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

### D. "At Least As Effective As"

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

### E. Comments

Water waste BMP applicable to City of Martinez and Martinez Water Service Area only. The ordinance has been implemented only during drought emergencies.

## BMP 14: Residential ULFT Replacement Programs

Reporting Unit:  
City of Martinez

BMP Form Status:  
Not Applicable

Year:  
2004

### A. Implementation

	Single-Family Accounts	Multi-Family Units
1. Does your Agency have program(s) for replacing high-water-using toilets with ultra-low flush toilets?	yes	yes
<b>Number of Toilets Replaced by Agency Program During Report Year</b>		
<b>Replacement Method</b>	<b>SF Accounts</b>	<b>MF Units</b>
2. Rebate	Unspecified	Unspecified
3. Direct Install	0	0
4. CBO Distribution	Unspecified	Unspecified
5. Other	0	0
	<b>Total</b>	<b>Unspecified</b>
6. Describe your agency's ULFT program for single-family residences. Rebate program was replaced with a Voucher/Distribution program for all residential (SF and MF). Program provides high quality ULFT free to eligible customers.		
7. Describe your agency's ULFT program for multi-family residences. Distribution program through Contra Costa Water District		
8. Is a toilet retrofit on resale ordinance in effect for your service area?		no
9. List local jurisdictions in your service area in the left box and ordinance citations in each jurisdiction in the right box:		

### B. Residential ULFT Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0 <sup>a</sup>	0
2. Actual Expenditures	0 <sup>a</sup>	

### C. "At Least As Effective As"

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

### D. Comments

Program implemented in partnership with Contra Costa Water District (raw water wholesaler). The total number of replacements within City of Martinez Service Area is unspecified.

<sup>a</sup> Costs included in raw water rates.

# **APPENDIX E**

**ORDINANCE NO. 1195 C.S.-WATER CONSERVATION IN  
LANDSCAPING FOR NEW DEVELOPMENTS**

ORDINANCE NO. 1195 C.S.

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF MARTINEZ  
AMENDING SECTION 22.34.045, SUBSECTION "H" AND ADDING  
CHAPTER 22.35 TO THE MARTINEZ MUNICIPAL CODE TO PROVIDE FOR  
WATER CONSERVATION IN LANDSCAPING FOR NEW DEVELOPMENTS

THE CITY COUNCIL of the City of Martinez hereby finds as follows:

**WHEREAS**, water is a limited resource, particularly in dry years, and must be managed and used efficiently; and

**WHEREAS**, precipitation in California fluctuates annually causing yearly variations in the water supply as demonstrated by water supply shortages experienced in the Contra Costa Water District service area in six of the last fourteen years; and

**WHEREAS**, state and local standards for water use have been established in regard to other water uses, including indoor plumbing fixtures; and

**WHEREAS**, in addition to such other water-conserving efforts, landscapes should be designed based on the functional use of the landscape and appropriate horticulture, by including plants best suited for the climate; and

**WHEREAS**, such landscape requirements do not increase the cost of landscaping when computed over the life of the development and do not diminish the aesthetic quality of the landscaping; and

**WHEREAS**, outdoor landscaping consumes approximately 30 percent of water used in the Contra Costa Water District service area, and the frequent overwatering of landscaping can be avoided through appropriate use of plant materials, efficient irrigation systems and sound landscape management practices.

**NOW, THEREFORE**, the City Council of the City of Martinez does ordain as follows:

Section 1. Section 22.34.045, Subsection "H" of the Martinez Municipal Code is hereby amended to read as follows:

H. Designing the type and location of planting with respect to the preservation of specimen and landmark trees, water conservation as set forth in Chapter 22.35, and maintenance of all planting;

Section 2. Chapter 22.35, entitled "Water Conservation in Landscaping," is hereby added to the Martinez Municipal Code to read as follows:

## WATER CONSERVATION IN LANDSCAPING

### CHAPTER 22.35

#### Sections:

22.35.010	Purpose
22.35.020	Application
22.35.030	Requirements
22.35.040	Plant Selection
22.35.050	Turf Selection and Limitations
22.35.060	Soil Conditioning and Mulching
22.35.070	Irrigation
22.35.080	Certification
22.35.090	Definitions
22.35.100	Formula

#### 22.35.010 Purpose.

The purpose of this Chapter is to promote and encourage water conservation in landscaping and irrigation for new development projects.

#### 22.35.020 Application.

The requirements of this Chapter shall apply to all applications for architectural and site design review as set forth in Chapter 22.34. Notwithstanding the foregoing, the requirements of this Chapter shall not apply to applications for one (1) single family residence or to that portion of a site used for the irrigation of edible crops, or to that portion of a site on which reclaimed water is exclusively used. A variance from the requirements of this Chapter may be granted pursuant to Chapter 22.44.

#### 22.35.030 Alternative Water Sources.

All uses of water in the common open space of a new development project for ornamental purposes, such as ponds, lakes, or fountains, shall be supplied, operated, and maintained with reclaimed water or other alternative sources of water, to the extent available.

#### 22.35.040 Plant Selection.

No less than 90 percent of the plants selected in non-turf areas shall be suited to the climate of the region and require minimal water once established. No more than 10 percent of the plants may be of a non-drought tolerant variety as long as such

plants are planted in close proximity to each other and can be irrigated separately from the drought-tolerant plants.

22.35.050 Turf Selection and Limitations.

A. The combined turf and/or water area (such as pools, ponds and fountains) shall be limited to 25 percent of the landscaped areas.

B. No turf shall be allowed in median strips, in areas less than 8 feet wide, or on slopes greater than 4:1.

C. This Section shall not apply to public parks, golf courses, cemeteries, and school and recreation areas.

22.35.060 Soil Conditioning and Mulching.

A. A soils report shall be submitted with landscape plans, showing soil type, soil composition and pH. The soil shall be modified to comport with the recommendation of the soils report.

B. A minimum of 2 inches of mulch shall be added in non-turf areas to the soil surface after planting. Non-porous material shall not be placed under the mulch.

22.35.070 Irrigation.

A. Sprinklers and sprays shall not be used in areas less than 8 feet wide. Drip and bubblers that exceed 1.5 gallons per minute per device shall not be used.

B. To minimize runoff, no sprinkler head shall be used on slopes exceeding 15 percent or exceeding 10 percent within 10 feet of hardscape, unless such sprinkler head has a precipitation rate of .85" per hour or less.

C. Valves and circuits shall be separated based on hydrozones.

D. Newly installed trees shall have drip or bubbler irrigation systems.

E. Sprinkler heads shall have matched precipitation rates within each control valve circuit.

F. Serviceable check valves shall be required where elevation differential may cause low head drainage.

G. Sprinkler head spacing shall be designed for head-to-head coverage. The system shall be designed for minimum runoff and overspray onto non-irrigated areas.

H. All irrigation systems shall be equipped with an automatic controller capable of dual or multiple programming. Controllers shall have multiple cycle start capacity and flexible calendar program.

I. Pop-up sprinklers in lawn areas shall have at least a 4" pop-up height.

J. All irrigation systems shall be equipped with automatic rain shutoff devices.

K. Irrigation plans shall include:

1. Irrigated turf area (in square feet).
2. Irrigated non-turf area (in square feet).
3. Flow rate in gallons per minute per valve.
4. Estimated water use per hydrozone in gallons. The formula for determining the estimated water use per hydrozone is set forth at Section 22.35.100.
5. Estimated total water use in gallons (sum of hydrozones). The formula for determining the estimated total water use is set forth at Section 22.35.100.

