CITY of NAPA

Urban Water Management Plan

2010 Update

Adopted June 21, 2011

City Manager	**Mike Parness**
Public Works Director	**Jacques R. LaRochelle**
Deputy Director, Operations	**Phil Brun**
General Manager, Water Division	**Joy Eldredge**

Prepared By:

Water Resources Analyst	**Patrick Costello** pcostello@cityofnapa.org

CONTACT INFORMATION

City of Napa
Public Works Department
Water Division
1340 Clay Street
Napa, CA 94559-0660

(707) 257-9521
Fax (707) 258-7831

http://www.cityofnapa.org/water

Joy Eldredge, Water Division General Manager
jeldredge@cityofnapa.org

Patrick Costello, Water Resources Analyst
pcostello@cityofnapa.org

TABLE OF CONTENTS

PAGE

ACRONYMS…… iv

REFERENCES…… v

CHAPTER 1: INTRODUCTION……1-1
1.1 Purpose of Urban Water Management Plan……1-1
1.2 UWMP 2005 Review……1-2
1.3 UWMP 2010 Development and Agency Coordination…… 1-3
1.4 UWMP Public Hearing and Adoption……1-4
1.5 UWMP Format and Organization…… 1-5
1.6 Related Planning Efforts……1-5

CHAPTER 2: SERVICE AREA……2-1
2.1 Description of Service Area……2-1
2.2 Population and Demographics…… 2-1
2.3 Climate……2-3

CHAPTER 3: WATER SUPPLY SOURCES……3-1
3.1 Current Supplies…… 3-1
3.2 Lake Hennessey…… 3-1
3.3 Milliken Reservoir……3-3
3.4 State Water Project……3-4
3.5 Other Potential Sources……3-6
3.6 Total Supply Projections…… 3-8
3.7 Resource Maximization/Import Minimization…… 3-8

CHAPTER 4: RELIABILITY OF SUPPLY……4-1
4.1 Definitions……4-1
4.2 State Water Project Reliability……4-1
4.3 Local Reservoir Reliability…… 4-4
4.4 Total Supply Reliability…… 4-4
4.5 Factors Affecting Supply Reliability……4-5

CHAPTER 5: WATER DEMAND AND CONSERVATION……5-1
5.1 Historical Water Demand……5-1
5.2 Conservation Best Management Practices……5-3
5.3 Water Conservation Act of 2009 (SBx7-7)…… 5-8
5.4 Projected Water Demand……5-15
5.5 Lower Income Water Demand……5-16
5.6 Sales to Other Agencies……5-17
5.7 Other Area Water Demands……5-18

CHAPTER 6: RECYCLED WATER……6-1
6.1 Coordination……6-1
6.2 Wastewater Treatment…… 6-2

6.3 Future Recycled Water Use…….6-3

CHAPTER 7: WATER SERVICE RELIABILITY: SUPPLY VS. DEMAND…… 7-1
7.1 Normal Year Scenario……...7-1
7.2 Single-Dry Year Scenario……..…7-1
7.3 Multiple-Dry Year Scenarios…… 7-2

CHAPTER 8: WATER SHORTAGE CONTINGENCY PLANNING……...……8-1
8.1 Introduction……... 8-1
8.2 Three-Year Minimum Supply…… 8-1
8.3 Stages of Action……..…8-2
8.4 Prohibitions, Penalties, and Consumption Reduction…… 8-3
8.5 Water Use Monitoring During Shortages…….. 8-5
8.6 Revenue Impacts…… 8-5
8.7 Catastrophic Supply Interruption Plan……...8-6

APPENDIX A: AGENCY COORDINATION AND PUBLIC OUTREACH
APPENDIX B: CITY COUNCIL ADOPTION
APPENDIX C: BEST MANAGEMENT PRACTICES COVERAGE REPORTS 2009-2010
APPENDIX D: CITY OF NAPA/NAPA SANITATION DISTRICT AGREEMENT #7247
APPENDIX E: NAPA SANITATION DISTRICT RECYCLED WATER POLICY
APPENDIX F: NAPA MUNICIPAL CODE CHAPTERS 13.09, 13.10, 13.12
APPENDIX G: WATER SHORTAGE CONTINGENCY PLAN

LIST OF TABLES

Table 1-1 Agency Coordination Checklist……1-4
Table 2-1 Population Served: 2010 and Projected……...…2-3
Table 2-2 Average Climate Data for Napa...……..2-4
Table 3-1 Lake Hennessey Statistics……..3-3
Table 3-2 Milliken Reservoir Statistics……3-4
Table 3-3 SWP Table A Entitlements for the City of Napa……..…….. 3-5
Table 3-4 Total Water Supplies 2010-2035…… 3-8
Table 4-1 State Water Project Reliability Assumptions, Current Conditions……... 4-2
Table 4-2 State Water Project Reliability Assumptions, Future Conditions……... 4-2
Table 4-3 Estimated State Water Project Deliveries 2011-2035……...4-3
Table 4-4 Estimated Local Reservoir Yields……..4-4
Table 4-5 Estimated Local Reservoir Depletion……...……..4-4
Table 4-6 Reliability of Supplies Through 2025……..…… 4-5
Table 4-7 Reliability of Supplies Post-2025……..…… 4-5
Table 5-1 Historical Accounts By Customer Type…… 5-1
Table 5-2 Historical Demand By Customer Type……...…5-2
Table 5-3 Daily Per Capita Water Use History……..……..……..5-10
Table 5-4 SBx7-7 Compliance Targets……..……5-11
Table 5-5 Projected GPCD Trend……..……5-14
Table 5-6 Projected Water Demand 2015-2035…..……..……5-15
Table 5-7 Water Demand By Customer Type 2015-2035……..……5-16
Table 5-8 Water Accounts By Customer Type 2015-2035……5-16
Table 5-9 Water Demand for Lower Income Housing 2015-2035……..……5-17

Table 5-10 Water Delivered to Other Agencies……5-18
Table 6-1 Savings From Recycled Water Conversions 2003-2010…… 6-1
Table 6-2 Recycled Water Usage, Projected vs. Actual for 2010…… 6-3
Table 6-3 Recycled Water Usage, Original Optimization Strategies…… 6-4
Table 6-4 Wastewater Collection and Treatment 2005-2035…… 6-5
Table 6-5 Non-Recycled Wastewater Disposal 2005-2035…… 6-5
Table 6-6 Recycled Water Usage Potential 2015-2035…… 6-5
Table 7-1 Projected Supply and Demand: Normal Years……7-1
Table 7-2 Projected Supply and Demand: Single-Dry Years……7-1
Table 7-3 Projected Supply and Demand: Multiple-Dry Year Period Starting in 2015…... 7-2
Table 7-4 Projected Supply and Demand: Multiple-Dry Year Period Starting in 2020…... 7-2
Table 7-5 Projected Supply and Demand: Multiple-Dry Year Period Starting in 2025…... 7-3
Table 7-6 Projected Supply and Demand: Multiple-Dry Year Period Starting in 2030…... 7-3
Table 7-7 Projected Supply and Demand: Multiple-Dry Year Period Starting in 2035…... 7-3
Table 8-1 Estimate of Minimum Supplies 2011-2013…….. 8-2
Table 8-2 Water Shortage Stages of Action……8-2
Table 8-3 Water Supply Triggering Levels……8-3
Table 8-4 Annual Consumption Limits By Stage……8-4

LIST OF FIGURES

Figure 2-1 Water Service Area Boundaries……..2-2
Figure 3-1 Water Treatment & Distribution System……3-2
Figure 5-1 Water Use By Customer Type for 2010……... 5-3

ACRONYMS

ABAG	Association of Bay Area Governments
AF	Acre-Feet
AWWA	American Water Works Association
BMPs	Best Management Practices
BO	Biological Opinion
CII	Commercial, Industrial, and Institutional
CIMIS	California Irrigation Management Information System
CIP	Capital Improvement Program
CLIA	Certified Landscape Irrigation Auditor
CUWCC	California Urban Water Conservation Council
CVWD	Congress Valley Water District
DPH	California State Department of Public Health
DMMs	Demand Management Measures
DSOD	California State Division of Safety of Dams
DWR	California State Department of Water Resources
EECNC	Environmental Education Coalition of Napa County
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
ERP	Emergency Response Plan
ETo	Reference Evapotranspiration
FWS	U.S. Fish and Wildlife Service
GPCD	Gallons per capita per day
gpf	gallons per flush
HET/HEU	High-Efficiency Toilet/High-Efficiency Urinal
IRWMP	Integrated Regional Water Management Plan
IWRMPF	Integrated Water Resource Management Planning Framework
KCWA	Kern County Water Agency
MG	Million gallons
MGD	Million gallons per day
MOU	Memorandum of Understanding
MST	Milliken-Sarco-Tulocay
NCFCWCD	Napa County Flood Control & Water Conservation District
NMFS	National Marine Fisheries Service
NBA	North Bay Aqueduct
NSD	Napa Sanitation District
NVUSD	Napa Valley Unified School District
RUL	Rural Urban Limit
SEMS	Standardized Emergency Management System
SWP	State Water Project
SWRCB	State Water Resources Control Board
ULFT	Ultra-Low-Flush Toilet
UWMP	Urban Water Management Plan
WATRTAC	Water Resources Technical Advisory Committee
WELO	Water Efficient Landscape Ordinance
WRF	Water Recycling Facility
WTP	Water Treatment Plant

REFERENCES

Association of Bay Area Governments, *Projections 2003: Forecasts for the San Francisco Bay Area to the Year 2030*

Association of Bay Area Governments, *Building Momentum: Projections and Priorities 2009*

Brown and Caldwell/Carollo Engineers, *Wastewater Treatment Plant Master Plan*, Prepared for Napa Sanitation District, April 2011

California Department of Finance, *E-8 Historical Population and Housing Estimates for Cities, Counties and the State, 1990-2000*, August 2007

California Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties and the State, 2001-2010, with 2000 Benchmark*, May 2010

California Department of Water Resources, *Guidebook to Assist Water Suppliers to Prepare a 2010 Urban Water Management Plan*, March 2011

California Department of Water Resources, *The State Water Project Delivery Reliability Report 2009*, August 2010

California Urban Water Conservation Council, *Memorandum of Understanding Regarding Urban Water Conservation in California*, As Amended June 9, 2010

City of Napa, *Agreement Between the City of Napa and Napa Sanitation District For Sale of Recycled Water Within City of Napa Water Service Area*, August 4, 1998

City of Napa, *Downtown Napa Specific Plan (DRAFT)*, prepared by MIG, April 2011

City of Napa, *Envision Napa 2020*, City of Napa General Plan, updated March 2011

City of Napa, *Housing Element*, 2007-2014 Planning Period, Adopted June 2009

City of Napa, *Urban Water Management Plan 2005 Update*, Adopted January 17, 2006

City of Napa, Public Works Department, Water Division, *Emergency Response Plan*, Updated February 23, 2005

Larry Walker Associates, *Napa Sanitation District Strategic Plan for Recycled Water Use in the Year 2020*, Final Draft, August 2005

Napa State Hospital, Executive Director's Office, Resident Population estimates, April 28, 2011

West Yost & Associates, *2050 Napa Valley Water Resources Study*, October 2005

CHAPTER 1

INTRODUCTION

1.1 Purpose of Urban Water Management Plan

In 1983, the Urban Water Management Planning Act (Act) was adopted by the California State Legislature as Assembly Bill (AB) 797. Originally signed into law by Governor Deukmejian in 1984 and amended several times since then, the Act is contained in California Water Code Division 6, Part 2.6, Sections 10610 through 10656. The Act requires all urban water suppliers serving more than 3,000 customers or supplying more than 3,000 acre-feet (AF) annually to develop an Urban Water Management Plan (UWMP). The required contents of the UWMP are set forth in the Act. An UWMP describes and evaluates sources of water supply, projected population and future water demand, demand management measures, strategies for responding to water shortages, and other relevant information and programs. Essentially the Act directs water agencies in carrying out long-term resource planning responsibilities to ensure adequate water supplies are available to meet existing and future demands

Under the Act, urban water suppliers are required to update their UWMP and submit a complete plan to the State Department of Water Resources (DWR) every five years. With its water system size well above the thresholds in the Act, the City of Napa has complied with the UWMP provisions since the Act's inception, submitting its most recent UWMP update to DWR for 2005. The City has adapted its UWMP over the years to meet various amendments to the Act. A recycled water component was added as a result of AB 2853, passed in 1994. AB 1845, passed in 1995, focused the City's efforts to ensure the appropriate level of reliability in its water service to meet the needs of its customers during normal, dry, and multiple-dry water years.

More recent emphasis on demand management measures has culminated in two new water conservation requirements for the UWMP 2010 update. First, California Urban Water Conservation Council (CUWCC) members must be shown to be in full compliance with the Best Management Practice (BMP) coverage requirements in the Memorandum of Understanding (MOU) Regarding Urban Water Conservation in California, rather than simply submitting their annual BMP reports. Second, and most significantly, the Water Conservation Act of 2009, Senate Bill (SB)x7-7, seeks a statewide 20 percent reduction in daily per capita water use by 2020. Because urban water suppliers must include their SBx7-7 water use baseline and 2020 target calculations in the UWMP, State law has extended the deadline for UWMP 2010 adoption to July 1, 2011. Other changes to UWMP requirements since 2005 include a 60-day notification to the County and nearby cities prior to the UWMP adoption hearing (AB 1376) and a lower income housing water use projection directed by SB 1087.

The purpose of the City's UWMP update is not simply to comply with State law and help ensure the efficient use of California water resources. The UWMP benefits the City directly by supporting future updates to the City's General Plan and may help facilitate the implementation of two other State water planning laws, SB 610 and SB 221, that address the impact of large developments on water supply. Also, by submitting a complete UWMP, the City remains eligible for DWR-administered grants and loans as well as drought assistance. Supply and demand data from the City's UWMP 2010 will also become part of a Bay Area Integrated Regional Water

Management Plan (IRWMP) update. The IRWMP addresses the need for more coordination and mutual support in water planning for the overall Bay Area. An update to the Bay Area IRWMP is to be completed in 2013 using Proposition 84 grant funds.

1.2 UWMP 2005 Review

A review of the City of Napa's UWMP 2005 shows that while many of its provisions were verified or implemented, its water demand projections were significantly high due to several factors. Implemented provisions include the City's continued expansion of water conservation BMPs specified by the CUWCC, biennial BMP report filing, and the ongoing use of BMP reports as an implementation tracking mechanism for future UWMP updates. The completion of the Edward I. Barwick Jamieson Canyon Water Treatment Plant (WTP) Improvements Project is allowing the City to use more of its allocated State Water Project (SWP) supplies, as was projected. Also, the City has purchased additional SWP entitlements from the City of St. Helena (2006) and the Town of Yountville (2009). These sources within Napa County had been mentioned as opportunities to explore in UWMP 2005.

UWMP 2005 discussed the beginning use of Napa Sanitation District (NSD) recycled water for City irrigation customers. By 2005, just four customers had converted from City potable water to NSD recycled water for all or part of their irrigation needs. By 2010, a total of 14 customers who would otherwise be irrigating with City water have now switched to recycled water. Annual savings for the City supply have peaked as high as 386 acre-feet (AF) in 2008. The UWMP 2005 assumption of 266 AF annual savings through 2030 is low, as shown in Chapters 5 and 6 of this UWMP 2010 update.

UWMP 2005 projected that total demand on the City water system would hit 16,395 AF in 2010, but actual 2010 demand turned out to be just 13,877 AF. While part of the explanation is the recent economic conditions, two key factors make the City's water demand projections in this UWMP 2010 update much lower than were projected in UWMP 2005:

- Population growth assumptions have declined significantly. For example, where the Association of Bay Area Governments (ABAG) *Projections 2003* showed a Year 2020 inside-City population of 88,800 for Napa, *Projections 2009* predicts just 81,800.
- Enhanced water conservation achievement, mandated by SBx7-7 per capita demand targets, suppresses future demand for City customers.

Two other changes since UWMP 2005 affect the water supply side:

- The City's SWP Table A entitlement schedule was accelerated so that its Year 2021 entitlement became effective as of 2010.
- Projected long-term average delivery amounts of SWP Table A supplies have decreased in comparison to previous estimates due to fishery protections, climate change assumptions, and other unsettled legal and environmental factors.

This UWMP 2010 update incorporates these recent changes in population, conservation, and supply scenarios to produce the more current Water Service Reliability data in Chapter 7. The SBx7-7-driven per capita demand trends described in Chapter 5 yield future demands lower than predicted in UWMP 2005. However, the single-dry year firm yields of 7-11% for the SWP noted in Chapter 4 are considerably lower than the 20% assumption used in UWMP 2005. Collectively, these changes reflect strong water service reliability for the City for the next 25 years, but that tight supply-demand scenarios and potential shortfalls are still expected in the most critical single-dry years.

1.3 UWMP 2010 Development and Agency Coordination

The Water Division of the Public Works Department took the lead in preparing this City of Napa UWMP 2010 update, but coordination with other City staff was necessary. Planning staff in the Community Development Department were consulted on sources of population and population projections. UWMP discussions with Planning staff also yielded changes in the water supply language in the draft Napa Downtown Specific Plan, a document that will guide policies and development standards to create a more vibrant Downtown core. Staff of the Housing Authority were consulted regarding the lower income residential data required by SB 1087. The City Attorney and City Clerk were consulted regarding legal and public hearing/UWMP adoption issues. Existing City resource planning documents were also consulted, including the City of Napa General Plan, *Envision Napa 2020*, and of course the UWMP 2005 update.

Coordination with other local agencies occurs largely as a result of the City's participation in the Water Resources Technical Advisory Committee (WATRTAC), a key monthly forum in which Napa-area water issues are discussed. The group consists of Public Works Directors and Water Managers from the Cities of Napa, American Canyon, St. Helena, and Calistoga, the Town of Yountville, and the County of Napa (NCFCWCD). In the spring of 2011, WATRTAC members were made aware that the City of Napa was preparing its UWMP update via the 60-day notice required by AB 1376. The neighboring City of American Canyon was also preparing its second UWMP, having just passed the system size thresholds in the Act in the past decade. The City of Napa discussed various UWMP issues with American Canyon water officials and their consultant, particularly in the area of supply reliability and shared water conservation programs.

Earlier beneficial cooperation with local agencies occurred with the 2050 Napa Valley Water Resources Study (2050 Study). The 2050 Study was conducted by West Yost & Associates from 2003 to 2005 at the direction of five Cities, the County of Napa, and the Napa Sanitation District (NSD), the local wastewater treatment agency. The participating agencies recognized the urgent need to update the previous Napa Valley regional water study completed in 1991, and a desire to take a long-term view in evaluating supply, demand, and potential projects. The final report of the 2050 Study was accepted by the Board of the Napa County Flood Control & Water Conservation District (NCFCWCD) on November 15, 2005. While the 2050 Study supported development of the previous UWMP 2005 update, its projected water demands have now been shown to be high due to overly high population and per capita demand projections. Its water supply assumptions for City of Napa local reservoirs remain useful data however, and have been incorporated into this UWMP 2010 update.

The City has a water relationship with each of these local agencies. The NCFCWCD is the State Water Project (SWP) contract administrator through which the City receives its annual SWP entitlement. While not a wholesale agency, the City of Napa does treat and wheel the City of American Canyon's and the City of Calistoga's SWP contract water. Having recently purchased their SWP entitlements, the City also sells retail water to the Town of Yountville and the City of St. Helena. The City has an agreement with NSD to receive reimbursement for the loss of revenue, according to an agreed upon formula, for the first three years associated with the sale of recycled water to customers in the City's water service area. The City consulted with NSD staff and its most recent planning documents to include the recycled water components of this UWMP.

UWMP 2010 coordination with local agencies is summarized in Table 1-1. All relevant correspondence is included in Appendix A.

Table 1-1
Agency Coordination Checklist

	Participated in developing the plan	Commented on the draft	Attended public meetings	Was contacted for assistance	Was sent a copy of the draft plan	Was sent a notice of intention to adopt
County of Napa				X	X	X
City of American Canyon				X	X	X
Town of Yountville					X	X
City of St. Helena					X	X
City of Calistoga					X	X
Napa Sanitation District	X		X	X	X	X
General Public			X		Web	X
Napa City-County Library					X	

1.4 UWMP Public Hearing and Adoption

The Act requires that an UWMP be made available for public inspection and that a public hearing be held prior to adoption. The City of Napa UWMP 2010 update was completed in the spring of 2011. To best allow for public review of UWMP 2010, the public hearing and adoption vote were scheduled for the June 21, 2011 meeting of the Napa City Council, in advance of the July 1 adoption deadline. A separate hearing on the SBx7-7 Year 2020 water use target was scheduled for the same City Council meeting, just preceding the UWMP adoption hearing. The draft UWMP 2010 was made available for public inspection prior to the hearing date at the Public Works Department Building, the Water Division Building, and the Napa City-County Library. It was also posted on the City web site for more convenient public access. The public was invited to forward any comments to Water Division staff. Prior to release of the draft document, during UWMP 2010 development, Water Divison staff were contacted by the Bay Institute and a local Sierra Club representative seeking water use projection data and the City's view of its water future.

The general public was made aware of the UWMP schedule in several ways. In May 2011, the Current News posting on the Water Division web site, www.cityofnapa.org/water, informed the public that the City was in the process of preparing its UWMP update and to look there for a draft document in June. Once the draft became available, a notice was also posted on the front page of the City web site, www.cityofnapa.org, and the information on the draft and the public hearing were included in the *City of Napa Newsweekly* email sent to more than 1,400 subscribers, engaged and active members of the local community. Also, in its monthly water conservation advertisement in the June issue of *Napa Valley Marketplace* magazine, the City invited the public to the two June 21 water plan hearings. *Napa Valley Marketplace* goes out to 33,000 homes and businesses and the June issue arrived on May 28. In accordance with the Act, the City of course published notices in the local newspaper, the *Napa Valley Register*, once a week for two successive weeks prior to the public hearing. Copies of these June 7 and June 14, 2011 ads are included in Appendix A, along with other relevant public notices mentioned above.