L. Upon completing the installation of the landscaping and irrigation system, a landscape irrigation audit shall be performed by a certified landscape irrigation auditor during the maintenance period. The results of the audit shall be used to produce an irrigation schedule.

22.35.080 Certification.

The applicant shall provide a certificate of substantial completion to the City, signed by (1) a licensed contractor and (2) a licensed landscape architect, certified irrigation designer, or other licensed or certified professional in a related field. Each of the signatories to the certificate of substantial completion shall certify that they conducted a final field observation prior to signing the certificate.

22.35.090 Definitions.

The following terms as used in this Chapter shall have the meanings set forth below:

A. "Automatic controller" means a mechanical or solid state timer, capable of operating valve stations to set the days and length of time of a water application.

B. "Check valve" means a valve located under a sprinkler head to hold water in the system so as to minimize drainage from the lower elevation sprinkler heads.

C. "Conversion factor" means a number that converts the estimated total water use from acre-inches per acre per year to gallons per square foot per year. The conversion factor is calculated as follows:

$$\begin{aligned} (325,829 \text{ gallons}/43,560 \text{ square feet}) / 12 \text{ inches} &= (0.62) \\ 325,829 \text{ gallons} &= \text{one acre foot} \\ 43,560 \text{ square feet} &= \text{one acre} \\ 12 \text{ inches} &= \text{one foot} \end{aligned}$$

Gallons per year may be converted to 100-cubic-feet per year (another common billing unit for water) by dividing gallons per year by 748 (748 gallons = 100 cubic feet.)

D. "Estimated total water use" means the annual total amount of water estimated to be necessary to keep the plants in the landscaped area healthy, as determined by the formula set forth at Section 22.35.100.

E. "Evapotranspiration" means the quantity of water evaporated from adjacent soil surfaces and transpired by plants during a specific time.

F. "Flow rate" means the rate at which water flows through pipes and valves (gallons per minute or cubic feet per second).

G. "Hydrozone" means a portion of the landscape area having plants with similar water needs that are served by a valve or set of valves with the same schedule. A hydrozone may be irrigated or non-irrigated. For example, a naturalized area planted with native vegetation that will not need supplemental irrigation once established is a non-irrigated hydrozone.

H. "Irrigation efficiency" or "IE" means the measure of the amount of water beneficially used divided by the amount of water applied. Irrigation efficiency is derived from measurements and estimates of irrigation system characteristics and management practices. For the purposes of this Chapter the following factors shall be used:

Spray heads (pop-up or riser) 0.60

Rotor or impact heads	0.70
Bubbler	0.70
Drip	0.76

I. "Landscape irrigation audit" means a process to perform site inspections, evaluate irrigation systems, and develop efficient irrigation schedules.

J. "Landscaped area" means the entire parcel other than the area occupied by the building footprint, driveways, non-irrigated portions of parking lots, and hardscapes, such as decks and patios, and other non-porous areas. Water features are included in the calculation of the landscaped area. Areas dedicated to edible plants, such as orchards or vegetable gardens are not included.

K. "Mulch" means any material such as leaves, bark, straw or other materials left loose and applied to the soil surface to reduce evaporation.

L. "Overspray" means the water which is delivered beyond the landscaped area, which wets pavements, walks, structures, or other non-landscaped areas.

M. "Plant factor" or "PF" means a factor that when multiplied by reference evapotranspiration, estimates the amount of water used by plants. For purposes of this ordinance, the following plant factors shall apply:

Low water using:	0.1-0.3
Medium water using:	0.4-0.6
High water using:	0.7-0.9

These plant factors are based on the Water Use Classification of Landscape Species project (WUCOLS). The project list is intended solely as a guide to help landscape professionals identify irrigation water needs of landscape species. It is not intended to be used as a required, mandatory, approved or master list. The WUCOLS Project is available from the California Department of Water Resources or from the Contra Costa Water District.

N. "Reclaimed water" means treated or recycled waste water of a quality suitable for nonpotable uses such as landscape irrigation.

O. "Reference evapotranspiration" or "ETo" means a standard measurement of environmental parameters which affect the water use of plants. ETo is given in inches per day, month or year and is an estimate of the evapotranspiration of a large field of four- to seven-inch tall, cool-season grasses that is well watered. ETo is used as the basis of determining the estimated total water use so that regional differences in climate can be accommodated. ETo for Martinez based on historical averages is 41.8" per year.

P. "Runoff" means water which is not absorbed by the soil or landscape to which it is applied and flows from the area. For example, runoff may result from water that is applied at too great a rate (i.e., the application rate exceeds the infiltration rate) or when water is applied to a severe slope.

Q. "Soil composition" means the classification of soil based on the percentage of sand, silt, and clay in the soil.

R. "Sprinkler" means a device which sprays water through a nozzle.

S. "Station" means an area served by one valve or by a set of valves that operate simultaneously.

T. "Turf" means a surface layer of earth containing mowed grass with its roots. This can be either a cool season or warm season grass.

U. "Valve" means a device used to control the flow of water in the irrigation system.

#### 22.35.100 Formula.

The formula for determining estimated water use and estimated total water use shall be as follows:

EWU (hydrozone)	=	$\frac{(ETo)(PF)(HA)(.62)}{IE}$
EWU		Estimated water use (gallons per year)
ETo		Reference evapotranspiration (inches per year) (historical average = 41.8)
PF		Plant factor (see Section 22.35.090)
HA		Hydrozone area (square feet)
(.62)		Conversion factor to gallons (see Section 22.35.090)
IE		Irrigation efficiency (see Section 22.35.090)

EXAMPLE: Martinez site with 2,500 square feet of turf, irrigated with pop-up spray heads, and 7,500 square feet of low water using shrubs and groundcovers irrigated by a drip system

EWU (turf)  $= \frac{(41.8)(.8)(2,500)(.62)}{0.60}$   
= 86,386 gallons per year

EWU (shrubs and groundcover)  $= \frac{(41.8)(.3)(7,500)(.62)}{0.76}$   
= 76,725 gallons per year

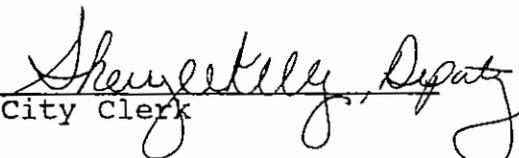
EWU (total) = 86,386 + 76,725 = 163,111 gallons per year

SECTION 3. Severability - If any section, subsection, sentence, clause, phrase, or portion of this ordinance is for any reason held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed a separate, distinct, and independent provision, and such holding shall not affect the validity of the remaining portions thereof.

SECTION 4. The City Clerk is hereby directed to cause this ordinance to be published in the Martinez News Gazette, a local newspaper of general circulation.

SECTION 5. This ordinance shall take effect thirty (30) days after its adoption, provided it has been published in the manner required by law for the adoption of ordinances.