At the City Council Meeting of June 21, 2011, both the SBx7-7 Target Method selection and the UWMP 2010 update were summarized by staff and the public was invited to make comments. With no comments received on either item, the Council voted to approve Method 1 for SBx7-7

and to adopt the City of Napa UWMP 2010 as presented. Appendix B includes the adoption resolutions, along with the City Council meeting agenda and minutes, and the staff agenda summary reports.

In early July 2011, the City of Napa submitted this adopted UWMP 2010 update to DWR and the California State Library, and began making it available for public review during normal business hours at the Public Works Department Building, the Water Division Building, the Napa City-County Library and via the City web site at www.cityofnapa.org/water. In addition, the City supplied its adopted UWMP 2010, including all water service reliability sections, to all local agencies with which it has a water relationship – Napa County, Napa Sanitation District, the Cities of American Canyon, St. Helena, and Calistoga, and the Town of Yountville. Cover letters are included in Appendix A.

1.5 UWMP Format and Organization

This UWMP 2010 update includes all elements required by the Act and was written as a reader-friendly document for the citizens and officials of the City of Napa, and other interested local, regional, and State agencies. UWMP 2010 is divided into eight chapters. Following the introductory Chapter 1, Chapter 2 thoroughly describes the City of Napa water service area. Chapters 3 and 4 address the City's water supply sources and their reliability into the future. Chapter 5 looks at historical water demand, summarizes the City's efforts in water conservation to date, establishes the SBx7-7 per capita demand targets, and projects future water demand based on those targets. Chapter 6 summarizes recycled water opportunities. Chapter 7 examines overall water system reliability, comparing supply and demand out to the year 2035. Chapter 8 concludes the document with water shortage contingencies, including drought response and catastrophic water supply interruption. Many supporting documents are included in the appendices.

1.6 Related Planning Efforts

Aside from updating its UWMP every five years, the City of Napa is involved in other internal and regional planning efforts to improve the reliability of its precious drinking water supplies.

20-Year Master Plan

With the recommendations contained in the 1997 *City of Napa Water System Optimization and Master Plan* essentially completed with the Edward I. Barwick Jamieson Canyon WTP Improvements Project and the strategic addition of water storage tanks, the City has begun looking ahead another 20 years to optimize its water supply, treatment, and delivery systems. In early 2011, staff identified more than $100 million in Capital Improvement Program (CIP) project needs through Fiscal Year 2030-31. They include regulatory compliance-driven treatment upgrades, investments to extend the life of distribution system components, watershed improvements, and other projects to optimize the City of Napa water system. This new Master Plan will help guide Water Fund CIP budget development over the coming decades.

Bay Area Integrated Regional Water Management Plan (IRWMP)

The San Francisco Bay Area Integrated Regional Water Management Plan (IRWMP) is a multi-stakeholder nine-county effort to coordinate a strategic approach to regional water resources management. It arose in response to guidelines set forth under Proposition 50, a statewide bond initiative passed by voters in 2002. Since 2005, the City of Napa has participated in the

Water Supply & Water Quality functional area of the IRWMP and its more recent North Bay subregion process. The City adopted the first version of the plan in December 2006. An updated version of the IRWMP will be prepared by 2013 using Proposition 84 planning grant funding, and the City will participate in that update process to ensure that appropriate local water resource projects are included. To date, the City has benefitted from an IRWMP grant-funded Regional Water Conservation Campaign that provided coordinated "Water Saving Hero" messaging during the 2008 dry year. The City also stands to benefit from Proposition 84 implementation grant monies that may be awarded to the Bay Area IRWMP group, including more than $300,000 to subsidize local water-efficient landscape, irrigation controller, toilet, and clothes washer rebates. Extension of a recycled water pipeline to Napa State Hospital is also slated for funding under the same Propositon 84 IRWMP grant. The conservation rebates and reduction in irrigation demand will both help in the City's efforts to meet SBx7-7 per capita demand targets.

Napa County Integrated Water Resource Management Planning Framework (IWRMPF)

The purpose of the Napa County Integrated Water Resource Management Planning Framework (IWRMPF) is to help integrate local and regional water and watershed management and provide a cost-effective process for identification and implementation of water management solutions with multiple benefits. This fledgling local effort includes a project submittal process through an online database that will help Napa County stakeholders avoid redundant efforts, and will allow forwarding of high-priority projects up to the larger Bay Area IRWMP. Local screening and prioritization could improve the competitiveness of local projects for available grant funding. One of the primary IWRMPF objective categories is "Reliable Water Supply." To date, City of Napa Water Division staff have participated in the IWRMPF Planning Advisory Committee and the City will continue its involvement in this local process as it evolves.

CHAPTER 2

SERVICE AREA

2.1 Description of Service Area

The City of Napa is located at the northeast end of San Francisco Bay, within the Napa Valley, approximately 40 miles northeast of San Francisco. Incorporated in 1872, the City is the County Seat for Napa County. The City serves an area encompassing much of the lower Napa Valley and extending up the foothills on the east and west sides of the valley. As shown in Figure 2-1, the City's water service area contains three boundaries of importance:

- Designated water service area which includes most of the lower Napa Valley
- Rural Urban Limit (RUL) Line
- City Limits

The designated water service area encompasses an area much larger than the City can currently serve. The RUL defines the extent of urban development through 2020 in the City of Napa General Plan. Land proposed for development within the RUL is generally annexed to the City, with land outside the RUL conserved primarily for agriculture and open space. Currently, the City limits encompass about 95% of the area within the RUL, with the remaining 5% being unincorporated Napa County land. While the vast majority of City water is delivered to customers within the City limits, the City does serve water outside City limits and even outside the RUL, including customers in the Monticello Road/Silverado Resort community and the independent Congress Valley Water District (CVWD), and to accounts along the Conn Transmission Main. The CVWD is scheduled to be dissolved and its system purchased by the City in 2017. The City also serves the approximately 1,175 residents of Napa State Hospital located outside the City limits and RUL.

The City exports water to the Cities of American Canyon, St. Helena, and Calistoga, the Town of Yountville, and the California Veterans Home. St. Helena, Yountville, and the Veterans Home are retail customers of the City, with St. Helena contractually obligated to purchase a minimum amount of City of Napa water each year. Yountville and Veterans Home purchases of City water are rare and minimal due to their own sufficient local supply sources. Calistoga and American Canyon have contractual entitlements to SWP water from the North Bay Aqueduct (NBA), and the City simply treats their water at its Edward I. Barwick Jamieson Canyon WTP and wheels it to them. Because deliveries to Calistoga and American Canyon do not directly impact City retail demand, they are excluded from the water service reliability (supply vs. demand) analysis in Chapter 7.

2.2 Population and Demographics

As in most cities, residential development is the predominant land use in Napa. In 2010, more than 90% of the City's water accounts were single-family or multi-family residential. Commercial and institutional customers are primarily confined to the downtown area and shopping complexes along several major streets. The City does serve 19 agricultural accounts, primarily

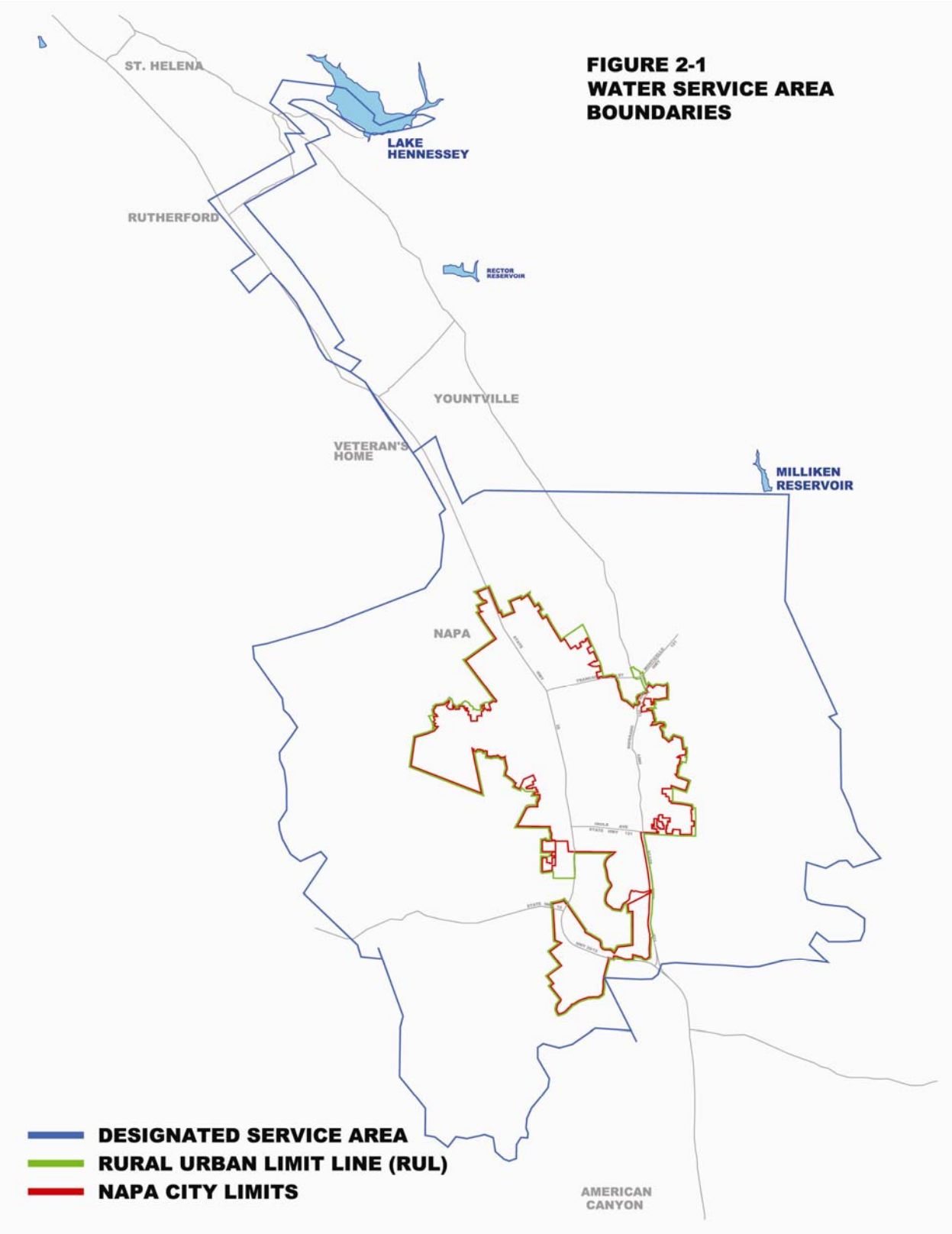


FIGURE 2-1
WATER SERVICE AREA
BOUNDARIES
ST. HELENA
LAKE
HENNESSEY
RUTHERFORD
RECTOR
RESERVOIR
YOUNTVILLE
VETERAN'S
HOME
MILLIKEN
RESERVOIR
NAPA
AMERICAN
CANYON
DESIGNATED SERVICE AREA
RURAL URBAN LIMIT LINE (RUL)
NAPA CITY LIMITS

located along the Conn Transmission Main. By agreement, these are interruptible services that can be cut off in times of shortfall.

Infill development within the RUL for the past decade has reflected both the City's housing obligations and the expansion of tourist accommodations to support the Napa Valley wine industry. New hotels have been constructed or are planned or under construction, both downtown and in the Napa Valley Corporate Park, a 240-acre office and light manufacturing complex in south Napa. A new five-star resort has been approved for the Stanly Ranch area in the southwest corner of the City, with its water use impact to be minimized through the use of NSD recycled water and expansion of recycled water service to surrounding parcels. Residential development has slowed significantly due to the economic downturn beginning in 2008. The City issued 130 new single-family residential building permits in 2007, but just 19 in 2009. A slight rebound to 46 in 2010 indicates a modest rebound in the building sector.

Table 2-1
Population Served: 2010 and Projected

	2010	2015	2020	2025	2030	2035
Service Area Population	86,743	89,243	90,743	91,743	92,643	93,543

As detailed in Chapter 5, to be consistent with DWR Methodology the City is using state and local population reports and projections to calculate its water Service Area Population. California Department of Finance population and housing estimates are used to calculate Service Area Population for the historical SBx7-7 baseline period through current year 2010. The City intends to use the same data sources and methods for SBx7-7 enforcement calculations in 2015 and 2020 UWMP updates. For the puposes of projecting forward through 2035, Table 2-1 employs the incremental five-year City limits population increases from ABAG *Projections 2009*, while assuming that population served outside the City limits remains constant. ABAG's *Projections 2009* forecasting document is the most current reliable source for local population growth. Growth projections have been significantly scaled downward from the extremely high *Projections 2003* numbers used in UWMP 2005, and population increases are skewed to the earlier years. For example, an increase of 2,500 people is projected from 2010 to 2015, but for the 2025 to 2030 the increase is projected at just 900. This is consistent with General Plan build-out by 2020, followed by an assumed nominal infill post-2020. These more realistic population projections add confidence to water service reliability analyses in Chapter 7.

2.3 Climate

The Napa climate is a significant factor in both annual water demand and demand seasonality. Best described as Mediterranean, the climate is characterized by hotter, dry summers and cooler, moist winters. Water demand may exceed 25 million gallons per day (MGD) during a hot spell in July, while dropping below 7 MGD in January. Landscape irrigation represents more than half of the annual water demand most years.

Table 2-2 summarizes relevant climate data, including average temperatures, precipitation, and evapotranspiration (ETo). The monthly ETo numbers represent the irrigation needs of standard cool-season turfgrass in Napa. More than 65% of annual ETo occurs in the months of May through September. This drives the demand for supplemental irrigation as these months have the lowest rainfall totals. Typically July, August, and September are rainless. There is, however, considerable variation in precipitation from year to year. An annual total of less than

13 inches can be anticipated one year in 20, while more than 36 inches can be expected with about the same frequency. Annual precipitation averages nearly 25 inches, but more than 80% of that total falls in the months of November through March, when plant water needs are at their lowest. The effect of summer landscape irrigation on overall Napa water demand has influenced the City's water conservation efforts, resulting in an annual Water-Wise Landscaping Workshop Series, the *Water-Wise Gardening in the Napa Valley* web site, and current and planned rebate incentives described in Chapter 5.

Table 2-2
Average Climate Data for Napa

Month	Max. Temperature (°F)	Min. Temperature (°F)	Total Precipitation (inches per month)	ETo (inches per month)
January	57.0	38.3	5.14	1.03
February	61.5	40.8	4.40	1.53
March	65.1	42.0	3.30	2.93
April	69.6	43.7	1.64	4.71
May	74.5	47.6	0.69	5.82
June	79.8	51.3	0.21	6.85
July	81.9	53.4	0.02	7.21
August	81.7	53.1	0.07	6.44
September	82.0	51.5	0.32	4.87
October	76.5	47.9	1.36	3.53
November	65.9	42.6	2.98	1.64
December	57.5	38.8	4.55	1.17
Annual	71.1	45.9	24.68	47.73

Average temperature and precipitation data are from the Western Regional Climate Center, www.wrcc.dri.edu.
Average ETo data are from the Oakville weather station in the California Irrigation Management Information System (CIMIS).

Mild temperatures predominate in Napa, but highs in excess of 100°F have been observed at one time or another in every month from May through October. Nights cool off quickly. The average minimum temperature during the summer months is in the low 50's. Winter brings sub-freezing temperatures nearly every year. Historically, temperatures below 32°F have been recorded during each month from October through May. During the winter, daily temperatures climb into the upper 50's on average.

Under the influence of the nearby mountains and the flow of air through San Pablo Bay, wind direction is southwesterly most of the time and average speed is relatively light. Relative humidity average values during the summer may be around 60%, while in the winter they reach nearly 80%. Afternoon readings during most of the year will average 45% to 55%, while in the early morning hours the humidity will range from 80% to 90%.

ETo is somewhat affected by temperature, wind, and humidity, but the primary driving force is simply the amount of sunlight. Long summer days mean higher ETo, more landscape irrigation, and the demand seasonality discussed earlier.

CHAPTER 3

WATER SUPPLY SOURCES

3.1 Current Supplies

The City of Napa currently meets its demands by supplying water from three major sources:

- Lake Hennessey
- Milliken Reservoir
- State Water Project (SWP) water delivered through the North Bay Aqueduct (NBA)

Lake Hennessey and Milliken Reservoir are two local surface water reservoirs along tributaries of the Napa River. SWP water is supplied through an agreement with the NCFCWCD, the SWP contract administrator for several municipalities in Napa County. Water from these three sources is introduced into the City of Napa distribution system from three separate water treatment plants. Hennessey WTP treats the Lake Hennessey supply. Milliken WTP treats Milliken Reservoir water. SWP water is treated at the Edward I. Barwick Jamieson Canyon WTP southeast of the City. Figure 3-1 shows the locations of these treatment facilities and the major components of the water distribution system.

This chapter describes the three existing sources and the quantities available from them through 2035. Other potential supplies are also discussed, including long-term opportunities. The future reliability of these Napa supplies is covered in Chapter 4. The impacts of local recycled water projects are more thoroughly discussed in Chapters 5 and 6.

3.2 Lake Hennessey

Lake Hennessey is the major local water source for the City of Napa system. Located approximately 13 miles north of the City, Lake Hennessey was formed in 1946. Subdivision development by the 1940's proved taxing to the older Milliken Reservoir, which had served as the City's single water source for more than two decades. To assuage demands on Milliken, the City constructed Conn Dam, allowing storage of water from Conn Creek, an upvalley tributary of the Napa River. The resulting reservoir, Lake Hennessey, became the City's primary source for the next several decades until supplemented by SWP entitlements in the late 1960's.

The City's water rights to Lake Hennessey are secured through a license with the State Water Resources Control Board (SWRCB), Division of Water Rights. The license authorizes the City to divert and store up to 30,500 AF per year from Conn Creek for beneficial use. Lake Hennessey has an approximate storage capacity of 31,000 AF. Storage capacity represents the static volume of a reservoir at spillway elevation assuming no inflow or outflow, and is indicative of the absolute maximum yield in a wet year. Lake Hennessey's storage capacity is much greater than its average annual inflow of 19,692 AF. Its tributary watershed area is about 35,000 acres. These and other important Lake Hennessey statistics are listed in Table 3-1. Discussed in more detail in Chapter 4, average yield, reliable yield, and firm yield represent the annual supplies available during normal water years, multiple-dry year periods, and critical single-dry years, respectively.

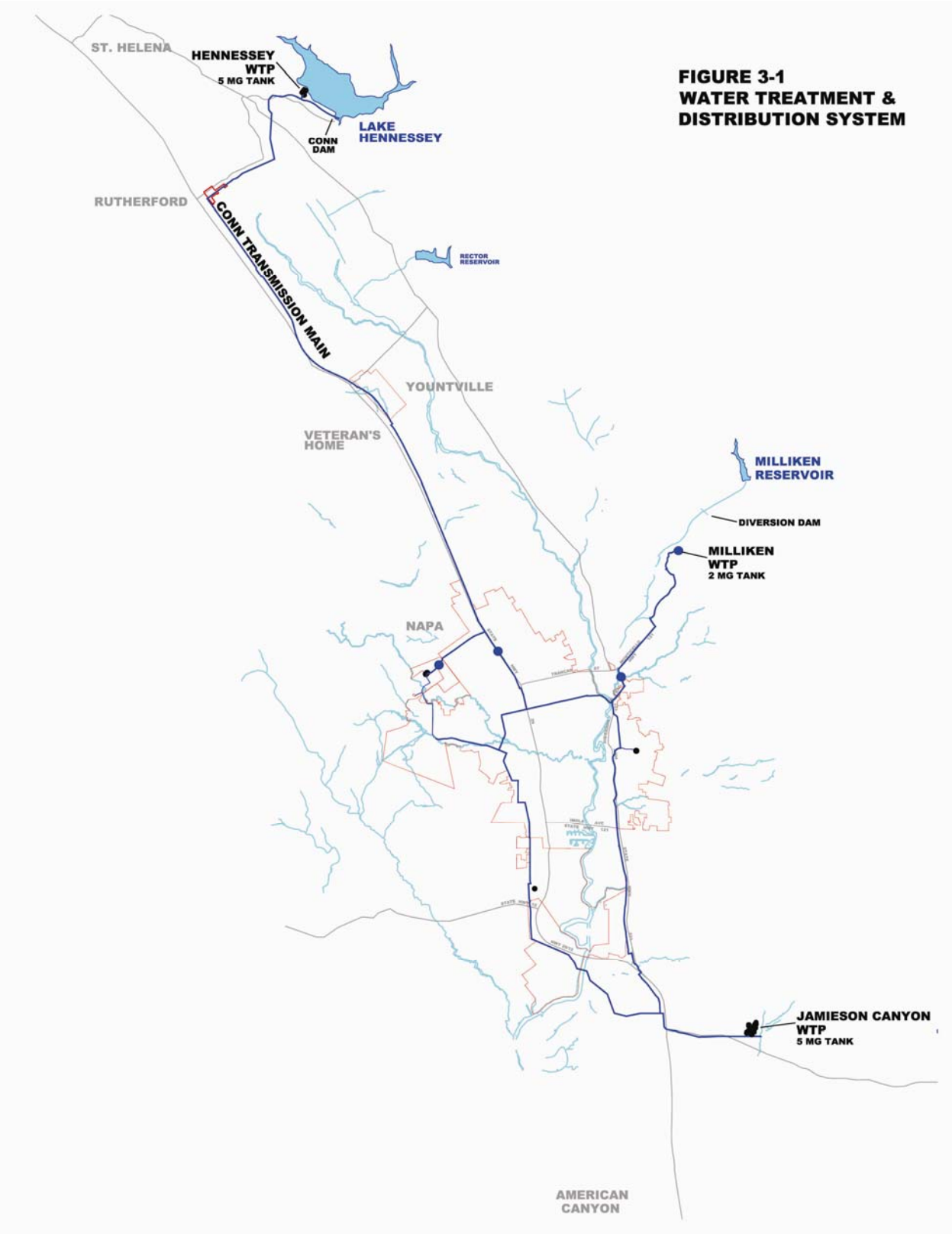


FIGURE 3-1
WATER TREATMENT &
DISTRIBUTION SYSTEM
ST. HELENA
HENNESSEY
WTP
5 MG TANK
LAKE
HENNESSEY
CONN
DAM
RUTHERFORD
CONN TRANSMISSION MAIN
RECTOR
RESERVOIR
YOUNTVILLE
VETERAN'S
HOME
MILLIKEN
RESERVOIR
DIVERSION DAM
MILLIKEN
WTP
2 MG TANK
NAPA
JAMIESON CANYON
WTP
5 MG TANK
AMERICAN
CANYON

Table 3-1
Lake Hennessey Statistics

Tributary Watershed Area	35,000 acres
Average Annual Inflow	19,692 AF
Total Storage Capacity (Maximum Yield)	31,000 AF
Average Yield	17,500 AF
Reliable Yield	10,417 AF
Firm Yield	5,000 AF

Raw water from Lake Hennessey flows into a cylindrical concrete intake tower and is pumped up to the Hennessey WTP. Hennessey WTP began operation in 1981 and has a nominal treatment capacity of 20 MGD. The facility provides complete conventional treatment, including flash mixing, coagulation, flocculation, sedimentation, filtration, and disinfection. Treated water from the plant is conveyed into a buried 5.0 million gallon concrete clearwell tank on site. This treated water is delivered to the distribution system through the 36-inch diameter Conn Transmission Main. The Conn Line is approximately 20 miles long and runs parallel to Conn Creek, Highway 128, and Highway 29. It travels along easements and right-of-ways before meeting the Jamieson Line in northwest Napa.

3.3 Milliken Reservoir

The City of Napa began offering water service in 1923 following its purchase of the privately-owned Municipal Water Works. This purchase coincided with the construction of Milliken Dam, which allowed storage of water from Milliken Creek, a tributary of the Napa River. The resulting Milliken Reservoir served as the City's sole water source until Lake Hennessey was created in the 1940's. Located approximately 5 miles northeast of the City, Milliken Reservoir is now a secondary source of supply used only in the high-demand summer period when turbidity levels in the reservoir can be effectively treated at the Milliken WTP.

The Milliken watershed covers an area of roughly 6,000 acres. As with Lake Hennessey, the City's water rights to Milliken Reservoir are secured through a license with the SWRCB. It authorizes the City to divert and store up to 2,350 AF of water per year from Milliken Creek for beneficial use. Milliken Reservoir has an approximate storage capacity of 1,390 AF, much smaller than its average annual inflow of 3,656 AF. The storage capacity of Milliken Reservoir is limited to 1,390 AF due to seismic stability concerns by the State Division of Safety of Dams (DSOD) that necessitated the boring of five holes which have lowered the reservoir storage elevation by 16 feet. Like the 2050 Study, this UWMP 2010 update assumes a maximum yield for Milliken of only 700 AF in all but critical single-dry years. Key Milliken Reservoir statistics are summarized in Table 3-2.

Raw water is currently not taken directly from the reservoir, but is instead released into Milliken Creek by a manually operated valve system at the base of the dam. About two miles downstream, a diversion dam directs water into a 16-inch diameter above ground raw water line. That line then runs approximately one mile down to the Milliken WTP. This treatment facility was constructed in 1976 and has a treatment capacity of 4.0 MGD. It is a direct filtration plant with a contact/reaction tank and four horizontal, dual-media pressure filters operated in parallel. Treated water is stored in a 2.0 million gallon clearwell tank located above the

treatment plant site. The treated water is delivered to the distribution system via the Milliken Transmission Line. Approximately three miles long, the line serves customers in the Silverado Resort/Hillcrest areas before its joins the main system at the intersection of Silverado Trail and Monticello Road. The City also holds a permit for direct diversion of 7.74 cubic feet per second (cfs) from Milliken Creek for the period of November through March. However, due to treatment plant limitations the water is unable to be treated to meet water quality regulations and therefore currently cannot be served to meet customer demands.

Table 3-2
Milliken Reservoir Statistics

Tributary Watershed Area	6,000 acres
Average Annual Inflow	3,656 AF
Total Storage Capacity	1,390 AF
Maximum Yield	700 AF
Average Yield	700 AF
Reliable Yield	700 AF
Firm Yield	400 AF

3.4 State Water Project

In 1966, 20 years after the addition of Lake Hennessey and more than 40 years after the creation of Milliken Reservoir, the City added a third source of supply by sub-contracting with NCFCWCD for imported surface water from the SWP. The NCFCWCD acts as the SWP contract administrator on behalf of municipalities in Napa County. The SWP diverts water from the Sacramento-San Joaquin Delta at the Barker Slough Pumping Plant east of Fairfield and conveys it approximately 21 miles via the NBA to Cordelia Forebay to serve contractors in Napa and Solano Counties. From there, SWP water is pumped an additional six miles to the NBA Terminal Reservoirs, two 5 million gallon raw water storage tanks installed by DWR in 2008 to replace the original 7 million gallon tank built in 1968. The majority of this water represents SWP entitlements for the City of Napa and the City of Calistoga, both of which are treated at the Edward I. Barwick Jamieson Canyon WTP. The remainder is City of American Canyon SWP entitlement treated at Jamieson, conveyed via pipeline to the adjacent American Canyon WTP, or delivered as raw water to American Canyon irrigation customers.

The original 1966 agreement with NCFCWCD provided the City of Napa with gradually increasing annual allotments of SWP water, known as “Table A” entitlements, reaching a maximum of 12,500 AF by 1990. The agreement was modified in 1982 as a result of DWR efforts to encourage implementation of water conservation programs. The modified agreement reduced the City’s short-term Table A entitlement, but increased its final overall entitlement to 18,800 AF by 2021. In 2009, the SWP contract was amended to accelerate the entitlement schedule, with the City granted its full 2021 entitlement of 18,800 beginning in 2010.

In 2000, the City obtained an additional 1,000 AF per year of SWP water in a transfer agreement between NCFCWCD and the Kern County Water Agency (KCWA). Negotiated on behalf of five cities in Napa County, the agreement established terms for the permanent purchase of 4,025 AF of annual SWP entitlement from KCWA. Napa and St. Helena purchased

the largest shares of this total at 1,000 AF each. The remaining agencies accepted lesser shares ranging from 500 AF to 925 AF. The City of Napa subsequently purchased the City of St. Helena's 1,000 AF KCWA entitlement in 2006. This entitlement transfer agreement between the two cities requires that St. Helena purchase a minimum of 400 AF from Napa each year at retail rates. The minimum annual purchase increases to 600 AF if the SWP allocation as of April 15 is 30% or higher, and St. Helena has the option to purchase up to 200 AF more if the April 15 SWP allocation reaches 50%.

In 2009, the City signed a water transfer agreement with the Town of Yountville, obtaining Yountville's total SWP Table A entitlement of 1,100 AF per year, along with its NBA conveyance capacity. This agreement requires the City to sell up to 25 AF to Yountville at retail rates for emergency and fire flow needs only. There is no minimum sales requirement as there is for the St. Helena agreement. These recent additional SWP Table A purchases from other Napa County agencies help to ensure more adequate supplies are available for City of Napa customers in times of drought. Exploring these additional SWP purchases was recommended in the previous UWMP 2005.

The City's complete current Table A entitlements are shown in Table 3-3. These amounts represent the absolute maximum annual yields of Table A water. Actual deliveries are determined by DWR depending on each year's hydrologic conditions. A full 100% of the entitlement would typically be available only during wet years. Because the St. Helena and KCWA transfers did not include NBA conveyance capacity, total actual supplies could be limited to 19,900 AF per year. Reliability of the City's SWP supply in normal, multiple-dry, and critical single-dry year scenarios is discussed in detail in Chapter 4. The current SWP contract is due to expire in 2035 with extension occurring as necessary.

Table 3-3
SWP Table A Entitlements(1)
For the City of Napa

Source	Table A Entitlement (AF)
City of Napa	18,800
2000 KCWA Purchase	1,000
2006 St. Helena Purchase	1,000
2009 Yountville Purchase	1,100
Total City of Napa	**21,900**

(1) Total State Water Project supply potentially limited to 19,900 AF/year due to contracted NBA conveyance capacity.

All of the City's SWP raw water is processed at the Edward I. Barwick Jamieson Canyon WTP. Originally constructed in 1968, the plant was upgraded in 1988 to provide a rated treatment capacity of 12 MGD. In early 2011, the City completed a three-year $40 million Improvements Project that has increased plant treatment capacity to 20 MGD. This facility now includes pre- and intermediate-ozonation along with more conventional surface water treatment steps such as rapid mixing, flocculation, sedimentation with tube settlers, gravity filtration, and disinfection. Treated water is stored in a 5.0 million gallon clearwell tank on site. The Jamieson Transmission Line delivers the potable water to the City. It consists of a 42-inch diameter line

that runs parallel to Jamieson Canyon Road to Highway 29, which then splits into 36-inch and 24-inch lines near the intersection of Highways 29 and 221 as it joins the rest of the distribution system.

3.5 Other Potential Sources

The City is either involved in or considering several opportunities to enhance its water supply for the future. These include more efficient use of SWP options, treatment plant capacity enhancements, water transfers, potential groundwater projects, and increased use of recycled water. Due to the "potential" nature of most of these efforts, their supplies are not quantified here nor are they included in the total supply projections in Section 3.6. As projects are finalized or agreements made, their supply contributions will be quantified in future UWMPs.

Additional SWP

In addition to Table A entitlements, the SWP contract provides for other options. "Carryover Water" is water from a previous year's entitlement that was available for use, but exceeded demands, and was therefore stored for use in subsequent years. Carryover water is stored in San Luis Reservoir and if San Luis Reservoir spills, the carryover water is considered the first water to be lost. The City typically uses carryover water in the first few months of the year and will continue to do so. Over the long term, this is not considered new supply but simply taking better advantage of existing SWP entitlements.

"Article 21 Water" is an interruptible surplus SWP supply the City has used. Article 21 of the SWP contract allows for the purchase of surplus water beyond the Table A quantities, provided that the contractor can take delivery during the wet season without affecting Table A deliveries to other contractors. NCFCWCD uses an annual delivery schedule that maximizes the City's use of Article 21 water following consumption of carryover water.

Each year, DWR decides whether to operate a dry year purchase program based on Article 56 of the SWP contract. A "Turn-Back Pool" may be established with water from agencies not using their full entitlement distributed to other agencies requesting additional supplies. NCFCWCD has purchased water through the program and will continue to do so, but it is not considered a reliable source due to its unpredictable nature.

Treatment Plant Projects

The Edward I. Barwick Jamieson Canyon WTP Improvements Project was the City's highest recent priority for addressing its water supply needs. The project has now increased the treatment capacity of the plant from 12 MGD to approximately 20 MGD. Ultimate capacity is expected to reach 24 MGD. With the highest capacity, the City will be better able to treat all of its entitled water supplies from the SWP. While not actually creating new supply, plant capacity expansion essentially has the same effect, allowing the City to finally use supplies to which it is entitled. By using more of its SWP water in the future, the City is better able to preserve its local reservoirs for dry years.

The City may consider modifications to the Milliken WTP so that Milliken Reservoir could be used as a source year-round. Supply is only enhanced if use of Milliken reduces the supply required from Hennessey or Jamieson Canyon. The City continues to monitor and assess the increasing trend of the price of water supply and the decreasing trend in the cost and technical

capabilities of packaged treatment plants for consideration of the added increment of water supply.

Dry Year Supplies

One recommendation of the 2050 Study was for Napa County agencies to take advantage of NBA conveyance capacity by importing dry year supplies from outside the County. Known as the "Fill the Pipe" option, this would require negotiation of a long-term transfer agreement for reliable dry year supplies from agencies such as Butte County, the City of Vallejo, and Sacramento River users.

In 2008, with local reservoir levels low and an initial SWP allocation of just 25%, the City did participate in the Yuba Accord Dry Year Water Purchase Program to supplement available supplies and reduce the need for mandatory drought restrictions for customers.

Long-Term Water Supply Projects

The City of Napa participated in a feasibility study for a water supply reservoir under consideration by the South Sutter Water District. The Garden Bar Water and Power Project would consist of a new dam and reservoir project located on the Bear River. If approved and implemented, the project would provide substantial water supply and hydroelectric power generation benefits. This Garden Bar Reservoir project has been the subject of several feasibility studies since the 1970's. The City of Napa could be in a position to purchase a share of the newly-created non-SWP water supply resulting from the completion of the project. This is one potential source of water that could fill the pipe in years of low SWP allocations.

Groundwater

The City of Napa currently relies on surface water supplies exclusively and has no programs in place involving groundwater or conjunctive use. The 2050 Study identified several potential groundwater options that the City may consider in the future. One involves handling excess SWP entitlements by storing the water in groundwater wells along the NBA pipeline in Solano County. The others involve the use of new or existing wells in the local groundwater basin. Potential new wells would include a municipal well to be used exclusively for dry year or emergency supplies and on-site wells to provide non-potable water for schools and parks.

Recycled Water

The City of Napa is a drinking water supplier only. Wastewater from the City and surrounding unincorporated areas is treated by a separate special district, the Napa Sanitation District (NSD). NSD produces recycled water at their Soscol Water Recycling Facility (WRF). A 1998 agreement currently governs the sale of NSD recycled water to City customers. The first City customer switching to NSD recycled water was Napa Municipal Golf Course in 2003. An additional 13 customers have followed, saving about 300 AF in City potable water annually. The City will continue working with NSD to further expand the use of their recycled water to meet non-potable demands within the City's service area. The City recognizes the value of recycled water as a locally produced, reliable source of supply. When a City customer switches to NSD recycled water for their irrigation needs, demands on the City water system are reduced. Therefore, recycled water quantities have been addressed as future demand reductions in Chapter 5 and not as additional City supply in this chapter. The future local recycled water outlook for the City is discussed in Chapter 6.

Desalinated Water

The City of Napa currently does not have a desalination program, nor plans to implement one.

3.6 Total Supply Projections

Table 3-4 shows total available water supplies for the City of Napa from 2010 to 2035. The table includes quantities available from known sources and assumes maximum yield for local reservoirs and full entitlements for SWP water. Supplies are assumed constant at 51,600 AF unless additional NBA *conveyance capacity* is purchased.

The reliability of these supplies in normal, multiple-dry years, and critical single-dry year scenarios are examined in Chapter 4. Chapter 7 summarizes supply vs. demand and overall City water service reliability to 2035.

Table 3-4
Total Water Supplies 2010-2035 (AF/year)(1)

Water Supply Source	2010	2015	2020	2025	2030	2035
Lake Hennessey	31,000	31,000	31,000	31,000	31,000	31,000
Milliken Reservoir	700	700	700	700	700	700
State Water Project(2) *Table A*	19,900	19,900	19,900	19,900	19,900	19,900
Total	51,600	51,600	51,600	51,600	51,600	51,600

(1) Assuming maximum yield/full entitlement for all sources.
(2) Total State Water Project supply assumed limited to 19,900 AF/year due to contracted NBA conveyance capacity.

3.7 Resource Maximization/Import Minimization

Section 10620(f) of the State Water Code requires the UWMP to discuss how water management tools are used to maximize resources and minimize the need to import water from other regions. As shown in Table 3-4, Lake Hennessey is the predominant supply for the City of Napa. To preserve the quantities available in this local reservoir during dry years, the City is pursuing a policy of optimizing use of its existing entitlements of SWP water. Projects such as the Edward I. Barwick Jamieson Canyon WTP expansion have given the City flexibility in terms of water management options during drought periods. For example, the City may opt to use Lake Hennessey primarily during low rainfall years when SWP allotments are cut back, keeping more water in the lake other years and increasing the chances of spilling. This will improve local water supply reliability and help avoid situations like the 1989-91 period. In those drought years, low levels in Lake Hennessey and Milliken Reservoir combined with SWP cutbacks caused the City to import a significant amount of supplemental water from the Yuba County Water Agency.

Overall resource maximization is being addressed primarily through increased water conservation measures and expansion of local recycled water use for non-potable demands. The City's water conservation programs and SBx7-7 per capita demand targets are discussed in Chapter 5.

CHAPTER 4

RELIABILITY OF SUPPLY

4.1 Definitions

The year-to-year reliability of water supplies from Lake Hennessey, Milliken Reservoir, and the SWP depends on various legal, environmental, water quality, and climatic factors. Climate in the form of annual precipitation and runoff in the affected watersheds is the critical factor used in projecting the future reliability of City of Napa sources. The Act requires this UWMP to estimate supplies available during an average water year, multiple-dry year periods, and critical single-dry year conditions. Before addressing this requirement, some definitions are in order:

Average (Normal) Year – A year in the historical sequence that most closely represents median runoff levels and patterns.

Multiple-Dry Year Period – A period generally considered to have the lowest average runoff for a consecutive multiple year period (three years or more) for a watershed since 1903.

Single-Dry Year – A critical year generally considered to have the lowest average runoff for a watershed since 1903.

Average Yield – Based on historical data, amount of water that can be supplied from reservoir storage during a normal year.

Reliable Yield – Based on historical data, annual amount of water that can be guaranteed from reservoir storage during multiple-dry years

Firm Yield – Based on historical data, amount of water that can be guaranteed from reservoir storage during a critical single-dry year.

Probability of Exceedence – The probability that a given reservoir yield could be exceeded in a given year, based on statistical analyses of the historical data. By definition, the firm yield would have a probability of exceedence of 100%, while the maximum yield would have a probability of exceedence of 0%.

Depletion – Annual drawdown from reservoir storage during drought conditions.

4.2 State Water Project Reliability

The ability of the SWP to deliver water to its contractors in any given year depends on a number of factors, including rainfall, size of snowpack, runoff, water in storage, and pumping capacity in the Delta. Biological opinions on threatened and endangered fish species are new significant factors affecting SWP deliveries. The actual delivery, or yield, varies from year to year and is described as a percentage of the contractual entitlement. For the City of Napa, annual SWP deliveries are a percentage of Table A water. While 100% of this entitlement may be available in wet years, lesser amounts are delivered in normal, single-dry, and multiple-dry years.

UWMP 2010 employs data from *The State Water Project Delivery Reliability Report 2009*, issued by DWR in August 2010. This is the most recently published SWP Delivery Reliability Report. Its projected long-term average delivery amounts of contractual SWP Table A supplies have decreased in comparison to previous estimates, including those in the 2002 Delivery Reliability Report used for UWMP 2005. The projections in the 2009 Report are based on very conservative assumptions, which make them very useful from a long-range urban water supply planning perspective. While recent rulings in various legal actions may lead DWR to increase its SWP projections in its next scheduled report, the 2009 Report remains the best available information for Napa to use concerning the long-term delivery reliability of its SWP supplies.

Tables 4-1 and 4-2 summarize SWP reliability data obtained from the 2009 Report. The Current Conditions case takes into account biological opinions issued in 2008 and 2009 regarding threatened and endangered species in the Delta. The Future Conditions case adds in the effects of climate change assumed for the Year 2029. For the purposes of supply reliability projections in UWMP 2010, the City of Napa is using Current Conditions data up through 2025 and Future Conditions data for the years beyond 2025. The normal, multiple-dry, and single-dry year delivery percentages can be looked upon as the average, reliable, and firm yields of the SWP source. Its firm yield of 7-11%, based on the 1977 critical year, is much more conservative than the 20% estimate used in UWMP 2005. Delivery percentages for the multiple-dry year condition (32-34%) are slightly lower than the 40% assumption in UWMP 2005. The average yield of 60% is significantly lower than the 76% assumed for normal years in UWMP 2005.

The probabilities of exceedence in Tables 4-1 and 4-2 were derived from the SWP yield curves of CALSIM II model projections. The percent exceedences show that the water year data are not normally distributed (i.e., the median is not equal to the average). Consequently, the normal or average year SWP delivery is not exceeded 50% of the time. It is exceeded 61-65% of the time in these cases.

Table 4-1
State Water Project Reliability Assumptions
Current Conditions

Water Year Type	Projected SWP Delivery (percent of entitlement)	Base Year(s)	Probability of Exceedence (percent)
Normal Year	60%	1922-2003	65%
Multiple-Dry Years	34%	1929-1934	89%
Single-Dry Year	7%	1977	100%

Table 4-2
State Water Project Reliability Assumptions
Future Conditions

Water Year Type	Projected SWP Delivery (percent of entitlement)	Base Year(s)	Probability of Exceedence (percent)
Normal Year	60%	1922-2003	61%
Multiple-Dry Years	32%	1987-1992	90%
Single-Dry Year	11%	1977	100%

Table 4-3 estimates SWP deliveries through 2035 by applying the delivery percentages in Tables 4-1 and 4-2 to the City's total Table A entitlement of 21,900 AF. Year 2011 is already known to be a normal year, however, with SWP Table A allocation of 80%.