APPROVED:   
Michael M. Menesini, Mayor

ATTEST:   
City Clerk

\* \* \* \* \*

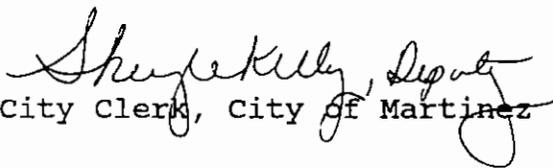
I HEREBY CERTIFY that the foregoing ordinance was duly and regularly introduced at a Regular Meeting of the City Council of the City of Martinez, held on the 21st day of December, 1992, and duly passed and adopted at an Adjourned Regular Meeting of said City Council held on the 11th day of January, 1993, by the following vote:

AYES: Councilmembers Burt, Farley, Frazer,  
Vice Mayor Woodburn and Mayor Menesini

NOES: None

ABSENT: None

ABSTAIN: None

  
City Clerk, City of Martinez

SAMPLE CERTIFICATE OF SUBSTANTIAL COMPLETION

Project Name: \_\_\_\_\_ Inspection Date: \_\_\_\_\_

Project Address: \_\_\_\_\_  
\_\_\_\_\_

POST INSTALLATION INSPECTION: (Initial indicating substantial completion)

- \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- A. Plants installed as specified
  - B. Irrigation system installed as designed  
\_\_\_\_\_ dual distribution system for recycled water  
\_\_\_\_\_ minimal runoff or overspray
  - C. Landscape Irrigation Audit performed

COMMENTS:

I/We certify that work has been installed in accordance with the contract documents.

\_\_\_\_\_  
Contractor                      Signature                      Date                      State License No.

I/We certify that based upon periodic site observations, the work has been substantially completed in accordance with the Water Conservation in Landscaping Ordinance and that the landscape planting and irrigation installation conform with the approved plans and specifications.

\_\_\_\_\_  
Landscape Architect                      Signature                      Date                      State License No.

\_\_\_\_\_  
Irrigation Designer                      Signature                      Date                      State License No.

\_\_\_\_\_  
Licensed or Certified Professional in a Related Field                      Signature                      Date                      State License No.

I/We certify that I/we have received all of the contract documents and that the installation conforms with the Water Conservation in Landscaping Ordinance.

\_\_\_\_\_  
Owner    Signature    Date

# **APPENDIX F**

## **2004-2005 WATER BILLING RATES AND REGULATIONS GOVERNING WATER SERVICE**

# CITY OF MARTINEZ WATER SYSTEM



## REGULATIONS GOVERNING WATER SERVICE

UPDATED JULY 2004

## SECTION 14

### SCHEDULE OF FEES AND RATES

14.1 Fees – The applicable fees shall be paid when requesting the water service initially in accordance with the provisions of these regulations and as follows:

14.1.1 Development Connection Fee (DCF) – For single lot and minor subdivision developments the DCF and other water fees shall be paid with the application for each water meter installation.

For major subdivision developments the DCF fees shall be paid in its entirety with the application for the first meter installation unless otherwise agreed to in the Subdivision Agreement.

The per dwelling unit connection fees increase annually by \$200 commencing each August 1, 1996, and thereafter until June 30, 2001.

a. Residential Service

The water connection fees for providing service to a parcel containing one or two dwelling by one family unit for living purpose shall be:

- \$4,300 for the first dwelling unit (a residential unit with kitchen facilities for dwelling by one family unit, e.g. one single family residence or one townhouse).
- \$1,978 per dwelling unit for a second unit on the same parcel.
- \$7,525 per dwelling unit for a combined residential/fire sprinkler service.

b. Multiple Family Residential Service

The water connection fee for providing service to a parcel containing three or more dwelling units shall be:

- \$1,978 per dwelling unit (a dwelling unit with kitchen facilities for dwelling by one family; e.g. one apartment unit or one condominium unit).

c. Non-Residential Service

The water connection fee for commercial, industrial, and other non-residential uses shall be per the following schedule:

<u>Meter Size</u>	<u>Connection Fee</u>
5/8 inch .....	1.00 x R
1 inch.....	2.50 x R
1-1/2 inch.....	5.00 x R
2 inch.....	8.00 x R
Dual 1-1/2 inch.....	10.00 x R
Dual 2 inch.....	16.00 x R
3 inch.....	16.00 x R
4 inch .....	25.00 x R
6 inch .....	50.00 x R
8 inch.....	115.00 x R
10 inch .....	142.00 x R

or the connection fee calculated by multiplying the non-residential, connection fee unit cost of \$4.93 per gallon per day times the estimated peak water use of the non-residential service connection, based on the average day of the peak month. The connection fees for non-residential service with meter sizes of 2 inches or larger will be reviewed on an individual basis.

If the estimated peak water use is significantly lower (as determined by the Director of Administrative Services) than the non-residential customer’s actual peak water use, then the water connection charge will be adjusted accordingly and the difference collected.

R = Residential Connection Fee per Dwelling Unit – (\$4,300)

d. Localized Improvements

It has been determined that improvements to the system are required in certain localized areas to provide the desired level of service for existing and future developments. Applicants for water service in these localized areas shall pay the water connection fees and install the additional improvements required to serve these localized areas, or deposit a proportionate cost share of the improvements or enter into a deferred improvement agreement as required by the City.

These localized areas and the requirement for service are listed in Appendix at the end of Section 14.

14.1.2 Installation Fees – The following installation fees are based on City of Martinez cost data and on the Engineering News Record (ENR) San Francisco Area Construction Cost Index of 6131 (September 1991).

SERVICE INSIDE MARTINEZ CITY LIMITS

- |    |  |            |
|----|--|------------|
| 1. | <u>Service Line</u> (includes meter box) |            |
|    | <u>Size</u>                              | <u>Fee</u> |

	1"		\$ 1,600.00
	2"		\$ 2,000.00
	4" and larger		Actual Cost
2.	<u>Service Meter Only</u>		
	<u>Size</u>		<u>Fee</u>
	5/8"		\$ 100.00
	1"		\$ 200.00
	1-1/2" and larger		Actual Cost
3.	<u>Double Check Valve Assembly</u>		
	<u>Size</u>		<u>Fee</u>
	3/4"		\$ 140.00
	1" and larger		Actual Cost
4.	<u>Private Fire Protection Service</u>		
	<u>Line Size</u>	<u>Fee</u>	<u>Minimum Deposit</u>
	2" or smaller	Actual Cost	\$ 1,500.00
	4"	" "	\$ 2,500.00
	6"	" "	\$ 3,000.00
	8"	" "	\$ 3,500.00
	10" or larger	" "	\$ 4,000.00
5.	<u>Temporary Service From Fire Hydrant</u>		
	<u>Meter Size</u>		<u>Deposit</u>
	1"		\$200.00
	3"		\$600.00
<p>With the exception of the meter installation, the applicant may opt to have a contractor install any of the above installation. In which case, the applicant shall enter into an agreement for the installation, submit construction plans for approval, and post the appropriate bonds and fees.</p>			
6.	<u>Public Hydrant Installation Fee</u>		
	Actual cost with a minimum deposit of \$3,000.00		
7.	<u>Meter Testing Fee</u>		
	<u>Size</u>		<u>Fee</u>
	5/8" X 3/4		\$ 15.00
	1"		\$ 25.00
	1-1/2" or 2"		\$150.00
	3" or larger		Actual Cost
8.	<u>After Hours Turn-on Charge</u>		
	\$ 75.00		

## 14.2 Service Charge

The applicable service charges shall be paid when requested in accordance with the provisions of these regulations and as follows:

### 14.2.1 Meter Charge Monthly

<u>Meter Size</u>	<u>Current</u>	<u>Effective January 1, 2004</u>	<u>Effective July 1, 2004</u>
Lifeline 5/8 inch	\$ 3.16	\$ 4.31	\$ 5.72
5/8 inch	\$16.07	\$17.23	\$19.05
Combined Residential			
Sprinkler/Domestic Service	\$27.79	\$27.79	\$ 27.79
1 inch	\$39.50	\$40.44	\$ 44.79
1 ½ inch	\$79.01	\$79.12	\$ 87.69
2 inch	\$126.55	\$126.55	\$139.16
3 inch	\$253.10	\$253.10	\$276.43
4 inch	\$395.05	\$395.05	\$430.85
6 inch	\$790.11	\$790.11	\$859.80
8 inch	\$1815.91	\$1815.91	\$1815.91
10 inch	\$2241.77	2245.12	\$2489.83

### 14.2.2 Monthly backflow Prevention Program Charge

<u>Device Size</u>	<u>Current*</u>	<u>Effective January 1, 2004</u>	<u>Effective July 1, 2004</u>
5/8 or 3/4 inch	\$ 2.32	\$ 16.25	\$ 18.75
1 inch	\$ 2.45	\$ 16.33	\$ 18.83
1 ½ inch	\$ 2.92	\$ 17.17	\$ 19.67
2 inch	\$ 3.25	\$ 17.33	\$ 19.83
3 inch	\$ 9.01	\$ 30.75	\$ 34.58
4 inch	\$11.53	\$ 33.58	\$ 37.42
6 inch	\$16.70	\$ 46.00	\$ 51.25
8 inch	\$32.46	\$ 59.17	\$ 64.67
10 inch	\$42.13	\$ 72.08	\$ 77.83

\* Current charges shown are for a Reduced Pressure Device.

### 14.2.3 Private Fire Protection Service Charge (Monthly):

<u>Line Size</u>	<u>Current</u>	<u>Effective January 1, 2004</u>	<u>Effective July 1, 2004</u>
2 inch or smaller	\$ 14.60	\$ 37.39	\$ 43.13
3 inch	\$ 31.80	\$ 72.82	\$84.36
4 inch	\$ 57.30	\$112.79	\$130.74
6 inch	\$129.50	\$223.82	\$259.59
8 inch	\$229.55	\$401.47	\$465.75
10 inch	\$358.40	\$645.74	\$749.22
12 inch	\$516.75	\$956.63	\$1110.00

14.3 Consumption Rate

Payments for water consumption shall be made in accordance with the provisions of these regulations and as follows:

14.3.1 Regular Service

Quantity Charge Per hundred cubic feet	<u>Current</u>	<u>Effective January 1, 2004</u>	<u>Effective July 1, 2004</u>
	\$2.16	\$ 2.27	\$2.40

14.3.2 Temporary service from Fire Hydrant

1.5 X water consumption rate for a regular service. (Zone I)

1.4.3.3 Elevation Zone Charges

Per hundred cubic feet	<u>Current</u>	<u>Effective January 1, 2004</u>	<u>Effective July 1, 2004</u>
Zone I for service elevation 0-150 ft. above m.s.l.	\$ 0.02	\$ 0.23	\$ 0.25
Zone II for service elevation 300 - > 150 ft. above m.s.l.	\$ 0.04	\$ 0.37	\$ 0.41
Zone III for service elevation 450 - > 300 ft. above m.s.l.	\$ 0.08	\$ 0.54	\$ 0.60
Zone IV for service elevation 600 -> 450 ft. above m.s.l.	\$ 0.10	\$ 0.83	\$ 0.93
Zone V for service elevation Over 600 ft. above m.s.l.	\$ 0.14	na	na

## SECTION 14 SCHEDULE OF FEES

### APPENDIX A

Localized System Improvements. Applicants for water connection in localized system improvement areas shall pay the water connection fees and:

1. Install the additional improvements required to serve the localized area; or
2. Deposit a proportionate cost share of the required improvements; or
3. Enter into a deferred improvement agreement for the required improvements, as required by the City.

The localized service areas and appropriate deposit and/or options required are listed below. (Base ENR index 6131) (September 1991)

1. Sage Drive Hydropneumatic Pump System Area – area served by the Zone III pump station, service elevation above 300 ft. m.s.l.  
  
\$ 4,547 per dwelling unit  
No other option.
2. Franklin Hills Area – Area north of Highway 4 and above the Zone I service elevation of 150 ft. m.s.l.  
  
Deferred Improvement Agreement or System Improvement.
3. Wanda Way-Sheridan Lane Area – area south of the intersection of Alhambra Valley Road and Alhambra Ave, between Alhambra Creek and Alhambra Valley Road.  
  
\$ 2,139 per dwelling unit  
No other option.
4. Muir Oaks Hydropneumatic Pump System area – Area in Muir Oaks Subdivision served by Zone III hydro-pneumatic system. Application for development located on:
  - a. Kendall, Milden and Northridge Roads \$3,488 per dwelling unit  
No other option.
  - b. Lester Road and John Muir Road \$4,250 per dwelling unit  
No other option.
  - c. Venner Drive, Upton and Hilltop Roads \$6,188 per dwelling unit  
No other option.

5. Alhambra Valley Zone III system – Area west of the intersection of Alhambra Valley Road and Reliez Valley Road wishing service from Zone III or higher (per City agreement with Stonehurst and Amador Savings and Loan Association).

# **APPENDIX G**

**RESOLUTION NO. 47-91-ESTABLISHING WATER  
CONSERVATION MEASURES AND REDUCING THE USE  
OF WATER FURNISHED BY THE MARTINEZ WATER  
SYSTEM DURING THE WATER SHORTAGE EMERGENCY  
(1991)**

RESOLUTION NO. 47-91  
ESTABLISHING WATER CONSERVATION MEASURES  
AND REDUCING THE USE OF WATER FURNISHED BY THE  
MARTINEZ WATER SYSTEM DURING THE WATER SHORTAGE EMERGENCY

The CITY COUNCIL RESOLVES AS FOLLOWS:

Section 1. Authority and Purpose.

(a) This Resolution is enacted pursuant to the emergency powers of the City Council.

(b) The Contra Costa Water District has allocated the City of Martinez Water System 1300 million gallons of water for 1991 which is 75% of the water sold to the City in 1990.

(c) The purpose of this Resolution is to assure that during the water shortage emergency condition that exists in the Contra Costa Water District the water supply to the City is conserved for the greatest public benefit with particular regard to the requirements of water for public health, fire protection and domestic use; to prevent waste; to prohibit non-essential uses of water; and ration the water supplies of the Martinez Water System fairly and equitably.

Section 2. Effect of Resolution.

This Resolution shall take effect May 1, 1991, and shall remain in effect until the City Council declares that the water shortage emergency has ended.

Section 3. Restrictions on New Service Connections.

During the period this Resolution is in effect, no new services will be connected to the water distribution system of the City unless the land to be served by the new connection is within the Martinez Water Service Area.

Section 4. Waste of Water Prohibited.

No water furnished by the Martinez Water System shall be wasted. All water withdrawn from the Martinez Water System facilities shall be put to reasonable beneficial use. Waste of water includes, but is not limited to: permitting water to flow on a sidewalk, driveway or street, or to escape in a gutter, ditch or other surface drain; or the failure to repair a controllable leak of water.

Section 5. Prohibition of Non-Essential Use of Water.