For normal years through 2035, the City can expect about 13,140 AF from the SWP. Through 2025, it can expect 7,446 AF annually during multiple-dry year periods like the 1929-1934 drought, and 7,008 AF in multiple-dry years after 2025. For a critical single-dry year like 1977, the City may see deliveries as low as 1,533 AF through 2025, increasing to 2,409 AF in later years. None of these deliveries would be limited by the City's contracted NBA conveyance capacity of 19,900 AF. These SWP delivery estimates are also conservatively low in that they assume no carryover water, Article 21 water, or any of the other supplemental categories described in Section 3.5.

Table 4-3
Estimated State Water Project Deliveries 2011-2035
For Three Different Water Year Conditions (AF)

Year	Normal Year	Multiple-Dry Years	Single-Dry Year
2011	17,520	N/A	N/A
2012	13,140	7,446	1,533
2013	13,140	7,446	1,533
2014	13,140	7,446	1,533
2015	13,140	7,446	1,533
2016	13,140	7,446	1,533
2017	13,140	7,446	1,533
2018	13,140	7,446	1,533
2019	13,140	7,446	1,533
2020	13,140	7,446	1,533
2021	13,140	7,446	1,533
2022	13,140	7,446	1,533
2023	13,140	7,446	1,533
2024	13,140	7,446	1,533
2025	13,140	7,446	1,533
2026	13,140	7,008	2,409
2027	13,140	7,008	2,409
2028	13,140	7,008	2,409
2029	13,140	7,008	2,409
2030	13,140	7,008	2,409
2031	13,140	7,008	2,409
2032	13,140	7,008	2,409
2033	13,140	7,008	2,409
2034	13,140	7,008	2,409
2035	13,140	7,008	2,409

4.3 Local Reservoir Reliability

Water year types do not necessarily coincide between local reservoirs and the SWP. For example, a normal rainfall year in the Lake Hennessey watershed area may occur the same year as a dry year for the SWP watershed area. For UWMP 2010, the City is assuming that dry years occur in both the SWP and local watersheds at the same time. This makes for a more conservative estimate of supply reliability.

Estimated reservoir yields for Lake Hennessey and Milliken Reservoir for the different water year conditions are shown in Table 4-4. These assumptions were also used in UWMP 2005.

Table 4-4
Estimated Local Reservoir Yields
For Three Different Water Year Conditions (AF)

Source	Normal Year	Multiple-Dry Years	Single-Dry Year
Lake Hennessey	17,500	10,417	5,000
Milliken Reservoir	700	700	400
Total Local Reservoirs	18,200	11,117	5,400

While the local reservoir *yields* are significantly decreased under the dry year conditions, additional drawdown of the reservoirs would be employed to supplement supplies during an actual drought. UWMP 2010 uses drought assumptions from the 2050 Study to calculate these storage *depletion* amounts. For the single-dry year case, it was assumed that each reservoir would be drawn down 25% following a normal year. For the multiple-dry year case, it was assumed that reservoir drawdown would be 50% over six years following a normal year. For Milliken, the annual depletion would be spread evenly over the six years at 8.33% per year. For Lake Hennessey, an initial depletion of 25% would be followed by five years at 5% to simulate the impacts of starting a multi-year drought with a single-dry year. The storage depletion estimates are summarized in Table 4-5.

Table 4-5
Estimated Local Reservoir Depletion
For Single and Multi-Year Drought Conditions (AF)

Source	Single-Dry Year	Multiple-Dry Years					
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Lake Hennessey(1)	6,500	6,500	1,300	1,300	1,300	1,300	1,300
Milliken Reservoir(2)	100	33	33	33	33	33	33
Total Local Reservoir Depletion	6,600	6,533	1,333	1,333	1,333	1,333	1,333

(1) Assumed to start with 26,000 AF remaining storage after normal year.
(2) Assumed to start with 400 AF remaining storage after normal year.

4.4 Total Supply Reliability

Table 4-6 adds the SWP yields, the local reservoir yields, and the assumed local reservoir depletion amounts to estimate the City of Napa's reliable supply through 2025 for normal, single-dry, and multiple-dry water years. Table 4-7 estimates reliable supplies for the years after 2025, employing the SWP Future Conditions reliability data and its climate change effects.

In Tables 4-6 and 4-7, the single-dry year case is clearly the most critical, with reliable supplies just 43-46% of normal year supplies. The latter stages of a multiple-dry year period are expected to still have about 62-63% of normal year supplies available. Chapter 7 compares supply and demand up through 2035, showing the impacts of dry year conditions on the City's water service reliability.

Table 4-6
Reliability of Supplies Through 2025
For Three Different Water Year Conditions (AF)

Source	Normal Year	Single-Dry Year	Multiple-Dry Years					
			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
SWP Deliveries	13,140	1,533	7,446	7,446	7,446	7,446	7,446	7,446
Local Reservoir Yields	18,200	5,400	11,117	11,117	11,117	11,117	11,117	11,117
Local Reservoir Depletion		6,600	6,533	1,333	1,333	1,333	1,333	1,333
Total Reliable Supply	31,340	13,533	25,096	19,896	19,896	19,896	19,896	19,896
% of Normal	100%	43%	80%	63%	63%	63%	63%	63%

Table 4-7
Reliability of Supplies Post-2025
For Three Different Water Year Conditions (AF)

Source	Normal Year	Single-Dry Year	Multiple-Dry Years					
			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
SWP Deliveries	13,140	2,409	7,008	7,008	7,008	7,008	7,008	7,008
Local Reservoir Yields	18,200	5,400	11,117	11,117	11,117	11,117	11,117	11,117
Local Reservoir Depletion		6,600	6,533	1,333	1,333	1,333	1,333	1,333
Total Reliable Supply	31,340	14,409	24,658	19,458	19,458	19,458	19,458	19,458
% of Normal	100%	46%	79%	62%	62%	62%	62%	62%

4.5 Factors Affecting Supply Reliability

The primary factors that can cause inconsistency in the year-to-year availability of water supplies are described below.

Climatic

As discussed earlier, weather patterns that affect hydrologic conditions help to determine SWP deliveries. In a critically dry year, SWP contractors may get as little as 7% of their annual entitlement. Initial allocation for 2010 was just 5%, but it did eventually rise to 50% as conditions changed through the spring. By using SWP as a source, the City is somewhat dependent on precipitation in the Sacramento and San Joaquin River Basins. But with local reservoirs augmenting the SWP source, the City is not as vulnerable to climatic effects as it would be without this supply flexibility. Of course the weather patterns and annual rainfall in the

Lake Hennessey and Milliken Reservoir watersheds affect the yield from these local sources. With the conservative assumption that dry conditions will always occur simultaneously in the SWP and local watersheds, the City is confident of the minimum reliable supplies presented in UWMP 2010 for single-dry and multiple-dry year conditions. For post-2025 reliability, the City has taken into account potential climate change impacts on SWP deliveries by using the Future Conditions data from the 2009 SWP Delivery Reliability Report.

Environmental/Legal

SWP water is conveyed through the NBA from the Sacramento-San Joaquin Delta. With more than 20 million Californians and millions of acres of irrigated farmland relying on the Delta for water, it is the hub of the State water distribution system. With runoff from two major river systems flowing into San Francisco Bay, the Delta is also a productive habitat for wildlife, including several endangered species.

The Delta serves as a migration pathway for salmonid species traveling between their home streams and the Pacific Ocean. It is also home to the tiny Delta Smelt, a threatened species of fish requiring protection. Protection of the Delta Smelt involves periodic pumping restrictions affecting Delta water exports. In December 2008 and June 2009, respectively, the United States Fish and Wildlife Service (FWS) and National Marine Fisheries Service (NMFS) issued biological opinions (BOs) regarding the effect of SWP operations on threatened and endangered fish species in the Delta. In its 2009 SWP Delivery Reliability Report, DWR accounts for the impact of these BOs on future Table A deliveries. To ensure a conservative analysis, the 2009 Report accounts for the institutional, environmental, regulatory, and legal factors affecting SWP supplies, and assumes these limitations remain in place over the next 25 years. With various Delta restoration processes and recent legal challenges to the BOs having the potential to greatly improve future SWP reliability outlook, the 2009 SWP Delivery Reliability Report presents a very conservative projection, which, as noted earlier, makes it very useful for long-range urban water supply planning purposes.

Other Legal

As discussed earlier, the City's SWP water supply is governed by an agreement with NCFCWCD, who acts as the SWP contract administrator on behalf of several municipalities in Napa County. The contract is due to expire in 2035, but it is anticipated that the contract will be extended after that time.

Through licenses with the SWRCB, the City has a legal entitlement to use water from Lake Hennessey and Milliken Reservoir. These appropriative water rights allow the City to divert and store up to 30,500 AF per year from Conn Creek and 2,350 AF per year from Milliken Creek for beneficial use. The licenses do require the City to allow sufficient releases from the reservoirs to provide minimum stream flows that have been taken into consideration in estimating water supply availability.

Water Quality/Treatment

The City does not expect water quality issues to negatively impact supply reliability over the next 25 years. The City consistently meets drinking water standards prescribed by the U.S. Environmental Protection Agency (EPA) and the California Department of Public Health (DPH). SWP source water can provide a challenge for the Edward I. Barwick Jamieson Canyon WTP during winter storms when elevated levels of turbidity occur. Process changes including

ozonation have recently improved the Jamieson plant's ability to handle high turbidity raw water. Improved watershed management practices near the intake may also help mitigate the issue in the future. The NBA intake at Barker Slough has experienced periodic water quality problems, in part because of organic material from decaying vegetation. An Environmental Impact Report (EIR) is currently being drafted for potential alternate intake locations for the NBA that would improve raw water quality and avoid Delta Smelt habitat.

Raw water quality is an issue for the Milliken Reservoir as higher turbidity levels in the fall, winter, and spring prevent the effective operation of its direct filtration treatment plant. The City is considering modifications to Milliken WTP so that this reservoir can be used as a supply source year-round. The supply reliability data in UWMP 2010 reflect the current practice of using Milliken supplies only during the summer months when lower turbidity levels can be effectively treated.

CHAPTER 5

WATER DEMAND AND CONSERVATION

5.1 Historical Water Demand

As discussed in Chapter 2, the City of Napa serves primarily residential customers. Historically, single-family and multi-family residential accounts make up more than 90% of the City's total. Table 5-1 presents the actual number of metered water accounts broken down by customer type for calendar years 2005 through 2010. Excluding fire sprinkler accounts which are not included in the table, the City of Napa system is fully metered and customers are billed by volume of use.

Table 5-1
Historical Accounts By Customer Type

Customer Type	Number of Accounts					
	2005	2006	2007	2008	2009	2010
Single-Family Residential	20,999	21,104	21,179	21,297	21,378	21,400
Multi-Family Residential	1,389	1,402	1,408	1,416	1,411	1,420
Commercial	1,434	1,441	1,438	1,442	1,444	1,444
Institutional	231	234	226	230	230	230
Landscape Irrigation	271	274	293	296	297	300
Agricultural Irrigation(1)	19	19	19	19	19	19
Construction Hydrants	35	31	36	31	22	22
Other Agencies(2)	5	5	5	5	5	5
Total	24,383	24,510	24,604	24,736	24,806	24,840

(1) Interruptible-Surplus Agricultural Water Agreements with customers outside the City limits.
(2) Cities of American Canyon, St. Helena, and Calistoga, the Town of Yountville, and the California Veterans Home.

Annual water use by customer type is summarized in Table 5-2. With known unmetered uses and unaccounted-for water included, the table reflects the true total demand on the system for all retail customers inside and outside the City limits, including sales to St. Helena and Yountville following Napa's purchase of their SWP entitlements in 2006 and 2009, respectively. Any sales to those two agencies prior to the SWP transfer agreements is not included, nor is SWP water treated and wheeled to American Canyon and Calistoga. Those volumes are owned by the other agencies and do not impact City of Napa supplies. Sales to other agencies are discussed in full in Section 5.6.

While more than 21,000 accounts are single-family residential, only about half of the actual water demand comes from this sector. The commercial sector of course represents a disproportionate share of demand, with hotels and other businesses that serve the public at large. Institutional demand includes the City's largest water customer, Napa State Hospital, whose use is expected to decline significantly by 2013 with a switch to NSD recycled water for irrigation. The landscape irrigation sector in the table represents dedicated irrigation-only accounts. Most of the City's irrigation use is embedded in residential mixed-use accounts. However, the usage trend for those irrigation-only accounts clearly shows the impact of annual

weather conditions, with usage spiking above 800 AF in dry years 2007 and 2008, then declining below 650 AF in the relatively wet 2010. Landscape irrigation use is concentrated in the summer months when ETo is highest.

The agricultural irrigation sector represents vineyard owners outside the City limits who have signed Interruptible-Surplus Water Agreements with the City. The annual use fluctuates based on weather conditions and the vineyards' use of wells and other alternative sources. Service to these accounts is stopped when the City declares a municipal water shortage. Usage for construction hydrant meters is small but the trend is indicative of the recent economic downturn, with significant drops seen beginning in 2009 and 2010. The Other Agencies category primarily reflects City of St. Helena purchases under the SWP transfer agreement described earlier.

Table 5-2
Historical Demand By Customer Type

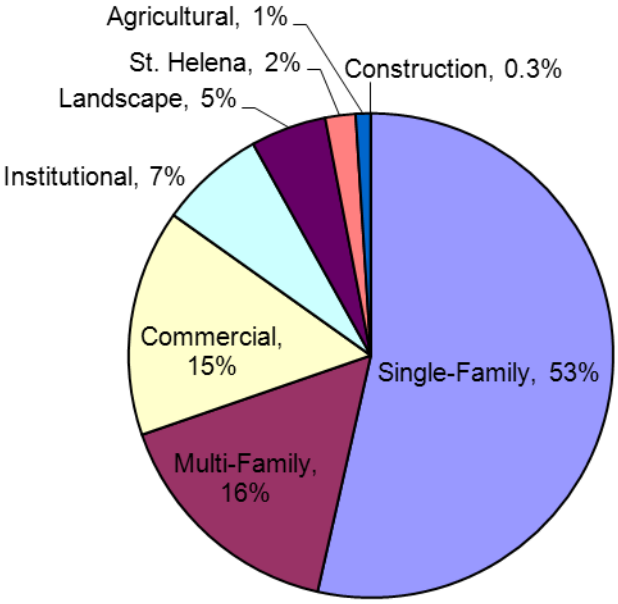
Customer Type	Annual Water Use (AF)					
	2005	2006	2007	2008	2009	2010
Single-Family Residential	7,293	7,417	7,785	7,869	7,123	6,626
Multi-Family Residential	1,889	1,950	2,046	2,063	2,011	1,961
Commercial	1,807	1,910	2,023	2,065	1,942	1,877
Institutional	1,048	1,020	1,261	1,378	1,121	930
Landscape Irrigation	663	730	812	852	729	643
Agricultural Irrigation(1)	173	184	214	250	173	155
Construction Hydrants	47	60	54	53	30	34
Other Agencies(2)	0.02	0.01	452	326	314	280
Known Unmetered Uses(3)	85	69	75	90	76	79
Unaccounted-For Water	1,359	1,138	1,203	1,176	1,660	1,292
Total	14,364	14,478	15,924	16,123	15,178	13,877

(1) Interruptible-Surplus Agricultural Water Agreements with customers outside the City limits.
(2) Retail sales to the City of St. Helena, the Town of Yountville, and the California Veterans Home.
(3) Unmetered uses and losses from activities such as main flushing.

In 2010, the City of Napa saw its lowest annual water demand since 1996. The percentage of use by customer type in 2010 is shown in Figure 5-1. The pie graph represents actual use by metered retail customers. System unmetered uses and losses are excluded.

Residential water use makes up 69% of the total, 53% for single-family plus 16% for the multi-family sector. Commercial users consume the next largest share at 15%, with the remaining 16% divided among the other customer types. This distribution of water use in calendar year 2010 is fairly typical of the City's recent history. These percentages are not expected to change radically as the City experiences mixed-use development in the future that is weighted toward residential, and demand reduction to meet SBx7-7 water conservation targets will be spread among all customer types that have a significant landscape irrigation component.

Figure 5-1
Water Use By Customer Type for 2010



5.2 Conservation Best Management Practices

Water conservation has been and continues to be an integral part of the City of Napa's long-term water management strategy. Like most water agencies in California, the City instituted successful demand reduction measures during the extended drought of 1987-1992. After that crisis ended, the City made permanent several of those measures, including school education, public information, and an aggressive toilet replacement program. A developer-funded program to replace high-water-use pre-1992 toilets with ultra-low-flush toilets (ULFTs) - and now high-efficiency toilets (HETs) - has achieved cumulative net savings of more than 10,000 AF since 1991.

By December 2002, the City had joined the California Urban Water Conservation Council (CUWCC), a consensus-based partnership of urban water suppliers, public advocacy organizations, and other parties concerned with water supply issues. Formed in 1991 at the height of the six-year drought, the CUWCC oversees the *Memorandum of Understanding Regarding Urban Water Conservation in California* (MOU) which sets forth Best Management Practices (BMPs) in water use efficiency.

When admitted to the CUWCC in 2002, the City became a signatory to the MOU, joining more than 170 other water suppliers across California at the time. MOU signatories agreed to make a "good faith effort" to implement all 14 BMPs (13 for retail agencies). Each BMP had a specific implementation schedule and coverage requirement. Agencies filed BMP progress reports directly on the CUWCC web site. Since signing the MOU, the City has expanded its water

conservation program and budget in an aggressive attempt to implement BMPs and meet their coverage requirements.

In December 2008, the CUWCC adopted revisions to the MOU that reorganized the traditional 14 BMPs into Foundational and Programmatic categories and offered alternative compliance methods, Flex Track and GPCD (gallons per capita per day). The City has selected the GPCD method going forward. GPCD Compliance Option language in the MOU was approved in June 2009. This performance-based approach offers more flexibility in achieving water savings goals and is compatible with SBx7-7. It allows the City to reduce per capita demand over time through a combination of water-efficient building codes, rebates and education programs, and switching irrigation customers from potable to recycled water.

The UWMP Act requires water agencies to describe and evaluate their Demand Management Measures (DMMs), and Section 10631(j) of the Act states that:

(j) For purposes of this part, urban water suppliers that are members of the California Urban Water Conservation Council shall be deemed in compliance with the requirements of subdivisions (f) and (g) by complying with all provisions of the "Memorandum of Understanding Regarding Urban Water Conservation in California," dated December 10, 2008, as it may be amended, and by submitting the annual reports required by Section 6.2 of that memorandum.

As a CUWCC member, the City of Napa is using this provision to meet the DMM requirements for this UWMP 2010 update. The City has filed its Foundational BMP Reports for 2009 and 2010 with the CUWCC, along with a completed GPCD Spreadsheet. Coverage Reports provided in Appendix C indicate that the City of Napa is currently "On Track" for all Foundational BMPs and its 2010 GPCD is well under the 2010 compliance target:

Biennial GPCD Compliance Target for 2010:	157.7
City of Napa GPCD in 2010:	**138.3**

The Year 2018 GPCD target for CUWCC MOU compliance is 134.1 for Napa. This represents an 18% reduction from the City's average GPCD in the 1997-2006 Baseline Period (163.6).

Foundational BMP Compliance is summarized below:

<u>BMP 1.1 Operations Practices</u>

- Conservation Coordinator: The City designates its Water Resources Analyst as official Water Conservation Coordinator, with approximately 65-75% of the position's duties related to implementation of conservation BMPs. The Coordinator is a Level 2 Water Use Efficiency Practitioner and a Certified Landscape Irrigation Auditor (CLIA).
- Water Waste Prevention: The City has adopted local High Performance Building Regulations that are more stringent than the 2010 California Green Building Standards Code (*CAL*Green), making several *CAL*Green voluntary provisions mandatory and requiring 30% indoor water savings for non-residential buildings. The City has also adopted a local Water Efficient Landscape Ordinance (WELO) more stringent than the State Model, with a Maximum Applied Water Allowance of 60% of ETo. These two local measures ensure water efficient design in new development.

BMP 1.2 Water Loss Control

- The City has historically had 10% or less unaccounted-for water each year. The City continues to benefit from replacement of aging distribution system components, including replacement of water meters on a 20-year cycle. The City responds promptly to all emergencies, repairing visible water main and service line leaks to minimize losses. The City also has a contract with leak detection professionals to assist with sonic methods. In addition, the City provides financial incentives for customers to promptly repair hidden underground leaks on their side of the meter.
- In 2010, the City began the transition to the new AWWA water loss management procedures by completing a Standard Water Audit and Balance using free AWWA software. City staff will seek training in these new methods and meet other BMP 1.2 implementation requirements as they emerge.

BMP 1.3 Metering with Commodity Rates

- The system is fully metered. Excluding fire sprinkler services, all existing and new connections require meters and are billed by volume of use. The City has a policy to replace meters on a defined schedule.

BMP 1.4 Retail Conservation Pricing

- By employing a uniform volumetric rate structure with almost no fixed charges, the City meets the definition of conservation pricing. Annual revenues from volumetric charges are more than 99% of total monthly/bimonthly water billing revenues, a ratio well above the 70% minimum required for this BMP.

BMP 2.1 Public Information Programs

- The City of Napa publicizes its water conservation offerings through its web site, bimonthly water bill messages, periodic newsletters, and appearances at annual public events such as Earth Day, the Napa-Solano Home & Garden Show, and the Napa Town & Country Fair. The Water Conservation Representative staffs a booth at the Napa Downtown Farmers Market. The Water Resources Analyst is available to speak to community and business groups and the media. Media releases regarding conservation often garner free media mentions on local radio, public access television, and in the local newspaper. The public is encouraged to visit the Water Division Building to pick up free brochures and water-saving devices.
- Three Water-Wise Demonstration Gardens are open to the public. The City partners with local Master Gardeners in presenting an annual Water-Wise Landscaping Workshop Series, promoted chiefly through garbage bill inserts. In 2010, the City continued its water conservation ad campaign in a popular monthly magazine. Aside from its own web site, the City's conservation programs are cross-promoted on the State's Flex Your Power web site. A new *Water-Wise Gardening in the Napa Valley* web site with extensive photos and plant data was launched in 2010. Also, the City began distributing reusable shopping bags featuring its “Make Every Drop Count” water conservation mascot, web site address, and conservation phone number.
- The City partners with other utilities such as NSD and Pacific Gas & Electric (PG&E) to publicize high-efficiency clothes washer and toilet programs. The City partners with other local agencies and non-profit organizations to conduct trainings for professional landscapers and plumbers.

BMP 2.1 School Education Programs

- The City continues its active membership in the Environmental Education Coalition of Napa County (EECNC) which distributes its Environmental Education Guide to area K-12 teachers. City Water Division offerings listed in the EECNC Guide include a Water Conservation Classroom Presentation, a Water Treatment Plant Field Trip, and free curriculum materials, including Water Education Foundation exercises and a *Water Week* teaching kit that address state education framework requirements. The City sits on the Earth Day planning committee to organize the annual educational event.

While the City has not chosen the Traditional BMP or the Flex Track option to comply with the CUWCC MOU, it does perform a wide variety of activities to reduce demand among Residential, Commercial/Institutional, and Landscape customers in order to achieve GPCD reduction goals. Some recent highlights are presented below:

Residential Water Conservation

- Free Water-Wise Home Survey. Marketed to all single-family and multi-family residential customers, the program includes a site visit by a Water Conservation Representative who checks leaks, plumbing fixture flow rates, and irrigation system performance. If warranted, customers are offered free low-flow showerheads, faucet aerators, toilet flappers, appliance rebate information, and irrigation scheduling and maintenance tips. Nearly 500 surveys have been completed.
- Free Toilet Replacement. Residential customers have participated in the City of Napa Toilet Replacement Program since 1991. Free *WaterSense*-labeled HETs that use 1.28 gallons per flush (gpf) or less are available for customers who currently have pre-1992 toilets using 3.5 gpf or more. The program is funded by developers to offset the projected water demand of their new projects (e.g., hotels, housing subdivisions) by reducing demand elsewhere in the City (Napa Municipal Code Chapter 13.09, attached in Appendix F). The CUWCC BMP reporting database has estimated the program has saved more than 10,000 AF over its lifetime.
- High-Efficiency Clothes Washer Rebate. Since 2008, the City has worked with PG&E and NSD to offer a combined water-energy rebate, currently $100, on the highest efficiency clothes washer models that save customers more than 50% in water and energy use. Prior to 2008, the City had conducted its own washer rebate program and easily met the coverage requirements in the old CUWCC BMP 6. State grants have been and may continue to be a key factor in the funding of the ongoing Bay Area regional cooperative program with PG&E. The City has issued more than 3,500 washer rebates since 2004, resulting in estimated annual water savings of 85 AF.
- Free Water-Saving Devices. City water customers are entitled to an array of free water conservation devices, such as low-flow showerheads, faucet aerators, toilet flappers, garden hose nozzles, and hose timers. The materials can be obtained from the Water Division office, at public events, or as part of a Water-Wise Home Survey.

Commercial/Institutional Water Conservation

- Free Water-Wise Business Survey. Offered to all commercial and institutional customers to help them use water more efficiently and potentially reduce operating costs, the survey consists of a water use history and billing analysis, site visit by City staff, evaluation of fixtures, appliances, and equipment, a landscape irrigation audit, and a follow-up recommendations report. More than 35 of these large audits have been completed, including schools, wineries, hotels, offices, and many sites seeking a Napa County Green Business certification.

- Smart Rebates. The City participates in the CUWCC-administered grant-funded Smart Rebates Program offering generous rebates on commercial high-efficiency clothes washers ($400), HETs ($200), High-Efficiency Urinals (HEUs) ($300), pressurized waterbrooms ($50), X-ray film processor recirculation systems ($2,000), and cooling tower conductivity controllers ($900 or $1,200).
- Commercial ULFTs. Prior to the start of the Smart Rebates program for HETs, the City had opened up the developer-funded toilet replacement program to commercial and institutional customers from 2002 to 2007. Offices, hotels, restaurants, and schools jumped at the opportunity to replace older high-water-use toilets with ULFTs that used just 1.6 gpf. More than 2,500 ULFTs were installed under the program by 2007, with resulting savings of more than 80 AF per year. In a CUWCC three-year pilot program, the City achieved the highest level of commercial toilet replacement among all participating water agencies.
- Waterless Urinals. In a special project in 2007, the City supported the installation of 209 Falcon WaterFree urinals at Napa Valley Unified School District (NVUSD) campuses, employing the same developer offset used in the residential toilet replacement program. By replacing older urinals that used 1 or more gallons per flush, the WaterFree urinal installation achieves annual savings of nearly 20 AF.
- Pre-Rinse Spray Valves. In a special project from 2005 to 2007, the City supported installation of 155 high-efficiency pre-rinse spray valves in local commercial and institutional kitchens as part of the grant-funded CUWCC Rinse & Save Program. Annual savings are estimated at 13 AF.

Landscape Water Conservation

- "Cash For Grass" Turf Replacement Rebate. Introduced in 2010, this program offers all residential, commercial, and institutional customers 50 cents per square foot to replace high-water-use lawn areas with low-water use plants, permeable hardscape, or approved artificial grass products. Projected savings are 25 gallons per year per square foot of turf removed.
- Landscape Irrigation Audits. Full landscape irrigation audits are typically conducted as part of a Water-Wise Business Survey for large commercial and institutional sites. Results often point out simple changes in controller scheduling, sprinkler and drip emitter maintenance, and plant selection that can save customers tens of thousands of gallons per year.
- Central Control Irrigation. In a special project, the City Water Division helped fund the installation of computer-based central irrigation systems controlling 25 City parks and 21 NVUSD school fields. Employing weather stations, ET "Smart" controllers, and flow-sensing equipment, the two systems have saved more than 600 AF since 2005 by fully optimizing irrigation schedules and quickly detecting leaks. The City's Parks & Recreation Department has continued to invest in and expand the system to additional turf sites.
- Water-Wise Landscaping Workshop Series. An annual program to educate the general public on the water-saving benefits of improved irrigation scheduling, drip irrigation, soil amendments and mulch, and Mediterranean climate-appropriate plant selection. The City benefits from a strong partnership with the Master Gardeners of Napa County in putting on these workshops, and the City often cosponsors the event with a nearby agency such as the Town of Yountville.
- Water-Wise Gardening Web Site. To provide convenient access for the public, the City has transitioned its *Water-Wise Gardening in the Napa Valley* content from a CD-ROM to a dedicated web site, www.napa.watersavingplants.com. The web site contains an

extensive landscape photo and plant information database, along with a gardening and irrigation guide appropriate for the local climate.

- Water-Wise Demonstration Gardens. The public is welcome to visit three demonstration gardens, including a walk-through 9,000 square-foot space at Fire Station #3 featuring an array of lawn substitutes, California native plants, colorful low-water-use species, and weather-based "Smart" irrigation control.
- Bay-Friendly Landscapers. The City has partnered with the Bay-Friendly Coalition and local agencies to offer the Bay-Friendly Landscape Maintenance Training & Qualification Program in Napa County beginning in 2010. Nearly 60 local professionals have qualified in the first two offerings. Bay-Friendly Landscapers use a whole systems approach to design, install, and maintain urban landscapes while reducing waste, conserving water, and preventing pollution. The City promotes these landscapers to the public as part of the "Cash For Grass" rebate program. In 2011, a Bay-Friendly Garden Tour was held to feature beautiful local water-efficient residential landscapes.

Average per capita demand for the years since the MOU signing and BMP expansion is about 10% lower than the period immediately prior. The City estimates that the conservation programs and Foundational BMP activities described above collectively account for approximately 1,500 AF in annual water savings. The City's annual water conservation budget is typically around $400,000, including personnel. Some of those costs are offset through grant funding and shared rebate costs with other agencies (NSD).

5.3 Water Conservation Act of 2009 (SBx7-7)

The Water Conservation Act of 2009 (SBx7-7) was passed in November 2009 as part of a comprehensive package addressing the Sacramento-San Joaquin Delta and overall state water supply reliability issues. For urban water agencies, SBx7-7 essentially enacts an earlier "20x2020" state water conservation initiative. The law seeks to achieve a 20% reduction in urban per capita water use statewide by 2020, and an interim 10% reduction by 2010. Because agencies were required to include this new SBx7-7 compliance information in the UWMP 2010 update, the deadline for UWMP adoption was extended to July 1, 2011.

In addressing SBx7-7, water agencies are offered flexibility in determining their 2020 Urban Water Use Target, providing them with an ability to receive some credit for water conservation already achieved. Also, a water supplier may revise its chosen method of selecting a target in its 2015 UWMP. An agency cannot change target methods after its 2015 UWMP has been submitted. Effective 2016, water suppliers who do not comply with SBx7-7 water conservation requirements are not eligible for state water grants or loans. Currently, grant and loan eligibility is tied to compliance with AB 1420, which requires BMP implementation. The City of Napa was declared AB 1420-compliant in conjunction with a Proposition 84 grant application in 2011.

Prior to determining its 2020 and interim (2015) urban water use targets, an agency must first determine its Base Daily Per Capita Water Use according to DWR methodologies. Essential to calculating the Base Daily Per Capita Water Use are calculations for Gross Water Use and estimating Service Area Population.

<u>Gross Water Use</u>

Gross Water Use is defined as the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding:

- Recycled water
- Water placed into long-term storage
- Water exported to another urban water supplier
- Agricultural water

Because NSD recycled water does not enter the City's distribution system, the Gross Water Use calculation for Napa simplifies to:

Metered production from the Hennessey, Milliken, and Jamieson Canyon WTPs (Figure 3-1)
minus Deliveries to American Canyon, Yountville, the Veterans Home, St. Helena, Calistoga
minus Interruptible-Surplus Agricultural Water deliveries

For example, the calculation for **2010** is therefore:

14,605.92 AF – 1,009.42 AF – 154.75 AF = **13,441.75 AF Gross Water Use**

Service Area Population

Because the City of Napa serves water customers both inside and outside its City limits, two pieces of data from California Department of Finance sources were used to estimate Service Area Population – annual City of Napa population and annual Persons per Household for the unincorporated County area. The population outside the City limits was calculated by multiplying the Persons Per Household by the number of outside City single-family and multi-family dwelling units from the City's water billing system. The resident population of Napa State Hospital is served by the City and is also added in separately to the outside City portion of the population as allowed by DWR methodology. The Napa State Hospital population is assumed constant at 1,175 across all years based on a report from the Hospital's Executive Director's office.

So, for **2010**, the estimated Service Area Population is:

78,791 City + (2,636 outside City households x 2.571 persons per household) + 1,175 =
86,743 Service Area Population

Base Daily Per Capita Water Use

Base Daily Per Capita Water Use for the purposes of SBx7-7 target setting is defined as the average gallons per capita per day (GPCD) of water use over a continuous 10-year period. The period must end no earlier than 2004 and no later than 2010. Per capita water use is simply calculated each year by dividing that year's Gross Water Use by its Service Area Population then dividing by 365. City of Napa annual GPCD data from 1995 to 2010 is shown in Table 5-3.

The City's GPCD fluctuates and has ranged from a high of 177.3 (1997) to a low of 138.3 (2010) over the time period. The City selects the 10-year period of 1995-2004 to determine its Base Daily Per Capita Water Use of **164.9**. This is the highest available Base for establishing the Urban Water Use Target, allowing the City to benefit from conservation occurring since 2004, as seen in the generally declining annual GPCD.

Table 5-3
Daily Per Capita Water Use History

Year	Gross Water Use (AF)	Service Area Population	GPCD	10-Year Average GPCD ending in
1995	13,010.52	74,295	156.3	
1996	13,491.13	75,105	160.4	
1997	15,183.08	76,430	177.3	
1998	13,770.74	77,301	159.0	
1999	14,844.49	78,398	169.0	
2000	15,068.58	79,925	168.3	
2001	15,722.32	81,546	172.1	
2002	15,857.11	81,791	172.7	
2003	14,184.62	82,674	153.2	
2004	15,041.12	83,581	160.7	**164.9**
2005	14,190.34	83,643	151.5	164.4
2006	14,294.14	83,913	152.1	163.6
2007	15,258.64	84,066	162.0	162.1
2008	15,546.96	84,696	163.9	162.5
2009	14,691.55	85,814	152.8	160.9
2010	13,441.75	86,743	138.3	157.9

Urban Water Use Target

DWR offers four Methods for determining an agency's Urban Water Use Target:

Method 1: 80% of Base Daily Per Capita Water Use. Under this method, the City would have to meet a target of 131.9 GPCD in 2020, and an interim target of 148.4 in 2015. The method offers full flexibility in achieving the target, is simple to understand, calculate, track, and document in compliance years. It also is compatible with the GPCD method the City has chosen for CUWCC MOU compliance, although the base period and compliance years differ slightly.

Method 2: Performance Standards. This method involves separate determinations of indoor residential, landscape irrigation, and commercial/industrial/institutional use and tracking with efficiency performance standards for each sector. It is data-intensive, requiring extensive satellite imagery or site visits to develop accurate estimates of landscape areas. The performance standard for commercial/industrial/institutional is a 10% reduction from the baseline by 2020. This method is most appropriate for agencies with a large amount of existing data that establishes an accurate baseline, and agencies expecting a decrease in commercial water use over the coming decade.

Method 3: 95% of Regional Target. Under this method, the target is 95% of the applicable state hydrologic region target as set forth in the state's draft 20x2020 Water Conservation Plan dated April 30, 2009. The City lies in the San Francisco Bay hydrologic region and would

therefore have to meet a target of 124.5 GPCD in 2020. This hydrologic region includes many coastal communities and dense cities with a baseline GPCD naturally lower than Napa's.

Method 4: Savings by Water Sector. This final method was developed by DWR and released in February 2011. For this method, savings are assumed from metering of unmetered service connections and achieving water conservation in indoor residential, landscape, and commercial sectors similar to Method 2.

Upon evaluating these four methods based on flexibility, ease of implementation, costs/benefits, and consistency with City water conservation practices, the City selects Method 1, establishing an Urban Water Use Target of **131.9 GPCD** in 2020.

SBx7-7 also includes a minimum water use reduction requirement that ensures each agency's 2020 target is below 95% of its 5-year base per capita water use. The 5-year period to establish this base must end no earlier than 2007 and no later than 2010. The City selects the 5-year period of 2004-2008 to determine its 5-year base per capita water use of 158.0 GPCD. Because the City's 2020 Urban Water Use Target of 131.9 is well below 95% of 158.0 (150.1), it does not need to be reduced to meet this minimum water use reduction requirement.

SBx7-7 also establishes an Interim Urban water Use Target to ensure progress toward the 2020 target. The interim target is focused on the year 2015. At that point, water suppliers must reduce demand to the mid-point between their Base Daily Per Capita Water Use and their 2020 Urban Water Use Target. Therefore, the City's Interim Urban Water Use Target is 148.4 GPCD for 2015. Table 5-4 summarizes the various GPCD values associated with the City of Napa's compliance with SBx7-7.

Table 5-4
SBx7-7 Compliance Targets

Category	GPCD
10-Year Base (1995-2004)	164.9
5-Year Base x 0.95 (2004-2008)	150.1
Actual 2010	*138.3*
2015 Interim Target	148.4
2020 Target	131.9

Implementation Plan

Water suppliers are required to provide a general description of how the supplier intends to reduce per capita water use to meet its 2015 and 2020 GPCD targets. As shown in Table 5-4, with a GPCD of 138.3 in 2010, the City met the 2015 target and is less than 5% away from meeting its 2020 target. This is deceiving, however. The City recognizes that the very low per capita water use in 2010 was influenced by factors other than established conservation. Reduced economic activity, an extended rainy season, and a mild summer all served to suppress demand. The City expects water demand to rise over the next two years as hotel occupancies increase and the overall economy improves.

To continue its path of GPCD reduction to 2020, the City does not plan a radical departure from existing practices, but more of a transition to tap into the large potential savings in landscape irrigation. With an estimated 7,000 AF of potable water used in Napa landscapes each year, just a 15% savings there could address the demand reduction needed to meet the 2020 target. Overall, the City will continue to rely on the three-pronged strategy that achieved 1,500 AF per year in demand reduction since signing the CUWCC MOU in 2002. The first is to maximize the water efficiency of new development to minimize its impact on demand. The second is to offer existing water customers an array of free services, generous rebates, and education so that older high-water-use equipment and behaviors are replaced with water-efficient ones. The third is to support the continued expansion of NSD recycled water use for irrigation. In addition, changes in the water billing rate structure to inclining tiers could potentially drive conservation more effectively than the City's current uniform volumetric rate.

The City will continue to maximize the water efficiency of new development by:

- Enforcing its local High Performance Building Regulations that are more stringent than the California Green Building Standards Code, including 30% indoor savings for non-residential buildings. Eventually expand regulations to cover remodels and additions. Continue to evolve the regulations as technology changes and the California Standards are updated.
- Enforcing its local Water Efficient Landscape Ordinance (WELO) that includes a more stringent water budget than the State Model WELO, and requiring that recycled water be used when available on site. Monitor water use for new landscapes in the years following installation to evaluate if budget is maintained.
- Continuing to require that developers offset the projected water demand of their new projects (Napa Municipal Code Chapter 13.09, attached in Appendix F). This is particularly beneficial with commercial development that would tend to place upward pressure on GPCD. Transition the requirements away from toilet replacement as that market becomes saturated, and move to landscape water saving offsets such as the funding of recycled water extensions as is planned for the St. Regis Resort project in the Stanly Ranch area of the City.
- Enforcing SB 407 that governs the upgrade of *existing* structures to water-conserving plumbing fixtures upon building alteration.

The City will transition its conservation services, rebates, and education programs by:

- Continuing its HET and HEU incentive programs in the near-term, but moving funds into landscape programs as market saturation of UFLTs/HETs approaches by 2014 and some SB 407 provisions begin.
- Continuing its High-Efficiency Clothes Washer rebates to effect market transformation through 2018.
- Continuing its Water-Wise Home and Business Surveys, and greatly expanding its Landscape Irrigation Audits to cover the City's largest users with the most potential savings.
- Continuing and expanding its "Cash For Grass" Rebate Program to encourage the replacement of non-functional lawn with climate-appropriate plants. Take advantage of the Wine Country's image as a Mediterranean climate to effectively promote low-water-use landscapes through workshops, tours, contests, traditional and social media.
- Launching a Smart Irrigation Controller Rebate in 2011 to encourage replacement of standard controllers with the latest in weather-based or soil moisture-based control. Require a landscape irrigation audit to ensure maintenance improvements prior to controller installation.

- Introducing financial incentives for Irrigation Hardware Upgrades to address inefficiencies in existing systems. A survey of Irrigation Association members recently found that the vast majority believe that most irrigation systems have not been designed, installed, or maintained and operated properly. City policies must address this to tap into the hundreds of AF in potential savings from this sector.
- Offering convenient web-based Water Use Efficiency Calculator for customers to see how much money and water they can save in their landscape. Offer outdoor water budget information on bills as the City's utility billing and Automated Meter Reading systems evolve.
- Continuing to qualify and promote local Bay-Friendly Landscapers. Import the Qualified Water Efficient Landscaper Program from Sonoma County to further educate Napa landscape professionals and transform local behavior toward a more water-efficient landscape ethic.
- Educating customers about opportunities for Graywater Reuse and Rainwater Harvesting. Launch financial incentives if savings are determined to justify the cost.
- Continuing to set an example by upgrading City facilities to the latest water-efficient technology.
- Aggressively implementing the Foundational BMPs in Section 5.2.
- Pursuing all available local and regional partnering and grant opportunities to optimize the cost effectiveness of City conservation programs.
- Incorporating effective tracking tools to monitor the impact of individual programs on GPCD and continuously monitor GPCD to ensure that 2015 and 2020 targets are met.

The City will continue to support the expansion of NSD recycled water for irrigation by:

- Fulfilling the 1998 agreement that permits NSD to solicit and provide recycled water service within the southern portion of the City's water service area (Appendix D). By 2010, a total of 14 customers who would otherwise be irrigating with City water have now switched to recycled, including the Napa Municipal Golf Course, the Meritage Resort, and Napa Valley College. Customers who have already switched reduce City demands by 300 AF or more each year, contributing to the GPCD reductions achieved in recent years.
- NSD has adopted a new policy on recycled water in 2011 (Appendix E) that identifies 750 AF in "Probable Commitments" for their recycled water that would replace City potable consumption. This includes up to 250 AF for Napa State Hospital. That pipeline is under construction and the City expects the Hospital to switch by 2012 or 2013 once their irrigation system is adjusted. Additional projects in Napa Valley Corporate Park and Stanly Ranch may be partially addressed through the City's developer offset provisions discussed earlier.

With a combination of development offsets, recycled water switchovers, aggressive landscape savings programs, and continued optimization of indoor efficiency, the City projects its system GPCD trend in Table 5-5. The City projects to maintain pace with the CUWCC MOU biennial targets while easily meeting the SBx7-7 2015 target. GPCD of 130 is assumed beyond 2020, however continued evolution of codes and programs may cause continued reduction in per capita demand.