No water furnished by the Martinez Water System shall be used for any purpose declared to be non-essential by this Resolution. The following uses of water are declared to be non-essential:

(a) Washing a sidewalk, driveway, parking area, tennis court, patio or other exterior paving area, except for public safety or sanitary purposes.

(b) Using water in a decorative fountain;

(c) Irrigating any turf or ground cover planted after adoption of this Resolution;

(d) Non-commercial washing of any motor vehicle, trailer or boat with a hose except when using a shut-off nozzle.

(e) Filling any swimming pool constructed under a building permit issued after adoption of this Resolution, except with water from a source acceptable to the Martinez Water System;

(f) Completely refilling an existing swimming pool, except a publicly owned pool refilled for reasons of public health or except where the water is recycled;

(g) Any use of water from a fire hydrant, except to fight fire and except such specified uses from specific hydrants which the Martinez Water System from time to time determines to be necessary in the public interest.

Section 6. Enforcement of Sections 4 and 5.

(a) If and when the Martinez Water System becomes aware of any violation of any provisions of Sections 4 or 5 of this Resolution, a written notice shall be delivered to the premises where the violation occurs and shall be mailed to the person who is regularly billed for the service. Notice may also be given to any other person known to the Martinez Water System who is responsible for the violation or its correction. Said notice shall describe the violation and order that it be corrected, cured or abated immediately or within such specified time as the Martinez Water System determines is reasonable under the circumstances. If said order is not complied with, the Martinez Water System may thereupon disconnect the service or place flow restrictors where the violation occurs without further notice. Flow restrictors will be in place a minimum of three days and the charge for removal will be Fifty Dollars (\$50.00).

(b) Upon the second such violation and each subsequent violation, a similar notice as described in (a) of this Section 6 shall be delivered and the water to that connection shall be disconnected, or restricted for a minimum of seven (7) days. The charge shall be One Hundred Dollars (\$100.00) to have the service restored to normal.

Section 7. Rationing of Water Furnished by the Martinez Water System.

(a) The minimum quantity of water which may be used by each service connection to the water distribution system of the Martinez Water System after April 3, 1991, or such later date as the City Council shall establish, and during the period this Resolution is in effect shall be determined as provided in this Section 7 and is hereinafter referred to as the "water ration".

(b) Each bill for water service shall state the water ration for the service applicable to the following billing period.

(c) Water banking. If customer use is under the allotment in any given billing, water can be "banked" for future use. This would be carried for customers through 12/31/91.

(d) The water ration for each separately metered residence for each billing period shall be three hundred (300) gallons per day for up to four (4) permanent residents; an increase of fifty (50) gallons per day for each additional permanent resident will be allocated upon written request and verification by City that the household exceeds four (4) persons.

(e) The water ration for each service connection shall be based on its 1990 usage during the same billing period as follows:

Multi-family Residential	80%
Industrial	85%
Commercial	75%
Public Buildings	75%
Irrigation	50%

(f) If any connection did not receive full service throughout 1990, the assumed average daily use shall be computed by the Martinez Water System on the basis of its records of use by similar connections.

Section 8. Penalties for Exceeding Martinez Water System Ration.

(a) Commencing with the first full billing period after adoption of this Resolution, an extra charge shall be made for water withdrawn from the Martinez Water System by any service connection in excess of its water ration.

(b) The extra water charge for the billing period that the water ration is exceeded shall be as follows:

Single-family Residential Quantity [Above Ration Amount]  
Per Hundred Cubic Feet (hcf)

first 5 hcf	2 times rate
next 5 hcf	3 times rate
add'l hcf	4 times rate

Other Users

first 10% excess	2 times rate
next 10% excess	3 times rate
additional excess	4 times rate

A service may have a flow restrictor installed if the quantity of water withdrawn exceeds the water ration by 20 percent and 20 hundred cubic feet for the service during two (2) consecutive billing periods.

Flow restrictors will be in place a minimum of seven (7) days the first time installed and fourteen (14) days each consecutive time thereafter. The fee for removal will be one hundred dollars (\$100.00) for each time installed. Fee must be paid before the flow restrictor can be removed.

Section 9. Exceptions/Appeals Procedure.

If the City of Martinez Water System finds that unusual circumstances exist which make it fair, equitable and in the public interest to increase the maximum quantity of water which may be used by a particular service, under the guidelines listed in 9.3., an increase may be granted. Any customer may apply to the Martinez Water System for an increase in the maximum quantity of water which may be used by a particular service.

Application appeal procedure for exceptions:

1. Written applications for exceptions shall be accepted, and may be granted by the City Manager's designee with approval of the Administrative Services Director and the City Manager.
2. Denials of applications may be appealed in writing to the City Council or a Subcommittee thereof.
3. Grounds for granting such applications are:
  - a. mandated allocation would cause an unnecessary and undue hardship to the applicant, including, but not limited to: adverse economic impacts such as loss of production or jobs
  - b. mandated allocation would cause an emergency condition affecting the health, sanitation, fire protection or safety of the applicant or the public
  - c. medical requirements with written verification by physician (if requirements are limited by household size)
  - d. household size - single family residence - presence of more than four permanent residents (must reside in residence more than 4 months per year)
  - e. care of livestock (if requirements are limited by household size)
  - f. small multi-family dwelling units with a lower allocation than an equivalent single family dwelling unit (based on total number of occupants)
  - g. other reasons may be considered through the appeal process

Section 10. Implementing Rules and Regulations.

The City Council may from time to time adopt rules and regulations establishing procedures for implementing and enforcing this Resolution.

\* \* \* \* \*

I HEREBY CERTIFY that the foregoing is true and correct copy of a resolution duly adopted by the City Council of the City of Martinez at a regular meeting of said Council held on the 3rd day of April, 1991 by the following vote:

AYES: Councilmembers Farley, Smith, Woodburn, Vice Mayor McDowell and Mayor Menesini

NOES: None

ABSENT: None

GUS S. KRAMER, CITY CLERK

By Sherry M. Kelly  
Sherry M. Kelly, Deputy City Clerk

# **APPENDIX H**

## **1992 URBAN WATER SHORTAGE CONTINGENCY PLAN**

## Urban Water Shortage Contingency Plan

Introduction

Supply

Reduction Stages

Stage I Voluntary Conservation

Stage II Voluntary Conservation

Stage III Mandatory Rationing

Stage IV Mandatory Rationing

Revenue Analysis

Resolution 47-91 "Establishing Water Conservation Measures and Reducing the Use of Water Furnished by the Martinez Water System During the Water Shortage Emergency."

Resolution 105-91 "Rescinding Resolution No. 47-91 ... and Establishing Voluntary Water Conservation Measures for Water Furnished by the Martinez Water System During the Water Shortage."

Assembly Bill No. 11

## Urban Water Shortage Contingency Plan

### INTRODUCTION

The State of California has required, by AB 11, that urban water suppliers providing municipal water directly to more than 3,000 customers, must prepare and adopt, and send an Urban Water Shortage Contingency Plan (Plan) to the California Department of Water Resources. An urban water supplier that does not submit an amendment to its urban water management plan is ineligible to receive drought assistance from the state until the plan is submitted (see AB 11).

Refer to the 1991 City of Martinez Urban Water Management Plan for a discussion of water use characteristics.

The City of Martinez has incorporated "no-waste" and penalties for waste of water as part of Resolution No. 105-91, adopted July 17, 1991.