Table 5-5
Projected GPCD Trend

Year	Projected GPCD	SBx7-7 Target	CUWCC MOU Target	Key Factors
2010	*138.3*		*157.7*	*Conservation, Weather, Economy*
2011	145			Improving Economy
2012	147		151.8	
2013	144			Napa State Hospital Recycled Water Switch
2014	142		145.9	
2015	140	148.4		Gradual decrease primarily due to landscape water savings, rate structures, and recycled water conversions; some indoor demand hardening
2016	138		140.0	
2017	136			
2018	134		134.1	
2019	133			
2020	131.5	131.9		
Post-2020	130			

Economic Impacts

The City does not foresee specific effects of SBx7-7 on its annual water conservation budget. The plan will be to continue with a budget of roughly $400,000 per year (including personnel costs) to implement cost-effective water conservation programs, but to transition funds away from some residential indoor efficiency programs like toilet rebates and move funds into more aggressive landscape efficiency efforts over time.

The reduced future water demand associated with SBx7-7 is one of many factors considered in a 2011 Cost of Service Water Rate Study for the City (Study). Lower demand projections cause lower revenue projections. However lower demands do not equitably correspond to reduced costs to operate and maintain the system. The size of the water system is driven by the need to meet fire flow demands and is unaltered by reduced daily consumption and conservation practices. Rate changes resulting from the Study may cause higher bills for some water customers to meet revenue requirements and maintain the ability to fund essential water system operations and critical investment in capital improvements. The rate structure will retain a strong financial incentive for conservation.

New development does experience costs associated with High Performance Building Regulations, WELO, and the City's water offset requirement; however, these costs are the status quo and independent of SBx7-7.

5.4 Projected Water Demand

Future City water demands from 2015 to 2035 are projected in Table 5-6. The data reflect normal year conditions. Projected Gross Water Use is calculated by multiplying projected Service Area Population by the projected GPCD from Table 5-5. Population is projected using incremental five-year City limits population increases from the best available source, ABAG *Projections 2009*. It is assumed that population served outside the City limits will remain roughly constant. For determining actual SBx7-7 compliance in 2015 and 2020, the City will use the Service Area Population calculation described in Section 5.3 when the Department of Finance data for those years become available.

Because agricultural water and exports to other agencies are excluded from Gross Water Use, appropriate demands from these categories must be added back in to arrive at total demand on the City system. Interruptible-Surplus Agricultural Water deliveries are projected at 300 AF per year. This is a slight increase over historical levels due to new customers expected adjacent to the Conn Transmission Main and new use among existing customers. St. Helena sales are projected at 600 AF per year based on SWP Transfer Agreement provisions. No demands are assumed for Yountville or the California Veterans Home.

Table 5-6
Projected Water Demand 2015-2035 (AF/year)

Category	2015	2020	2025	2030	2035
Service Area Population	*89,243*	*90,743*	*91,743*	*92,643*	*93,543*
GPCD	*140*	*131.5*	*130*	*130*	*130*
Gross Water Use (AF)	13,995	13,403	13,360	13,491	13,622
Agricultural Irrigation(1) (AF)	300	300	300	300	300
St. Helena Retail(2) (AF)	600	600	600	600	600
Total City Demand	**14,895**	**14,303**	**14,260**	**14,391**	**14,522**

(1) Interruptible-Surplus Agricultural Water Agreements with customers outside the City limits.
(2) Normal Year retail sales to the City of St. Helena under the SWP Transfer Agreement.

The total demand projections are broken down by customer type in Table 5-7. Residential demand is expected to decrease from 2015 to 2020 with irrigation and indoor savings before rising again gradually with population growth post-2020. Commercial use is expected to remain fairly stable, while institutional demand remains below 800 AF after the Napa State Hospital irrigation converts to recycled water in 2012 or 2013. The system's unaccounted-for water is projected to decrease over time as the City adopts new utility billing software, automated meter reading, and AWWA water loss management procedures required under CUWCC Foundational BMP 1.2.

Table 5-7
Water Demand By Customer Type 2015-2035

Customer Type	Annual Water Use (AF)				
	2015	2020	2025	2030	2035
Single-Family Residential	7,080	6,930	6,980	7,050	7,145
Multi-Family Residential	2,130	2,120	2,130	2,160	2,180
Commercial	2,000	1,925	1,960	1,980	1,990
Institutional	780	760	765	775	785
Landscape Irrigation	675	650	660	660	660
Agricultural Irrigation(1)	300	300	300	300	300
Construction Hydrants	50	38	35	36	32
St. Helena Retail(2)	600	600	600	600	600
Known Unmetered Uses(3)	80	80	80	80	80
Unaccounted-For Water	1,200	900	750	750	750
Total	14,895	14,303	14,260	14,391	14,522

(1) Interruptible-Surplus Agricultural Water Agreements with customers outside the City limits.
(2) Retail sales to the City of St. Helena under the SWP Transfer Agreement.
(3) Unmetered uses and losses from activities such as main flushing.

Table 5-8 shows the number of accounts projected for each customer sector. The distribution of water use and accounts among customer types is expected to remain similar to the distribution in calendar year 2010, with residential use continuing to dominate. UWMP 2005 had projected 25,750 total water accounts on the system by 2010, but with the revised population growth estimates this level will not be reached until around 2021.

Table 5-8
Water Accounts By Customer Type 2015-2035

Customer Type	Number of Accounts				
	2015	2020	2025	2030	2035
Single-Family Residential	21,700	22,200	22,450	22,700	23,000
Multi-Family Residential	1, 425	1,450	1,475	1,490	1,500
Commercial	1,450	1,475	1,500	1,520	1,540
Institutional	230	232	235	235	235
Landscape Irrigation	330	320	340	360	380
Agricultural Irrigation(1)	22	22	22	22	22
Construction Hydrants	35	25	24	24	22
Other Agencies(2)	5	5	5	5	5
Total	25,197	25,729	26,051	26,356	26,704

(1) Interruptible-Surplus Agricultural Water Agreements with customers outside the City limits.
(2) Cities of American Canyon, St. Helena, and Calistoga, the Town of Yountville, and the California Veterans Home. American Canyon and Calistoga are treat & wheel accounts only, not affecting City of Napa water supplies.

5.5 Lower Income Water Demand

The City of Napa recognizes the mismatch between local housing costs and salaries for many local jobs. In 1999, the City of Napa adopted an Inclusionary Housing Ordinance (Napa Municipal Code Section 15.94), essentially requiring that 10% of all new dwelling units in a

residential development project shall be Affordable Units. In general, this means that 10% of rental units must be rented at rates affordable to Lower Income households. Lower Income is defined by California Housing Element law as households earning less than 80% of the median income. The Ordinance also provides for collection of in-lieu fees and non-residential development impact fees. The City places these fees in an Affordable Housing Trust Fund which is used to further the goal of providing affordable housing by leveraging other local, State, and Federal funds.

Current estimates of City housing stock that meet the Lower Income category were provided by the City Housing Authority. Based on 17 single-family "inclusionary" houses and 2,600 affordable multi-family dwelling units existing in 2011, and taking into account the aggressive approach to affordable housing in the most recent Housing Element adopted in June 2009, future Lower Income residential water demands are projected in Table 5-9.

Table 5-9
Water Demand for Lower Income Housing 2015-2035

	Annual Water Use (AF)				
	2015	**2020**	**2025**	**2030**	**2035**
Single-Family Residential	6	8	8	10	10
Multi-Family Residential	547	550	555	560	565
Total	553	558	563	570	575

These demands are embedded within the overall residential demand projections in Table 5-7, and as shown in Chapter 7, the City projects to have ample supplies to meet all customer demands for normal and multiple-dry year periods through 2035. During a critical single-dry year, the City may employ its Water Shortage Contingency Plan whose top water use priority is health and safety, including interior water use.

Of note, the City exempts new Lower Income residential development from its water offset requirements for new building projects (Napa Municipal Code Chapter 13.09, attached in Appendix F). This helps to further reduce cost barriers in building this category of housing to help meet community needs.

5.6 Sales to Other Agencies

The City of Napa does export water to the Cities of American Canyon, St. Helena, and Calistoga, the Town of Yountville, and the California Veterans Home in Yountville. As discussed earlier, American Canyon and Calistoga are customers who provide the source of supply and merely benefit from the City's treatment and transmission facilities. They are charged wholesale rates for this treat-and-wheel service. Because water supplied to American Canyon and Calistoga counts against those agencies' SWP entitlements, it does not impact City of Napa supplies and it is excluded from the retail demand totals in this chapter and the water service reliability analysis in Chapter 7.

Currently sales to St. Helena, Yountville, and the Veterans Home are retail sales, but St. Helena represents the only significant demand expected in the future. St. Helena usage since 2007 has been governed by the 2006 SWP entitlement transfer agreement between the two cities. That agreement currently requires that St. Helena purchase a minimum of 400 AF from Napa each year at retail rates. The minimum annual purchase increases to 600 AF if the SWP allocation as of April 15 is 30% or higher, and St. Helena has the option to purchase up to 200 AF more if

the April 15 SWP allocation reaches 50%. The very limited St. Helena usage prior to 2007 was treat-and-wheel, similar to current arrangements with American Canyon and Calistoga.

Since a 2009 SWP water transfer agreement with the Town of Yountville, their usage is retail, but it is for emergency and fire flow needs only. There is no minimum sales requirement as there is for the St. Helena agreement. Prior to 2009, deliveries to Yountville were treat-and-wheel of their SWP supply. California Veterans Home deliveries have historically been low due to their adequate local supply source. No sales to Yountville or the Veterans Home are projected after 2010, although some very limited deliveries could occur in emergency situations.

Table 5-10 summarizes the actual deliveries to these five other agencies for 2005 and 2010. Projections for 2015 through 2035 merely reflect expected St. Helena normal year purchases. Future American Canyon and Calistoga SWP deliveries are not known, but will likely be similar to their historical patterns.

Table 5-10
Water Delivered to Other Agencies
2005-2010 Actual, 2015-2035 Projected

Agency	Annual Water Sent to Agency (AF)						
	2005	2010	2015	2020	2025	2030	2035
City of American Canyon	247	316	Treat & Wheel volume unknown; does not impact Napa supplies				
City of Calistoga	363	413	Treat & Wheel volume unknown; does not impact Napa supplies				
City of St. Helena	0.15	280	600	600	600	600	600
Town of Yountville	0.13	0.17	0	0	0	0	0
California Veterans Home	0.02	0	0	0	0	0	0
Total	610	1,009	>600	>600	>600	>600	>600

5.7 Other Area Water Demands

Just outside the City limits and the RUL, there are two new potentially significant demands for water. Just east of the City, the Milliken-Sarco-Tulocay (MST) area in unincorporated Napa County is a groundwater-deficient basin seeking a solution to its long-term water supply needs. In the south of Napa, the Napa Pipe project proposes phased development of a high-density mixed-use residential neighborhood on the former Napa Pipe industrial property. While potential demands for potable water are several hundred acre-feet per year in each case, neither area is projected to use City of Napa supplies, and their future demands are not included in City demand projections in this UWMP. In both cases, recycled water offers a partial solution, with the MST area likely to benefit from extension of the NSD recycled water pipeline. The Napa Pipe project EIR proposes use of recycled water generated on-site or by NSD. For potable water, Napa Pipe proposes both groundwater and surface water options. The surface water option would need to include water rights purchased from an entity outside of Napa County, but the water would have to be conveyed via the NBA and treated at either the City's Edward I. Barwick Jamieson Canyon WTP or the City of American Canyon WTP. This would be a treat-and-wheel situation that does not use existing or projected City of Napa supply sources. A similar possibility exists for future MST deliveries.

CHAPTER 6

RECYCLED WATER

6.1 Coordination

Recycled water is wastewater that has been highly treated and disinfected to provide a safe, non-potable water supply and meet stringent water quality guidelines set by the State DPH. Use of recycled water is typically targeted at very large irrigation users such as golf courses, parks, and commercial businesses. The City of Napa does not produce or distribute recycled water. In the City's water service area, recycled water treatment and distribution is managed by the Napa Sanitation District (NSD). Wastewater from Napa and surrounding unincorporated areas is treated and recycled at the NSD Soscol Water Recycling Facility (WRF).

In 1998, the City and NSD entered into a 20-year agreement that permits NSD to solicit and provide recycled water service within a specified portion of the City's water service area. A copy of the agreement is attached as Appendix D. The agreement defines the recycled service area as lands east of the Napa River, south of Imola Avenue, west of Highway 221, and north of American Canyon. Generally, this means NSD recycled water can be made available to Napa State Hospital, Stanly Ranch, Napa Valley Corporate Park, South Napa Marketplace, and other nearby sites. The agreement includes a "make whole" calculation to ensure that City water revenues are not adversely affected by existing customers converting to recycled water. NSD agreed to furnish up to 50 AF per year to Kennedy Park and Napa Valley College at no cost.

In 2003, Napa Municipal Golf Course became the first City customer to switch. But by 2010, 14 customers who would otherwise be using City potable water had converted to NSD recycled water for all or part of their irrigation needs. These include several new developments in the Napa Valley Corporate Park, such as the Meritage Resort. Table 6-1 shows the number of customers and the City water savings associated with these conversions since 2003.

Table 6-1
Savings From Recycled Water Conversions 2003-2010

	2003	2004	2005	2006	2007	2008	2009	2010
Number of Customers	2	5	8	11	13	13	14	14
City Water Savings (AF)	118	272	210	242	250	386	315	288

Along with conservation BMPs discussed in Chapter 5, these recycled water conversions have helped to reduce the City's per capita demand compared with the pre-2003 period. Additional recycled water conversions for irrigation users within the 1998 Agreement area will be instrumental in helping the City achieve its SBx7-7 GPCD compliance. The City's largest potable water customer, Napa State Hospital, is expected to begin using NSD recycled water for irrigation beginning in 2012-2013. Construction of the pipeline extension to the Hospital began in the spring of 2011. The City could see 200-250 AF in annual savings from this project. Construction of the pipeline to the Hospital also opens the possibility of NSD sending recycled water to the groundwater-deficient MST area. Financing for that project is being sought.

6.2 Wastewater Treatment

Soscol WRF is located at the most southern part of Napa County. Three pumping stations feed into the major collection lines: Stonecrest, Riverpark, and West Napa.

Prior to entering the recycling process, preliminary and primary treatment are used to remove solids and organic matter from the wastewater. For secondary treatment, a portion of the flow enters an activated sludge system consisting of two aeration basins, two secondary clarifiers, four return activated sludge pumps, and two waste activated sludge pumps. Large oxidation ponds provide both storage and secondary treatment for the portion of flow that bypasses the activated sludge system. The ponds promote the growth of algae to oxidize the organic matter in the wastewater. The recycling process begins with the withdrawal of the algae-laden effluent from the oxidation ponds.

- Flocculating Clarifiers: Up to 150 parts per million of total suspended solids enter the recycling process. Algae removal begins in the flocculating clarifiers. Here polymer is added to cause some of the solids to clump together and settle to the basin bottom where they are removed.
- Secondary Effluent Pump Station: Effluent from the activated sludge system secondary clarifiers and clarified oxidation pond effluent both flow to the secondary effluent pump station where they are lifted to the filters. Three 100-hp pumps, each capable of moving 10 MGD, are used.
- Continuous Backwash Filters: Prior to filtration, more polymers are added and the water passes through three-stage flocculation. This conditions the remaining solids so they can then be readily removed through filtration. In the filters, water passes through about 6 feet of sand, removing the remaining algae solids. To keep the filters clean, air is used to continuously lift, agitate, and wash the sand.
- Disinfectant Rapid Mixing: Sodium hypochlorite disinfectant is added to the filtered water to destroy harmful bacteria. This liquid chemical is a stronger version of common laundry bleach. Rapid mixing ensures that the chemical is fully and efficiently blended with the filtered water.
- Chlorine Contact Basins: The chlorinated water is allowed to sit for two hours in chlorine contact basins to ensure maximum bacteria reduction. Because chlorine can be harmful to plants and aquatic life, residual chlorine can be reduced or removed by adding sodium bisulfite for dechlorination.
- Recycled Water Storage Reservoirs: Tertiary-treated recycled water is stored in reservoirs for a short time prior to distribution.
- Recycled Water Pump Station: The recycled water pump station delivers the water to customers throughout the southern Napa Valley. The pump station uses three 600-hp pumps to distribute the water at pressure of up to 150 psi.

NSD recycled water is disinfected tertiary quality, the highest quality recognized under DPH Title 22 requirements.

Prior to the conversion of the first City water customer in 2003, the major users of NSD recycled water consisted of a few farming properties, a local golf course, a vineyard, and some businesses in the southern end of the County. The NSD recycled water customer base is now more diverse and spreading north. In the previous UWMP 2005, projections were made for

2010 recycled water usage by category. Table 6-2 compares those projections with actual 2010 usage.

Table 6-2
Recycled Water Usage
Projected vs. Actual for 2010

User Type	2005 Projection for 2010 (AF)	Actual 2010 (AF)
Agriculture	343	4.5
Landscape	1,552	1,671
Wildlife Habitat	Indirect	indirect
Wetlands	0	0
Groundwater Recharge	0	0
Industrial	0	2.4
Other	241	0
Total	2,136	1,678

Of course most of the NSD recycled water is used for landscape irrigation. In 2010, 288 AF of the total 1,671 AF for that category was used by customers who would otherwise have used City of Napa potable drinking water for their irrigation.

6.3 Future Recycled Water Use

For future planning, NSD had been operating based on selected Strategy 3 from its *Strategic Plan for Recycled Water Use in the Year 2020*. The Executive Summary of that document is attached in Appendix E and its menu of optimization strategies is shown below in Table 6-3.

The potential for local recycled water production was estimated to be 4,540 AF per year by 2020 using existing storage and 9,800 AF per year if additional storage were made available. Seven strategies for future recycled water optimization were proposed and Strategy 3 was selected. However, the NSD Board has recently adopted a new Recycled Water Policy. Board Resolution No. 11-004, attached in Appendix E, was adopted April 6, 2011. It recognizes the Soscol WRF treatment and storage limitations and the need for capital projects to increase capacity to maximize pond storage and plant influent. A new NSD *Wastewater Treatment Plant Master Plan* was completed in April 2011 that identifies phased capital projects to accomplish that goal. The plan document can be accessed at the following web site:

http://www.napasanitationdistrict.com/treatment/wtpmp.html

The new NSD Recycled Water Policy also recognizes the near-term demand for recycled water in Napa County may be between 5,000 and 6,000 AF per year, while the maximum that can be treated and delivered using existing storage is between 3,700 and 4,600 AF per year. Because of that mismatch, the Board has established the following priorities for supplying customers:

1. Existing Users/Commitments 2,900 AF per year
2. Probable Commitments 750 AF per year
3. Other Possible Areas 1,800 AF per year

The Probable Commitments category represents areas falling under the 1998 Agreement with the City, including Napa State Hospital (250 AF), Infill-Kennedy Park/Corporate Park (300 AF), and Stanly Ranch (200 AF). This potential 750 AF in annual City water savings will play a significant part in addressing the City's GPCD reduction for 2020 under SBx7-7. While the Napa State Hospital project has begun, the City will cooperate with NSD in addressing the Infill and Stanly Ranch areas. As discussed in Chapter 5, the City's water offset ordinance may be employed to help finance these recycled water expansions (e.g., St. Regis Resort in the Stanly Ranch area). Aside from the offset ordinance that requires developers to fund water savings, other incentives to increase recycled water use in the City's service area include must-use-when-available provisions in the High Performance Building Regulations and the WELO.

Table 6-3
Recycled Water Usage
Original Optimization Strategies from 2020 Strategic Plan

Strategic Actions	Annual Volume (AF) Projected using this Strategy			
	2010	2015	2020	2025(1)
1. Recycle All Water Produced	4,659	7,229	9,800	9,800
2. Recycle Enough to Meet NPDES Permit Requirements	2,589	3,089	3,590	3,590
3. Maximize Use of Existing Storage (Optimize Largest Users)	**2,905**	**3,723**	**4,540**	**4,540**
4. Maximize Use of Existing Storage (Least Pipeline Cost)	2,819	3,549	4,280	4,280
5. Deliver Recycled Water to the Milliken-Sarco-Tulocay Area	2,652	3,216	3,780	3,780
6. Deliver Recycled Water to the Carneros Area	2,652	3,216	3,780	3,780
7. Maximize Use of Existing Storage (Augment Water Supply)	2,812	3,536	4,260	4,260

(1) Strategies are from the Strategic Plan for Recycled Water Use in the Year 2020 *and associated facilities improvements would hypothetically be built-out with the 2020 volumes in mind.*

Tables 6-4 through 6-6 include wastewater and recycled water data for the NSD service area. While the City of Napa is not a wastewater treatment agency, these NSD data are included in UWMP 2010 to address provisions of Water Code Section 10633. Data for 2015 through 2035 are extrapolated from the original Strategy 3 in the NSD *Strategic Plan for Recycled Water Use in the Year 2020*; however, the implementation of capital projects proposed in the new *Wastewater Treatment Plant Master Plan* may affect these projections. Should implementation of the new Master Plan have a significant impact on City of Napa water management plans, changes will be provided in an UWMP update.

Table 6-4
Wastewater Collection and Treatment 2005-2035

Type of Wastewater	Annual Volume (AF)						
	2005	2010	2015	2020	2025	2030	2035
Total Wastewater Collected & Treated	9,243	10,792	10,220	10,708	11,196	11,196	11,196
Volume that meets Recycled Water Standard	2,088	1,997	3,723	4,540	4,540	4,540	4,540

Table 6-5
Non-Recycled Wastewater Disposal 2005-2035

Method of Disposal	Treatment Level	Annual Volume (AF)(1)						
		2005	2010	2015	2020	2025	2030	2035
Discharged to Napa River	Secondary	7,155	8,795	6,497	6,168	6,656	6,656	6,656

(1) Total Wastewater Collected & Treated minus Volume that meets Recycled Water Standard.

Table 6-6
Recycled Water Usage Potential 2015-2035

User Type	Treatment Level	Annual Volume (AF)				
		2015	2020	2025	2030	2035
Agriculture	Tertiary	685	1,026	1,026	1,026	1,026
Landscape	Tertiary	2,173	2,794	2,794	2,794	2,794
Wildlife Habitat	Tertiary	indirect	indirect	indirect	indirect	indirect
Wetlands(1)	Tertiary	0	0	0	0	0
Groundwater Recharge	Tertiary	0	0	0	0	0
Industrial	Tertiary	0	0	0	0	0
Other	Tertiary	480	720	720	720	720
	Total	3,338	4,540	4,540	4,540	4,540

(1) If recycled water pipeline to salt marsh is funded, some recycled water may be diverted for this purpose.

CHAPTER 7

WATER SERVICE RELIABILITY: SUPPLY VS. DEMAND

7.1 Normal Year Scenario

As required by the Act, this chapter analyzes the reliability of the City's water service by comparing supply and demand for future normal, single-dry, and multiple-dry year scenarios. Using the data presented earlier in Chapters 4 and 5, Table 7-1 projects normal year supply and demand comparisons to 2035.

Table 7-1
Projected Supply and Demand: Normal Years

	Projected Annual Water (AF)				
	2015	2020	2025	2030	2035
Total Supply	31,340	31,340	31,340	31,340	31,340
Total Demand	14,895	14,303	14,259	14,391	14,522
Difference (Supply minus Demand)	+16,445	+17,037	+17,081	+16,949	+16,818
Difference as % of Supply	+52%	+54%	+55%	+54%	+54%
Difference as % of Demand	+110%	+119%	+120%	+118%	+116%

Healthy surpluses ranging from 52% to 55% of supply are projected in normal years through 2035. Total reliable supplies are more than double the projected demand for all years.

7.2 Single-Dry Year Scenario

Table 7-2 projects single-dry year supply and demand comparisons through 2035. Two adjustments lower total demands compared to normal years. Demands from interruptible agricultural accounts in the County (200-300 AF) are removed because it is assumed that a water shortage would be declared and these accounts are suspended. Also, the contractually required deliveries to St. Helena are reduced to 400 AF instead of 600 AF with the SWP allocation well below 30%. The demands do not assume any savings that would result from a Water Shortage Contingency Plan.

Table 7-2
Projected Supply and Demand: Single-Dry Years

	Projected Annual Water (AF)				
	2015	2020	2025	2030	2035
Total Supply	13,533	13,533	13,533	14,409	14,409
Total Demand	14,395	13,803	13,759	13,891	14,022
Difference (Supply minus Demand)	-862	-270	-226	+518	+387
Difference as % of Supply	-6%	-2%	-2%	+4%	+3%
Difference as % of Demand	-6%	-2%	-2%	+4%	+3%

Because of the extremely low SWP deliveries projected for these 1977-type conditions, the City could experience water shortages ranging from 2% to 6% in critical single-dry years through 2025, despite the long-term demand reductions associated with SBx7-7 conservation. As noted in Chapter 4, many of the supply assumptions are very conservative for planning purposes, including the 7-11% allocations from the 2009 SWP Delivery Reliability Report, and the exclusion of SWP carryover and Article 21 water possibilities. More favorable assumptions in any of these categories could potentially alleviate these projected shortfalls. If no imported dry year supplies were obtained, additional demand reduction could be generated through public notification of drought conditions and Stage 1 or 2 voluntary actions in the Water Shortage Contingency Plan.

Running this conservative scenario through 2035 does point out the potentially tight supply-demand situation the City of Napa may face in the most critically dry years unless additional supplies are secured or long-term demand reduction goes beyond SBx7-7 requirements. The highest surplus in the scenario is merely 4% (2030).

7.3 Multiple-Dry Year Scenarios

Tables 7-3 through 7-7 project supply and demand for multiple-dry year sequences beginning in 2015, 2020, 2025, 2030, and 2035. Demands are assumed to be the same as normal years, with St. Helena purchasing 600 AF and interruptible agricultural accounts served. No Water Shortage Contingency Plan savings are deducted. Despite these conservatively high demand assumptions, no shortfalls are expected at any point during three-year multiple-dry year periods through 2035. Projected surpluses of at least 25% of supply are maintained over the time frame, even for the second and third years of the sequences.

Table 7-3
Projected Supply and Demand: Multiple-Dry Year Period Starting in 2015

	Projected Annual Water (AF)		
	2015	**2016**	**2017**
Total Supply	25,096	19,896	19,896
Total Demand	14,895	14,779	14,587
Difference (Supply minus Demand)	+10,201	+5,117	+5,309
Difference as % of Supply	+41%	+26%	+27%
Difference as % of Demand	+68%	+35%	+36%

Table 7-4
Projected Supply and Demand: Multiple-Dry Year Period Starting in 2020

	Projected Annual Water (AF)		
	2020	**2021**	**2022**
Total Supply	25,096	19,896	19,896
Total Demand	14,303	14,143	14,172
Difference (Supply minus Demand)	+10,793	+5,753	+5,724
Difference as % of Supply	+43%	+29%	+29%
Difference as % of Demand	+75%	+41%	+40%

Table 7-5
Projected Supply and Demand: Multiple-Dry Year Period Starting in 2025

	Projected Annual Water (AF)		
	2025	**2026**	**2027**
Total Supply	25,096	19,458	19,458
Total Demand	14,259	14,286	14,312
Difference (Supply minus Demand)	+10,387	+5,172	+5,146
Difference as % of Supply	+43%	+27%	+26%
Difference as % of Demand	+76%	+36%	+36%

Table 7-6
Projected Supply and Demand: Multiple-Dry Year Period Starting in 2030

	Projected Annual Water (AF)		
	2030	**2031**	**2032**
Total Supply	24,658	19,458	19,458
Total Demand	14,391	14,417	14,480
Difference (Supply minus Demand)	+10,267	+5,041	+4,978
Difference as % of Supply	+42%	+26%	+26%
Difference as % of Demand	+71%	+35%	+34%

Table 7-7
Projected Supply and Demand: Multiple-Dry Year Period Starting in 2035

	Projected Annual Water (AF)		
	2035	**2036**	**2037**
Total Supply	24,658	19,458	19,458
Total Demand	14,522	14,585	14,574
Difference (Supply minus Demand)	+10,136	+4,873	+4,884
Difference as % of Supply	+41%	+25%	+25%
Difference as % of Demand	+70%	+33%	+34%

Overall, the City projects generally strong, reliable water service for the next 25 years. No shortfalls are expected for normal years or multiple-dry year periods through 2035. Potential shortfalls up to 6% could occur in critical single-dry years should conservatively low SWP delivery assumptions materialize.

CHAPTER 8

WATER SHORTAGE CONTINGENCY PLANNING

8.1 Introduction

Water use efficiency can help stretch dry year supplies. By implementing the water conservation BMPs described in Chapter 5 and addressing SBx7-7 compliance, the City is achieving permanent demand reductions that increase the likelihood of local reservoirs starting full at the onset of a drought. However, drought is a natural part of the California climate and water supply reductions are inevitable in an extreme single-dry year or an extended multiple-dry year period. Emergency situations often require a water supplier to implement additional temporary conservation measures that reduce demand quickly but last for the duration of the emergency only. The Act requires the UWMP to include a Water Shortage Contingency Plan that addresses these temporary conservation measures and other actions necessary to handle supply emergencies.

The City of Napa's Water Shortage Contingency Plan, originally drafted in January 1992, is attached in Appendix G. In the event of a drought, the City would likely adopt a Resolution to Declare a Water Shortage Emergency, which would implement this Plan. Attachment "E" in Appendix G contains a sample declaration. Updates and highlights of the Plan are incorporated in this chapter of UWMP 2010. Should the City revise its Water Shortage Contingency Plan, the changes will be filed in a future update of the UWMP.

With its flexible supplies and routine conservation outreach, the City was able navigate the recent 2007-2009 drought period without having to enact the Water Shortage Contingency Plan. The most recent test of the City's ability to address a severe water shortage occurred in 1991 when the City took actions designed to achieve a 20% reduction in consumption. The actual reduction in consumption for 1991 was just over 31%.

8.2 Three-Year Minimum Supply

The Act requires that the City estimate the minimum water supply available during the next three years based on the driest three-year historic sequence. For SWP supply, 1990-1992 represents the driest sequence from *The State Water Project Delivery Reliability Report 2009*, and the Report uses 30%, 27%, and 26% Table A deliveries for those three years. Applying those delivery percentages to the City's actual SWP entitlements for 2011-2013 and adding the local reservoir multiple-dry year data from Chapter 4, Table 8-1 estimates minimum supplies for the next three years.

Because SWP contractors have already been notified of an 80% Table A allocation for 2011, the data in Table 8-1 are extremely conservative. Also, City reservoirs reached storage capacity, so normal yields are expected in 2011. However, even using the conservatively low supplies in Table 8-1, the City does not anticipate any problems meeting water demands for the next three years.

Table 8-1
Estimate of Minimum Supplies 2011-2013 (AF)

Source	2011	2012	2013
SWP Deliveries	6,570	5,913	5,694
Lake Hennessey	10,417	10,417	10,417
Milliken Reservoir	700	700	700
Reservoir Depletion	6,533	1,333	1,333
Total	24,220	18,363	18,144

8.3 Stages of Action

In response to a water shortage emergency, the City of Napa has developed a 5-stage plan. The City's plan includes no action, and voluntary and mandatory conservation stages.

Table 8-2
Water Shortage Stages of Action

Stage of Action	Demand Reduction Goal	Type of Conservation Program
Stage 1	10% reduction	NO ACTION
Stage 2	15% reduction	VOLUNTARY
Stage 3	20% reduction	MANDATORY
Stage 4	35% reduction	MANDATORY
Stage 5	50% reduction	MANDATORY

The following PRIORITIES for use of available water have been established:

- HEALTH AND SAFETY - interior residential and fire fighting.
- CII - maintain jobs and economic base.
- EXISTING LANDSCAPING - primary consideration is to protect trees and shrubs.
- NEW DEMAND - projects without permits when a shortage is declared mitigate to a zero demand through the Toilet Retrofit Program.
- AGRICULTURAL – customers with Interruptible-Surplus Water Agreements. When there is a water shortage declared this agricultural use is immediately suspended.

Supply Shortage Triggering Levels

The City of Napa has a legal responsibility to provide for the health and safety needs of its water customers. The City also feels an obligation to help minimize the social and economic impact of water shortages by managing the available water supplies prudently. Supply shortage triggering levels are established to ensure that these policy statements are implemented. The City retains the right to review and change these triggering levels at any stage of any water

shortage situation. It is the City's goal to provide the best possible use of its water resources while minimizing any negative effects a water shortage might have on its customers.

Stages of action may be triggered by a shortage in one source or a combination of sources, or by insufficient carryover storage and projected supplemental water to provide a certain percentage of normal supplies for the next two years. The specific criteria for triggering the City's stages of action are listed in Table 8-3.

Table 8-3
Water Supply Triggering Levels

Stage of Action	% Supply Shortage	Carryover Shortage
STAGE 1	up to 10% supply reduction	or insufficient carryover storage and projected supplemental water to provide for 90% of normal supplies for the next 2 years
STAGE 2	10-20% supply reduction	or insufficient carryover storage and projected supplemental water to provide for 75% of normal supplies for the next 2 years
STAGE 3	20-35% supply reduction	or insufficient carryover storage and projected supplemental water to provide for 60% of normal supplies for the next 2 years
STAGE 4	35-50% supply reduction	or insufficient carryover storage and projected supplemental water to provide for 50% of normal supplies for the next 2 years
STAGE 5	>50% supply reduction	

8.4 Prohibitions, Penalties, and Consumption Reduction

During the last major drought to affect Napa (1987-1992), the City adopted Ordinance No. 4277, which prohibits specific acts of water waste. It is included in Appendix G as Attachment “C”. Ordinance No. 4277 was an urgency ordinance addressing the emergency water shortage situation that occurred in 1991. The City eventually replaced the ordinance with Chapters 13.10 and 13.12 of the Napa Municipal Code. These chapters are attached in Appendix F. They are currently inoperative but would be reactivated by City Council in the event of a declared shortage.

Chapter 13.10 applies to a Moderate Water Shortage and establishes penalties and civil fines for specific acts of water waste. It includes potential restrictions on the amount of water that may be used by a single-family residence, with penalties applied to customers exceeding the amount. Among other regulations, it contains prohibitions on: operation of decorative fountains where water is not recirculated; use of hoses without shut-off nozzles; hosing down pavement and driveways; draining and filling of swimming pools; withdrawal of water from hydrants except for fire fighting; serving water to restaurant patrons except on request; and daytime watering of landscapes. Fines for violations range from $50 to $2,500.

Chapter 13.12 identifies more far-reaching restrictions and limitations on water use during a Severe Water Shortage of Stage 3 or greater. It includes: allocations of water for individual customers at varying percentages of historical usage; a requirement for the City’s 50 largest users to submit a water conservation plan; and potential establishment of a special block rate structure to address drought-related water purchase and administration expenses. In addition,

a wide range of prohibitions intended to minimize water waste are set forth, with a similar range of penalties as in Chapter 13.10.

Consumption Limits

To reduce short-term demand, an urban water supplier may use any type of consumption limit in its Water Shortage Contingency Plan that is appropriate for its area. Examples of consumption limits that may be used include, but are not limited to, percentage reductions in water allotments, per capita allocations, an increasing block rate schedule for high usage of water with incentives for conservation, or restrictions on specific uses.

The City has established the following allocation methods for each customer type.

Single Family Residential	Winter/Summer - % Reduction w/Min/Max
Multi-Family Residential	Winter/Summer - % Reduction
CII	Winter/Summer - % Reduction
Landscape Irrigation	% Reduction
New Demand	Assigned Rationed Allocation
Agricultural	Termination of Water Service

The specific reductions at each stage and for each customer type are presented in Table 8-4.

Table 8-4
Annual Consumption Limits (AF) by Stage

STAGE 1	0-10% reduction in supply does not require any reductions by customers. The City will publicize a Water Shortage Awareness Program.					
STAGES 2-5	Residential	CII	Landscape	Agricultural	TOTAL	TOTAL % Demand Reduction
Normal Demand	10,000	3,000	800	200	14,000	0.0%
Stage 2 - Voluntary	8,500	2,550	680	0	11,730	16.2%
Stage 3 - Mandatory	8,000	2,400	560	0	10,960	21.7%
Stage 4 - Mandatory	6,500	1,950	440	0	8,890	36.5%
Stage 5 - Mandatory	5,000	1,500	320	0	6,820	51.3%

The allocation methods are defined:

Winter/Summer % Reduction with a Minimum/Maximum - A % reduction of the winter historical usage as a baseline allocation plus a greater % reduction of the summer historical usage that is in excess of the winter baseline. Additionally, single-family units are not rationed if their historical usage falls below a certain amount and are not allowed more water on their allocation even if their historical usage exceeds a certain amount. These amounts are determined by the various stages of rationing.

% Reduction - Is a straight % reduction of the customer's historical consumption.

Assigned Rationed Allocation - When an account does not have any previous history of water usage, an allocation is assigned to that account based on similar type usage or an area average of similar type accounts.

Termination of Water Service - Some of the City's water accounts are on special contracts (primarily interruptible agricultural agreements) where the City only supplies water when surplus water is available. The water service to these accounts is suspended during droughts.

The individual customer allocations will be based on a 4-year base period excluding any consumption history under mandatory rationing. This will give the City a more accurate view of the usual water needs of each account and provides additional flexibility in determining allocations and reviewing appeals.

The Water Division General Manager shall classify each customer's allocation according to the methods described in the attachments to the Water Shortage Contingency Plan. The allocations shall reflect seasonal usage. Each customer shall be notified of his or her allocation in their water bill and the effective date of the water shortage emergency. New customers will be notified by mail after they have signed up for water service and will receive their water allocation with their first water bill. In the event of a disaster, prior notification may not be possible, and notification will be provided by other means. Any customer may appeal their classification on the basis of use or their allocation on the basis of incorrect calculations or use of non-current information. All appeals will be subject to a review and verification process before a change in an allocation is granted.

8.5 Water Use Monitoring During Shortages

Normal Monitoring Procedure

In normal water supply conditions, production figures are recorded daily. Totals are reported daily to the Water Treatment Facility Supervisor. Totals are reported weekly to the Water Division General Manager and incorporated into the water supply report.

Stage 1, 2, and 3 Water Shortages

During a Stage 1, 2, or 3 water shortage, daily production figures are reported to the Supervisor. The Supervisor compares the weekly production to the target weekly production to verify that the demand reduction goal is being met. Weekly reports are forwarded to the Water Division General Manager. Monthly reports are sent to the City Council. If reduction goals are not met, the Water Division General Manager will notify the City Council so that corrective action can be taken.

Stage 4 and 5 Water Shortages

During a Stage 4 or 5 water shortage, the procedure listed above will be followed, with the addition of a daily production report to the Water Division General Manager.

8.6 Revenue Impacts

Water Division revenue is primarily based on water sales, which results in variable income with mostly fixed expenses. Drought is the biggest potential issue related to collecting revenues for the Water Enterprise Fund. The current rate structure is a uniform quantity charge. There are no fixed charges, so customers pay only for water that they use. In a drought situation when customers are asked or mandated to reduce consumption, the decreased sales could significantly reduce revenue in a given year or period of years. To deal with this possibility, the

Water Division has a Revenue Stabilization Reserve Fund to help with revenue shortfalls during periods of low water sales. The idea behind this fund is to have a prudent reserve that may keep the City from having to raise water rates to cover operating expenses in a prolonged drought situation.

The City is conducting a Cost of Service Water Rate Study in 2011 that may result in a new rate structure that includes fixed charges, and a revised policy may be developed related to Reserve Funds.

8.7 Catastrophic Supply Interruption Plan

In accordance with the Public Health Security and Bioterrorism Preparedness and Response Act of 2002, the City of Napa has prepared an Emergency Response Plan (ERP). This document was most recently updated in February 2005. It serves as a resource for City personnel in preparing for, and responding to, a variety of potential large-scale emergencies involving the City's water system. Due to the confidential nature of the ERP, the document is not included with this UWMP, but some key provisions are discussed below.

The City's ERP contains specific action plans to address major events that could cause a catastrophic interruption of the City's water supply. The threats considered include:

- Earthquakes
- Floods
- Waterborne Diseases
- Vandalism
- Terrorism
- Backflow Conditions
- Construction Accidents
- Chemical Spills
- Power Outages
- Fires

The City is in a highly active seismic zone and an earthquake is perhaps the most likely event to significantly impact the water system infrastructure. For this or any other significant disaster, the City uses the Standardized Emergency Management System (SEMS) to allow rapid and effective coordination at the field level. In a major earthquake event, all Water Division employees fall under the Public Works Department's direction, the Operations section as defined by SEMS. The ERP includes these chain-of-command details for incidents, along with mutual aid agreements, emergency resources, emergency water supply calculations, and public notification procedures.

In regard to terrorism, the City has completed a Vulnerability Assessment and has implemented numerous improvements to help ensure the safety of the City's water customers.

The Water Division has developed a redundant system in the event of a disaster. The main points of this redundant system are:

1. The City has two major treatment plants, each capable of producing 20 MGD.
2. Each WTP has its own auxiliary power supply.
3. Each WTP has its own raw water source.

4. A distance of more than 20 miles separates the two plants, which lessens the likelihood that a disaster will affect both plants at the same time.
5. Both WTPs were designed with redundant systems so that should one process component fail, there will always be a backup available.

In the extremely unlikely event that the City loses all of its sources at once, the system's tank storage of 33 million gallons can help the City weather the emergency. The City's best security in an extreme emergency may be the ability to deliver raw water to town from both Lake Hennessey and Milliken Reservoir. That allows the City to provide water for fire protection even if the pipelines have numerous leaks. The raw water would also be available for human consumption as long it were boiled or treated with iodine.

With some events, it could be necessary for the City to use an emergency source of supply to maintain system pressure. The City has intertie connections with the Cities of American Canyon, St. Helena, and Calistoga, and the Town of Yountville. American Canyon would be capable of supplying Napa with approximately 4 MGD for a limited time.

Overall, the ERP points out the flexible design of the water system and the City's ability to minimize service disruptions in the worst of emergencies. For all conceivable emergencies, a specific plan is in place to rapidly restore water service, ensure water for fire fighting, and minimize negative impacts on public health and safety.

APPENDIX A

AGENCY COORDINATION
AND
PUBLIC OUTREACH

Included in this Appendix are the following documents:

- **60-Day Plan Preparation Notice to Local Agencies**
- ***Napa Valley Marketplace* Magazine Ad, June Issue**
- **Public Notices in *Napa Valley Register*, June 7, 2011**
- **Public Notices in *Napa Valley Register*, June 14, 2011**
- **Public Notice and Draft Plan to Local Agencies**
- ***City of Napa Newsweekly* Email**
- **Public Hearing Presentation Slides, June 21, 2011**
- **Adopted Plan to the Department of Water Resources**
- **Adopted Plan to the California State Library**
- **Adopted Plan to Local Agencies**

CITY of NAPA
www.cityofnapa.org/water

PUBLIC WORKS DEPARTMENT
WATER DIVISION
1340 Clay Street
Mailing Address:
P.O. Box 660
Napa, California 94559-0660
(707) 257-9521
Fax (707) 258-7831

April 21, 2011

John McDowell
Deputy Planning Director
County of Napa
1195 Third Street, Suite 210
Napa, CA 94559

Subject: **City of Napa Urban Water Management Plan Preparation**

Dear Mr. McDowell:

This letter is official notification that the City of Napa is in the process of preparing its 2010-11 Urban Water Management Plan (UWMP) update, pursuant to the Urban Water Management Planning Act (California Water Code, Division 6, Part 2.6, Sections 10610-10656). The City's UWMP was last updated in January 2006.