### SUPPLY

The City of Martinez Water System is supplied with water from the Sacramento-San Joaquin River Delta through a canal operated by Contra Costa Water District (CCWD). CCWD is a customer of the United State Bureau of Reclamation (USBR). Our supply is therefore dependent upon the supply that CCWD obtains from USBR or from supplemental sources.

When there is a water supply deficiency, CCWD sets the limits for their wholesale customers, under a staged process. The stages go from Stage I to Stage IV shortages, which is up to a 50% reduction in the water supply. The City of Martinez Water System would use the CCWD stages as a reference would probably adopt a water conservation that is coordinated with and similar to the plan that is adopted by CCWD.

The worse case for supply would be an allocation of 25% of normal usage (75% reduction). This is based on a number of factors, including an extremely dry year following a period of drought, such as we have had in 1986-91.

Refer to the CCWD Urban Water Shortage Contingency Plan (January 1992) for a more comprehensive discussion of water supply.

### METERING

The City of Martinez Water system serves approximately 9,100 service connections (customers). All of these customers are metered. Meters are generally read bi-monthly.

## REDUCTION STAGES

### **Stage I - Voluntary Conservation (up to 15% reduction)**

A Stage I reduction would be similar to what has occurred in 1987 to 1990. Through public information, coming from many sources, customers have been made aware of the need to reduce water consumption. Martinez Water System customers, upon being made aware of a need to reduce usage have always responded with a concerted effort. The City of Martinez Water System has only had to resort to using penalties on about ten bills, only in 1977, to meet water conservation goals.

A Stage I program would be similar to what was in effect in the second half of 1991. A stage II program would be similar to was adopted in 1977 and the first part of 1991.

## Stage II - Voluntary Conservation (up to 30% reduction)

The City of Martinez is submitting the mandatory water conservation plan that was implemented in 1991 to meet a 25% reduction in use. It was changed to a voluntary 15% conservation program in July 1991. Our water consumption reduction for 1991 vs. 1990 was 24% with the voluntary water conservation program. The City of Martinez feels that up to a 30% consumption reduction (vs. 1990) through increased public information efforts can be obtained with the existing water conservation regulations (attached).

This Stage II allocation shows a total amount that is higher than the 70% reduction goal. This is because many customers, primarily residential, exceed their rationing goals in a voluntary program. The 60 million gallons in miscellaneous are for water losses through unauthorized usage and water leaks, primarily water main breaks.

A reduction of more than 30% would require mandatory rationing and penalties for exceeding allocations.

### Stage II 1990 Water Usage vs Allocation - up to 30% reduction

Customer class	Customer number	1990 Water usage*	Allocation	Water available*
Single family	7,867	894	280**	804
Multifamily	436	188	85%	160
Commercial	357	142	75%	106
Public	189	189	75%	142
Industrial	17	125	85%	106
Irrigation	54	91	25%	23
Temporary, Fire Services, misc.	101	109	0	60
total	9021	1738		1423
			goal	1217

\* million gallons

\*\* gallons per dwelling unit per day

**Stage III - Mandatory Rationing (40% Reduction)**

Rationing amounts are based on 22,000 people in 7867 single family dwellings and 6,000 people in 2850 multifamily dwellings. There is some duplication in the multifamily dwelling unit (mfd) allocations. The extra 20 gpcpd for the first person in a mfd is for irrigation uses. Some mfd have separate irrigation meters and would be allocated water separately. These units would get 50 gpcpd only for inside usage.

Penalties could be similar to those adopted in the 1991 water rationing plan, Resolution 47-91 (attached).

**Stage III  
1990 Water Usage vs Allocation - 30 to 40% reduction**

Customer class	Customer number	1990 Water usage*	Allocation	Water available*
Single family	7,867	894	90 (first)** 50	546
Multifamily	436	188	70 (first) 50	131
Commercial	357	142	70%	99
Public	189	189	70%	132
Industrial	17	125	75%	94
Irrigation	54	91	25%	23
Temporary, Fire Services, misc.	101	109	0	60
total	9021	1738		1057
			goal	1043

\* million gallons

\*\* gallons per capita per day

(first amount for first person per dwelling unit,  
50 for each additional person per dwelling unit)

**Stage IV - Mandatory Rationing (50% Reduction)**

Rationing amounts are based on 22,000 people in 7867 single family dwellings and 6,000 people in 2850 multifamily dwellings.

Penalties could be more severe than those adopted in Stage III.

**Stage IV**  
**1990 Water Usage vs Allocation - 40 to 50% reduction**

Customer class	Customer number	1990 Water usage*	Allocation	Water available*
Single family	7,867	894	50**	402
Multifamily	436	188	50**	110
Commercial	357	142	60%	85
Public	189	189	60%	113
Industrial	17	125	70%	94
Irrigation (Parks only)	54	91	5%	5
Temporary, Fire Services, misc.	101	109	0	60
	<u>          </u>	<u>          </u>		<u>          </u>
total	9021	1738		869
			goal	869

\* million gallons

\*\* gallons per capita per day

**Revenue Analysis**  
(3/6/92)

The City of Martinez Water System budget is based in 1991-92 and probably in 1992-93 on 80% of normal water usage. This would be about 1400 million gallons into the system. Revenue reduction caused by a reduction in water usage could be taken out of reserves, or could be made up with a drought surcharge as was done in 1991. The table below lists possible revenue changes that could occur with different water use possibilities.

Cost of producing water - \$1,600 per million gallons (mg).  
 raw water        \$1,282 / mg  
 power            250 / mg  
 chemicals        68 / mg

Cost received for water - \$1,965 per million gallons  
                                  \$1.47 per hundred cubic feet (hcf)

Water sold (million gallons)	% of normal	Revenue reduction	Drought surcharge (per hcf)
1216 mg	70%	67,160	\$0.07
1043 mg	60%	\$130,305	\$0.17
700 mg	50%	\$255,500	\$0.48

# **APPENDIX I**

## **CITY OF MARTINEZ EMERGENCY RESPONSE PLAN (ERP) SUMMARY**

# APPENDIX I

## CITY OF MARTINEZ EMERGENCY RESPONSE PLAN SUMMARY

The ERP is broken into sections to provide quick access to the desired information. The following paragraphs summarize the contents in each of the sections.

### Water System Information

Included in the Water System Information section is quick access to general information about the City of Martinez Water system. The following can be found in this section:

- ◆ A map of the water system boundaries, pump station and tank locations is;
- ◆ A table of reservoir capacities and pump station descriptions;
- ◆ A list of Interconnections with outside water systems;
- ◆ Lists of treatment chemicals and other inventory;
- ◆ A general description of the water system.

The information in this section should be updated as the water system changes.

### ERP Activation/Mobilization

This section describes the various levels of emergencies that the water system may encounter. This section also covers the chain of command and basic levels of management of the water system during an emergency.

### Concept of Operations

This section outlines the procedures that should be followed by water system personnel and City staff in the event of an emergency. It is broken down into various subsections as follows:

- ◆ Initial Response: Briefly outlines the actions staff should take in the event of an emergency
- ◆ Preliminary Damage Inspection List: A list of items that should be inspected after a threatened or actual emergency.
- ◆ Emergency Operations Procedures, General: A general description of the emergency operations procedures, scope, priorities, and goals.
- ◆ Emergency Operations Procedures, Phase A: Describes the initial measures that should be taken at the onset of an emergency.
- ◆ Emergency Operations Procedures, Phase B: Describes the operating procedures that should be followed under a continuing or major emergency.
- ◆ Emergency Operations Procedures, Phase C: Describes the administrative decisions and implementation procedures.
- ◆ Water Utility – Task Assignments: Describes individual tasks that should be undertaken by water utility personnel.

## **Communication Procedures and Contact Information**

This section includes documents that describe the various communication procedures and contact information that will be utilized in the event of an emergency. These sheets are updated frequently to ensure that the information remains up to date. Also in this section are examples of “Do not drink” and “Do not use” water orders, and a CADHS water quality emergency notification plan document.

## **SEMS/ICS Integration**

This section provides a general description and summary of the state of California Standardized Emergency Management System (SEMS) and the Incident Command System (ICS). These systems are common emergency response systems that will be utilized by various agencies and departments in the event of multi-jurisdiction emergencies in the state of California. This information is provided to give City of Martinez Water System personnel a basic understanding of how they may be called upon to interact with outside agencies, in the event of a large scale emergency.

## **Water Quality Sampling**

This section describes methods and procedures that should be followed in the event of water system contamination. The California DHS provides equipment and resources to assist the water system with water quality sampling.

## **Damage Assessment and Restoration Schedule**

This section outlines the restoration process that should be utilized after an emergency event. Also included in this section are documents that provide information regarding disinfection of the water system, and procedures that should be followed in the event of a chemical spill.

## **Emergency Response Training**

This section summarizes the current safety and emergency training for the City of Martinez Water System staff.

## **Personnel Safety Procedures**

This section provides information regarding safety procedures for water system staff and personnel. Included are documents that cover what individuals should do to protect themselves and others during an emergency event or situation. Also included in this section is a description of the water treatment plant evacuation procedure, and copies of evacuation routes. Also in this section is a copy of the accident/near miss report that should be filled out by employees after an accident or emergency. This information is reviewed with staff during initial safety training and is made available to staff at all times.

## **Action Plans**

This section includes documents that summarize the emergency response and recovery procedures specific to certain acts. These sheets can easily be copied and dispersed or taken to an emergency site for reference.

# **APPENDIX J**

## **URBAN WATER MANAGEMENT PLANNING ACT**

**Established:** AB 797, Klehs, 1983

**Amended:** AB 2661, Klehs, 1990

AB 11X, Filante, 1991

AB 1869, Speier, 1991

AB 892, Frazee, 1993

SB 1017, McCorquodale, 1994

AB 2853, Cortese, 1994

AB 1845, Cortese, 1995

SB 1011, Polanco, 1995

AB 2552, Bates, 2000

SB 553, Kelley, 2000

SB 610, Costa, 2001

AB 901, Daucher, 2001

SB 672, Machado, 2001

SB 1348, Brulte, 2002

SB 1384, Costa, 2002

SB 1518, Torlakson, 2002

AB 105, Wiggins, 2004

SB 318, Alpert, 2004

## **CALIFORNIA WATER CODE DIVISION 6 PART 2.6. URBAN WATER MANAGEMENT PLANNING**

### **CHAPTER 1. GENERAL DECLARATION AND POLICY**

10610. This part shall be known and may be cited as the "Urban Water Management Planning Act."

10610.2. (a) The Legislature finds and declares all of the following:

- (1) The waters of the state are a limited and renewable resource subject to ever-increasing demands.
- (2) The conservation and efficient use of urban water supplies are of statewide concern; however, the planning for that use and the implementation of those plans can best be accomplished at the local level.
- (3) A long-term, reliable supply of water is essential to protect the productivity of California's businesses and economic climate.
- (4) As part of its long-range planning activities, every urban water supplier should make every effort to ensure the appropriate level of reliability in

its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry water years.

- (5) Public health issues have been raised over a number of contaminants that have been identified in certain local and imported water supplies.
- (6) Implementing effective water management strategies, including groundwater storage projects and recycled water projects, may require specific water quality and salinity targets for meeting groundwater basins water quality objectives and promoting beneficial use of recycled water.
- (7) Water quality regulations are becoming an increasingly important factor in water agencies' selection of raw water sources, treatment alternatives, and modifications to existing treatment facilities.
- (8) Changes in drinking water quality standards may also impact the usefulness of water supplies and may ultimately impact supply reliability.
- (9) The quality of source supplies can have a significant impact on water management strategies and supply reliability.

(b) This part is intended to provide assistance to water agencies in carrying out their long-term resource planning responsibilities to ensure adequate water supplies to meet existing and future demands for water.

10610.4. The Legislature finds and declares that it is the policy of the state as follows:

- (a) The management of urban water demands and efficient use of water shall be actively pursued to protect both the people of the state and their water resources.
- (b) The management of urban water demands and efficient use of urban water supplies shall be a guiding criterion in public decisions.
- (c) Urban water suppliers shall be required to develop water management plans to actively pursue the efficient use of available supplies.

## **CHAPTER 2. DEFINITIONS**

10611. Unless the context otherwise requires, the definitions of this chapter govern the construction of this part.

10611.5. "Demand management" means those water conservation measures, programs, and incentives that prevent the waste of water and promote the reasonable and efficient use and reuse of available supplies.

10612. "Customer" means a purchaser of water from a water supplier who uses the water for municipal purposes, including residential, commercial, governmental, and industrial uses.

10613. "Efficient use" means those management measures that result in the most effective use of water so as to prevent its waste or unreasonable use or unreasonable method of use.

10614. "Person" means any individual, firm, association, organization, partnership, business, trust, corporation, company, public agency, or any agency of such an entity.

10615. "Plan" means an urban water management plan prepared pursuant to this part. A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities. The components of the plan may vary according to an individual community or area's characteristics and its capabilities to efficiently use and conserve water. The plan shall address measures for residential, commercial, governmental, and industrial water demand management as set forth in Article 2 (commencing with Section 10630) of Chapter 3. In addition, a strategy and time schedule for implementation shall be included in the plan.

10616. "Public agency" means any board, commission, county, city and county, city, regional agency, district, or other public entity.

10616.5. "Recycled water" means the reclamation and reuse of wastewater for beneficial use.

10617. "Urban water supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers. This part applies only to water supplied from public water systems subject to Chapter 4 (commencing with Section 116275) of Part 12 of Division 104 of the Health and Safety Code.

### **CHAPTER 3. URBAN WATER MANAGEMENT PLANS**

#### **Article 1. General Provisions**

10620.

- (a) Every urban water supplier shall prepare and adopt an urban water management plan in the manner set forth in Article 3 (commencing with Section 10640).

- (b) Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.
- (c) An urban water supplier indirectly providing water shall not include planning elements in its water management plan as provided in Article 2 (commencing with Section 10630) that would be applicable to urban water suppliers or public agencies directly providing water, or to their customers, without the consent of those suppliers or public agencies.
- (d)
  - (1) An urban water supplier may satisfy the requirements of this part by participation in areawide, regional, watershed, or basinwide urban water management planning where those plans will reduce preparation costs and contribute to the achievement of conservation and efficient water use.
  - (2) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.
- (e) The urban water supplier may prepare the plan with its own staff, by contract, or in cooperation with other governmental agencies.
- (f) An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

10621.

- (a) Each urban water supplier shall update its plan at least once every five years on or before December 31, in years ending in five and zero.
- (b) Every urban water supplier required to prepare a plan pursuant to this part shall notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision.
- (c) The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).

## **Article 2. Contents of Plans**

10630. It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied.

10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:

- (a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.
- (b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a). If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:
  - (1) A copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management.
  - (2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree.

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

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

- (4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.
- (c) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:
    - (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.

- (d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.
- (e)
  - (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors including, but not necessarily limited to, all of the following uses:
    - (A) Single-family residential.
    - (B) Multifamily.
    - (C) Commercial.
    - (D) Industrial.
    - (E) Institutional and governmental.
    - (F) Landscape.
    - (G) Sales to other agencies.
    - (H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.
    - (I) Agricultural.
  - (2) The water use projections shall be in the same five-year increments described in subdivision (a).

- (f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:
- (1) A description of each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following:
    - (A) Water survey programs for single-family residential and multifamily residential customers.
    - (B) Residential plumbing retrofit.
    - (C) System water audits, leak detection, and repair.
    - (D) Metering with commodity rates for all new connections and retrofit of existing connections.
    - (E) Large landscape conservation programs and incentives.
    - (F) High-efficiency washing machine rebate programs.
    - (G) Public information programs.
    - (H) School education programs.
    - (I) Conservation programs for commercial, industrial, and institutional accounts.
    - (J) Wholesale agency programs.
    - (K) Conservation pricing.
    - (L) Water conservation coordinator.
    - (M) Water waste prohibition.
    - (N) Residential ultra-low-flush toilet replacement programs.
  - (2) A schedule of implementation for all water demand management measures proposed or described in the plan.
  - (3) A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented or described under the plan.

- (4) An estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the supplier's ability to further reduce demand.
- (g) An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following:
- (1) Take into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors.
  - (2) Include a cost-benefit analysis, identifying total benefits and total costs.
  - (3) Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost.
  - (4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation.
- (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.
- (i) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.
- (j) Urban water suppliers that are members of the California Urban Water Conservation Council and submit annual reports to that council

in accordance with the “Memorandum of Understanding Regarding Urban Water Conservation in California,” dated September 1991, may submit the annual reports identifying water demand management measures currently being implemented, or scheduled for implementation, to satisfy the requirements of subdivisions (f) and (g).

- (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), including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.

10631.5. The department shall take into consideration whether the urban water supplier is implementing or scheduled for implementation, the water demand management activities that the urban water supplier identified in its urban water management plan, pursuant to Section 10631, in evaluating applications for grants and loans made available pursuant to Section 79163. The urban water supplier may submit to the department copies of its annual reports and other relevant documents to assist the department in determining whether the urban water supplier is implementing or scheduling the implementation of water demand management activities.

10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which 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 percent reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage.
- (b) An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.
- (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.

- (d) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.
- (e) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.
- (f) Penalties or charges for excessive use, where applicable.
- (g) An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.
- (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.

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, and shall include all of the following:

- (a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.
- (b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.
- (c) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.

- (d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.
- (e) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.
- (f) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.
- (g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

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.

### **Article 2.5 Water Service Reliability**

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.

### **Articl 3. Adoption and Implementation of Plans**

10640. Every urban water supplier required to prepare a plan pursuant to this part shall prepare its plan pursuant to Article 2 (commencing with Section 10630).

The supplier shall likewise periodically review the plan as required by Section 10621, and any amendments or changes required as a result of that review shall be adopted pursuant to this article.

10641. An urban water supplier required to prepare a plan may consult with, and obtain comments from, any public agency or state agency or any person who has special expertise with respect to water demand management methods and techniques.

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 shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area. After the hearing, the plan shall be adopted as prepared or as modified after the hearing.

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

10644.

- (a) An urban water supplier shall file with the department and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. Copies of amendments or changes to the

plans shall be filed with the department and any city or county within which the supplier provides water supplies within 30 days after adoption.

- (b) The department shall prepare and submit to the Legislature, on or before December 31, in the years ending in six and one, a report summarizing the status of the plans adopted pursuant to this part. The report prepared by the department shall identify the outstanding elements of the individual plans. The department shall provide a copy of the report to each urban water supplier that has filed its plan with the department. The department shall also prepare reports and provide data for any legislative hearings designed to consider the effectiveness of plans submitted pursuant to this part.

10645. Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.

#### **CHAPTER 4. MISCELLANEOUS PROVISIONS**

10650. Any actions or proceedings to attack, review, set aside, void, or annul the acts or decisions of an urban water supplier on the grounds of noncompliance with this part shall be commenced as follows:

- (a) An action or proceeding alleging failure to adopt a plan shall be commenced within 18 months after that adoption is required by this part.
- (b) Any action or proceeding alleging that a plan, or action taken pursuant to the plan, does not comply with this part shall be commenced within 90 days after filing of the plan or amendment thereto pursuant to Section 10644 or the taking of that action.

10651. In any action or proceeding to attack, review, set aside, void, or annul a plan, or an action taken pursuant to the plan by an urban water supplier on the grounds of noncompliance with this part, the inquiry shall extend only to whether there was a prejudicial abuse of discretion. Abuse of discretion is established if the supplier has not proceeded in a manner required by law or if the action by the water supplier is not supported by substantial evidence.

10652. The California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) does not apply to the preparation and adoption of plans pursuant to this part or to the implementation of actions taken pursuant to Section 10632. Nothing in this part shall be interpreted as exempting from the California Environmental Quality Act any project that would significantly affect water supplies for fish and wildlife, or any project for implementation of the plan, other than projects implementing Section 10632, or any project for expanded or additional water supplies.

10653. The adoption of a plan shall satisfy any requirements of state law, regulation, or order, including those of the State Water Resources Control Board and the Public Utilities Commission, for the preparation of water management plans or conservation plans; provided, that if the State Water Resources Control Board or the Public Utilities Commission requires additional information concerning water conservation to implement its existing authority, nothing in this part shall be deemed to limit the board or the commission in obtaining that information. The requirements of this part shall be satisfied by any urban water demand management plan prepared to meet federal laws or regulations after the effective date of this part, and which substantially meets the requirements of this part, or by any existing urban water management plan which includes the contents of a plan required under this part.

10654. An urban water supplier may recover in its rates the costs incurred in preparing its plan and implementing the reasonable water conservation measures included in the plan. Any best water management practice that is included in the plan that is identified in the "Memorandum of Understanding Regarding Urban Water Conservation in California" is deemed to be reasonable for the purposes of this section.

10655. If any provision of this part or the application thereof to any person or circumstances is held invalid, that invalidity shall not affect other provisions or applications of this part which can be given effect without the invalid provision or application thereof, and to this end the provisions of this part are severable.

10656. An urban water supplier that does not prepare, adopt, and submit its urban water management plan to the department in accordance with this part, is ineligible to receive funding pursuant to Division 24 (commencing with Section 78500) or Division 26 (commencing with Section 79000), or receive drought assistance from the state until the urban water management plan is submitted pursuant to this article.

10657.

- (a) The department shall take into consideration whether the urban water supplier has submitted an updated urban water management plan that is consistent with Section 10631, as amended by the act that adds this section, in determining whether the urban water supplier is eligible for funds made available pursuant to any program administered by the department.
- (b) This section shall remain in effect only until January 1, 2006, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2006, deletes or extends that date.



**DODSON**

165 Lennon Lane, Suite 105  
Walnut Creek, CA 94598

925 937 3440  
925 937 3450 fax

[www.dodsonforwater.com](http://www.dodsonforwater.com)