The City will make any proposed revisions to the UWMP available for public review and comment prior to adoption and your agency is invited to be a part of this process. The County of Napa will be given notice of the Napa City Council meeting in which the UWMP update will be considered.

Questions on the City of Napa UWMP preparation and adoption process can be directed to me at (707) 257-9309 or pcostello@cityofnapa.org.

Sincerely,

Patrick Costello
Water Resources Analyst

CITY of NAPA
www.cityofnapa.org/water

PUBLIC WORKS DEPARTMENT
WATER DIVISION
1340 Clay Street
Mailing Address:
P.O. Box 660
Napa, California 94559-0660
(707) 257-9521
Fax (707) 258-7831

April 21, 2011

Donald G. Ridenhour
Director of Public Works
County of Napa
1195 Third Street, Room 201
Napa, CA 94559

Subject: **City of Napa Urban Water Management Plan Preparation**

Dear Mr. Ridenhour:

This letter is official notification that the City of Napa is in the process of preparing its 2010-11 Urban Water Management Plan (UWMP) update, pursuant to the Urban Water Management Planning Act (California Water Code, Division 6, Part 2.6, Sections 10610-10656). The City's UWMP was last updated in January 2006.

The City will make any proposed revisions to the UWMP available for public review and comment prior to adoption and your agency is invited to be a part of this process. The County of Napa will be given notice of the Napa City Council meeting in which the UWMP update will be considered.

Questions on the City of Napa UWMP preparation and adoption process can be directed to me at (707) 257-9309 or pcostello@cityofnapa.org.

Sincerely,

Patrick Costello
Water Resources Analyst

CITY of NAPA
www.cityofnapa.org/water

PUBLIC WORKS DEPARTMENT
WATER DIVISION
1340 Clay Street
Mailing Address:
P.O. Box 660
Napa, California 94559-0660
(707) 257-9521
Fax (707) 258-7831

April 21, 2011

Timothy Healy
General Manager
Napa Sanitation District
935 Hartle Court
Napa, CA 94559

Subject: **City of Napa Urban Water Management Plan Preparation**

Dear Mr. Healy:

This letter is official notification that the City of Napa is in the process of preparing its 2010-11 Urban Water Management Plan (UWMP) update, pursuant to the Urban Water Management Planning Act (California Water Code, Division 6, Part 2.6, Sections 10610-10656). The City's UWMP was last updated in January 2006.

The City will make any proposed revisions to the UWMP available for public review and comment prior to adoption and your agency is invited to be a part of this process. The Napa Sanitation District will be given notice of the Napa City Council meeting in which the UWMP update will be considered.

Questions on the City of Napa UWMP preparation and adoption process can be directed to me at (707) 257-9309 or pcostello@cityofnapa.org.

Sincerely,

Patrick Costello
Water Resources Analyst

CITY of NAPA
www.cityofnapa.org/water

PUBLIC WORKS DEPARTMENT
WATER DIVISION
1340 Clay Street
Mailing Address:
P.O. Box 660
Napa, California 94559-0660
(707) 257-9521
Fax (707) 258-7831

April 21, 2011

Michael W. Throne
Director of Public Works
City of American Canyon
4381 Broadway Street, Suite 201
American Canyon, CA 94503

Subject: **City of Napa Urban Water Management Plan Preparation**

Dear Mr. Throne:

This letter is official notification that the City of Napa is in the process of preparing its 2010-11 Urban Water Management Plan (UWMP) update, pursuant to the Urban Water Management Planning Act (California Water Code, Division 6, Part 2.6, Sections 10610-10656). The City's UWMP was last updated in January 2006.

The City will make any proposed revisions to the UWMP available for public review and comment prior to adoption and your agency is invited to be a part of this process. The City of American Canyon will be given notice of the Napa City Council meeting in which the UWMP update will be considered.

Questions on the City of Napa UWMP preparation and adoption process can be directed to me at (707) 257-9309 or pcostello@cityofnapa.org.

Sincerely,

Patrick Costello
Water Resources Analyst

CITY of NAPA
www.cityofnapa.org/water

PUBLIC WORKS DEPARTMENT
WATER DIVISION
1340 Clay Street
Mailing Address:
P.O. Box 660
Napa, California 94559-0660
(707) 257-9521
Fax (707) 258-7831

April 21, 2011

Graham Wadsworth
Public Works Director/Town Engineer
Town of Yountville
6550 Yount Street
Yountville, CA 94599

Subject: **City of Napa Urban Water Management Plan Preparation**

Dear Mr. Wadsworth:

This letter is official notification that the City of Napa is in the process of preparing its 2010-11 Urban Water Management Plan (UWMP) update, pursuant to the Urban Water Management Planning Act (California Water Code, Division 6, Part 2.6, Sections 10610-10656). The City's UWMP was last updated in January 2006.

The City will make any proposed revisions to the UWMP available for public review and comment prior to adoption and your agency is invited to be a part of this process. The Town of Yountville will be given notice of the Napa City Council meeting in which the UWMP update will be considered.

Questions on the City of Napa UWMP preparation and adoption process can be directed to me at (707) 257-9309 or pcostello@cityofnapa.org.

Sincerely,

Patrick Costello
Water Resources Analyst

CITY of NAPA
www.cityofnapa.org/water

PUBLIC WORKS DEPARTMENT
WATER DIVISION
1340 Clay Street
Mailing Address:
P.O. Box 660
Napa, California 94559-0660
(707) 257-9521
Fax (707) 258-7831

April 21, 2011

John Ferons
Director of Public Works
City of St. Helena
1480 Main Street
St. Helena, CA 94574

Subject: **City of Napa Urban Water Management Plan Preparation**

Dear Mr. Ferons:

This letter is official notification that the City of Napa is in the process of preparing its 2010-11 Urban Water Management Plan (UWMP) update, pursuant to the Urban Water Management Planning Act (California Water Code, Division 6, Part 2.6, Sections 10610-10656). The City's UWMP was last updated in January 2006.

The City will make any proposed revisions to the UWMP available for public review and comment prior to adoption and your agency is invited to be a part of this process. The City of St. Helena will be given notice of the Napa City Council meeting in which the UWMP update will be considered.

Questions on the City of Napa UWMP preparation and adoption process can be directed to me at (707) 257-9309 or pcostello@cityofnapa.org.

Sincerely,

Patrick Costello
Water Resources Analyst

CITY of NAPA
www.cityofnapa.org/water

PUBLIC WORKS DEPARTMENT
WATER DIVISION
1340 Clay Street
Mailing Address:
P.O. Box 660
Napa, California 94559-0660
(707) 257-9521
Fax (707) 258-7831

April 21, 2011

Dan Takasugi
Public Works Director/City Engineer
City of Calistoga
414 Washington Street
Calistoga, CA 94515

Subject: **City of Napa Urban Water Management Plan Preparation**

Dear Mr. Takasugi:

This letter is official notification that the City of Napa is in the process of preparing its 2010-11 Urban Water Management Plan (UWMP) update, pursuant to the Urban Water Management Planning Act (California Water Code, Division 6, Part 2.6, Sections 10610-10656). The City's UWMP was last updated in January 2006.

The City will make any proposed revisions to the UWMP available for public review and comment prior to adoption and your agency is invited to be a part of this process. The City of Calistoga will be given notice of the Napa City Council meeting in which the UWMP update will be considered.

Questions on the City of Napa UWMP preparation and adoption process can be directed to me at (707) 257-9309 or pcostello@cityofnapa.org.

Sincerely,

Patrick Costello
Water Resources Analyst

Congratulations to Napa County's newest Bay-Friendly Landscapers!

BAY-FRIENDLY LANDSCAPING & GARDENING

Bay-Friendly Qualified landscape professionals use a whole systems approach to design, install, and maintain urban landscapes while reducing waste, conserving water, and preventing pollution. This spring, the following individuals completed the comprehensive 7-week training program in its second Napa County offering:

Joshua Alexander
J A Landscaping

Luis Andrade
Napa Valley Lawn & Garden Co.

Jacob Blessing
Napa Valley Lawn & Garden Co.

Phillip Calantoc
City of Napa Parks & Recreation

Steve Cole
Pacific Landscapes

Todd Cottier
Pacific Landscapes

Dave Dexter
Dexter Estate Landscapes

Jose Guillen
New Growth Landscape

Antonio James
Napa Valley Lawn & Garden Co.

Javier Leal
Leal Landscaping

Marcy Nielsen-Berruezo
MCNB Designs

Maurilio Ramirez
Landesign C&M, Inc.

Miguel Rivera
Cagwin & Dorward

Salvador Rodriguez
Napa Valley Unified School District

Dawn Schneider
City of Napa Parks & Recreation

Darren Stewart
Cagwin & Dorward

Jose Tafolla
Cagwin & Dorward

Joe Zapata
City of Napa Parks & Recreation

Consider a Bay-Friendly Landscaper for your next project!
Nearly 60 have qualified in Napa County.
Full listings are found on the web at:
www.bayfriendlycoalition.org

The Public is invited to upcoming hearings on City of Napa water planning:

CITY of NAPA

- **SBx7-7 Water Conservation Targets for Year 2020**
- **Urban Water Management Plan 2010 Update**

Tuesday, June 21
6:30 pm
City Council Chambers
City Hall
955 School Street

PUBLIC NOTICES
JUNE 7, 2011
NAPA VALLEY REGISTER

mine the file kept by
ou are a person inter-
estate, you may file
a Request for Special
E-154) of the filing of
nd appraisal of estate
ny petition or account
Probate Code sec-
Request for Special
s available from the

, 2011.
Napa Superior Court
, Deputy.
titioner:
Attorney at Law
neda #102
95126-1126
)
7, 11/2011

C NOTICE
OF PETITION
ISTER ESTATE
TYNER, also known
E JOHN TYNER
IOR COURT
LIFORNIA,
TY OF NAPA
MBER: 26-56260
ER OF THE ESTATE
J. TYNER, also
MIE JOHN TYNER

neficiaries, creditors,
ditors, and persons
wise be interested in
e or both of: **JIMMIE**
o known as JIMMIE

Probate has been
TYNER the Superior
nia, County of Napa.
or Probate requests
YNER be appointed
epresentative to ad-
tate of the decedent.
equests authority to
estate under the In-
dministration of Es-
s authority will allow
epresentative to take
without obtaining
. Before taking cer-
rtant actions, howev-
al representative will
give notice to inter-
unless they have
or consented to the
n.) The independent
authority will be
an interested person
on to the petition and
ause why the court
nt the authority.
the petition will be
court as follows:
at 8:30 a.m. in Dept.
25 Brown St., Napa,

to the granting of the
hould appear at the
ate your objections or
ections with the court
aring. Your appear-
in person or by your

Office, County Administration Building, 1195 Third Street, Suite 310, Napa, California 94559.
DATED: May 27, 2011
ATTEST: Gladys I. Coil
District Secretary
147049 5/31, 6/7/2011

PUBLIC NOTICE
NAPA COUNTY BOARD
OF SUPERVISORS
SILVERADO COMMUNITY
SERVICES DISTRICT
NOTICE OF PUBLIC HEARING

Notice is hereby given by the Napa County Board of Supervisors meeting as the Board of Directors of the Silverado Community Services District will conduct a Public Hearing on Tuesday, June 14, 2011, at 9:00 a.m. in Room 305 of the County Administration Building, 1195 Third Street, Napa, California, to determine the total special tax to be collected within the District for the 2011-2012 fiscal year. The revenues from the special tax are intended to finance certain street sweeping, street lighting and landscape maintenance services within the District as well as District administrative and related expenses. The special tax will be allocated among parcels of real property in the District based upon certain definitions and formulas set forth in the special tax ordinance approved by the District's electorate on July 22, 1997. Interested persons are invited to attend and be heard.
The District Manager has prepared a report describing each parcel within the District by Assessor's Parcel Number and setting forth the special tax recommended to be assessed for the 2011-2012 fiscal year against each parcel. A copy of the report is on file with the Manager of the District and is available for inspection at the office of the District Manager, 1195 Third Street, Room 201, Napa, California.
DATED: May 27, 2011
ATTEST: Gladys I. Coil
District Secretary
147048 5/31, 6/7/2011

PUBLIC NOTICE
NAPA COUNTY BOARD
OF SUPERVISORS
COUNTY SERVICE AREA
NO. 4 - FARMWORKER HOUSING
NOTICE OF PUBLIC HEARING

Notice is hereby given by the Napa County Board of Supervisors that on Tuesday, June 14, 2011, at 9:00 a.m. a public hearing will be held upon the question of levying assessments for properties containing one or more planted vineyard acres in County Service Area No. 4. The assessment will be used for the purposes of acquiring, building, leasing and providing maintenance or operations for farmworker housing to be provided within County Service Area No. 4 during fiscal year 2011-2012. At the public hearing, the Board will consider all objections or protests, if any, to the proposed assessment. Any interested person shall be permitted to present written or oral testimony.
The public hearing will be held in the Board of Supervisors' Room, Suite 305, Third Floor, County Administration Building, 1195 Third Street, Napa, California 94559. Interested persons are invited to attend and be heard.
The proposed assessments have been calculated in accordance with the rate methodology approved by the voters of the Winegrape Pest and Disease Control District in 2006. The proposed assessment for fiscal year 2011/2012 is $8.00 per planted vineyard acre.
The proposed assessments are based upon an allocation of program costs over all properties subject to assessment in the District (i.e. all parcels of one or more planted vineyard acres within Napa County - a total of approximately 45,428 qualifying acres), and an assessment rate applied per planted vineyard acre. The proposed assessments for each parcel are described in the Engineer's Report prepared by Kristin Lowell, Inc., dated May 20 2011 and entitled "County of Napa Winegrape Pest and Disease Control Assessment District Engineer's Report". The report may be reviewed at the Clerk of the Board's Office, County Executive Office, 1195 Third Street, Suite 310, Napa, California 94559-3082.
DATED: May 27, 2011
ATTEST: Gladys I. Coil
Clerk of the Board
147051 5/31, 6/7/2011

port of the District Engineer is available at the District Manager's Office, Napa County Administration Building, 1195 Third Street, Room 201, Napa, California
DATED: May 27, 2011
ATTEST: Gladys I. Coil
Clerk of the Board
147052 5/31, 6/7/2011

PUBLIC NOTICE
NAPA COUNTY BOARD
OF SUPERVISORS
NAPA COUNTY WINEGRAPE
PEST AND DISEASE CONTROL
DISTRICT

NOTICE IS HEREBY GIVEN by the Napa County Board of Supervisors that on Tuesday, June 14, 2011, at 9:00 a.m. a public hearing will be held upon the question of levying assessments for properties containing one or more planted vineyard acres in the Napa County Winegrape Pest and Disease Control District (the "District"). The assessment will be used for the purposes of providing funding for the inspection, detection, prevention and education of winegrape pests and diseases, including Pierce's disease by the glassy-winged sharpshooter. At the public hearing, the Board will consider all objections or protests, if any, to the proposed assessment. Any interested person shall be permitted to present written or oral testimony.
The public hearing will be held in the Board of Supervisors' Room, Suite 305, Third Floor, County Administration Building, 1195 Third Street, Napa, California 94559. Interested persons are invited to attend and be heard.
The proposed assessments have been calculated in accordance with the rate methodology approved by the voters of the Winegrape Pest and Disease Control District in 2006. The proposed assessment for fiscal year 2011/2012 is $8.00 per planted vineyard acre.
The proposed assessments are based upon an allocation of program costs over all properties subject to assessment in the District (i.e. all parcels of one or more planted vineyard acres within Napa County - a total of approximately 45,428 qualifying acres), and an assessment rate applied per planted vineyard acre. The proposed assessments for each parcel are described in the Engineer's Report prepared by Kristin Lowell, Inc., dated May 20 2011 and entitled "County of Napa Winegrape Pest and Disease Control Assessment District Engineer's Report". The report may be reviewed at the Clerk of the Board's Office, County Executive Office, 1195 Third Street, Suite 310, Napa, California 94559-3082.
DATED: May 27, 2011
ATTEST: Gladys I. Coil
Clerk of the Board
147051 5/31, 6/7/2011

PUBLIC NOTICE
NOTICE OF PLAN AVAILABILITY AND PUBLIC HEARING URBAN WATER MANAGEMENT PLAN 2010 UPDATE

NOTICE IS HEREBY GIVEN that the 2010 Update of the Urban Water Management Plan has been drafted and will be made available for public review on the City Water Division web page, www.cityofnapa.org/water, and at the following locations: City of Napa Water Administration & Engineering, 1340 Clay Street, City of Napa Public Works Department, 1600 First Street, Napa City-County Library, 580 Coombs Street, Napa, California.
As an urban water supplier, the City of Napa is required to submit an update of its Urban Water Management Plan to the State Department of Water Resources every five years. The plan is a summary of City water supplies, demands, and conservation, and overall water service reliability through 2035. Written comments on the 2010 Update will be received by Patrick Costello in advance of the public hearing by email at pcostello@cityofnapa.org, by mail at PO Box 660, Napa, CA 94559, or in person at 1340 Clay Street, Napa during normal business hours.
NOTICE IS HEREBY GIVEN that on June 21, 2011, at or after 6:30 p.m. in the City Council Chambers, City Hall, 955 School Street, Napa, California, a public hearing will be conducted by the City Council of the City of Napa at which time and place all persons may attend and be heard upon:
DESCRIPTION:
Adoption of the 2010 Update of the City of Napa Urban Water Management Plan.
Other background information, including the Agenda Report and Resolution, will be available at the City Clerk's Office, 955 School Street, or on the City's website at www.cityofnapa.org on the Friday before the meeting and may be available earlier depending on the completion and photocopying of the report.
Note: a citizen wishing to challenge the nature of the above action in court may be limited to raising only those issues that they or someone else raised at the public hearing described in this notice, or in written correspondence delivered to the City of Napa at, or prior to, the public hearing.
Interested persons needing special accommodations or language translation should contact the Office of the City Clerk at 707-257-9503 at least three working days in advance of the meeting. The hearing impaired may call the City's Telecommunication Device for the Deaf at 257-9506.
Dated: June 6, 2011
Signed: Dorothy Roberts, City Clerk
147352 6/7, 6/14/2011

Dated: June 6, 2011
HILLARY GITELMAN
Director of Conservation,
Development and Planning
147358 6/7/2011

PUBLIC NOTICE
NOTICE OF PUBLIC HEARING 2020 WATER CONSERVATION TARGET

NOTICE IS HEREBY GIVEN that on June 21, 2011, at or after 6:30 p.m. in the City Council Chambers, City Hall, 955 School Street, Napa, California, a public hearing will be conducted by the City Council of the City of Napa at which time and place all persons may attend and be heard upon:
Adoption of a method for determining the City of Napa urban water use target for Year 2020 for compliance with the Water Conservation Bill of 2009 (SBx7-7), and authorization to include the target in the 2010 Update of the Urban Water Management Plan. SBx7-7 seeks to achieve a statewide reduction of 20 percent in urban per capita water use by 2020, but its methods of compliance provide a water supplier credit for some conservation already achieved. Target calculation, a general implementation plan, and potential economic impacts will be reviewed.
DESCRIPTION:
Background information, including the Agenda Report and Resolution will be available at the City Clerk's Office, 955 School Street, or on the City's website at www.cityofnapa.org on the Friday before the meeting and may be available earlier depending on the completion and photocopying of the report.
Written comments should be directed to the City Council through the City Clerk at P.O. Box 660, Napa, California, 94559-0660 or at clerk@cityofnapa.org.
Note: a citizen wishing to challenge the nature of the above action in court may be limited to raising only those issues that they or someone else raised at the public hearing described in this notice, or in written correspondence delivered to the City of Napa at, or prior to, the public hearing.
Interested persons needing special accommodations or language translation should contact the Office of the City Clerk at 707-257-9503 at least three working days in advance of the meeting. The hearing impaired may call the City's Telecommunication Device for the Deaf at 257-9506.
Dated: June 6, 2011
Signed: Dorothy Roberts, City Clerk
147353 6/7, 6/14/2011

PUBLIC NOTICE
NOTICE OF TRUSTEE'S SALE T.S No. 1308172-14 APN: 058-572-020-000 TRA: 005015 LOAN NO: Xxxxxx5288 REF: Pagel, Hasse IMPORTANT NOTICE TO PROPERTY OWNER: YOU ARE IN DE-

'eally good deal! UNLIMITED

PUBLIC NOTICES
JUNE 14, 2011
NAPA VALLEY REGISTER

PUBLIC NOTICE

NOTICE OF PLAN AVAILABILITY AND PUBLIC HEARING URBAN WATER MANAGEMENT PLAN 2010 UPDATE

NOTICE IS HEREBY GIVEN that the 2010 Update of the Urban Water Management Plan has been drafted and will be made available for public review on the City Water Division web page, www.cityofnapa.org/water, and at the following locations: City of Napa Water Administration & Engineering, 1340 Clay Street, City of Napa Public Works Department, 1600 First Street, Napa City-County Library, 580 Coombs Street, Napa, California.

As an urban water supplier, the City of Napa is required to submit an update of its Urban Water Management Plan to the State Department of Water Resources every five years. The plan is a summary of City water supplies, demands, and conservation, and overall water service reliability through 2035. Written comments on the 2010 Update will be received by Patrick Costello in advance of the public hearing by email at pcostello@cityofnapa.org, by mail at PO Box 660, Napa, CA 94559, or in person at 1340 Clay Street, Napa during normal business hours.

NOTICE IS HEREBY GIVEN that on June 21, 2011, at or after 6:30 p.m. in the City Council Chambers, City Hall, 955 School Street, Napa, California, a public hearing will be conducted by the City Council of the City of Napa at which time and place all persons may attend and be heard upon:

DESCRIPTION:

Adoption of the 2010 Update of the City of Napa Urban Water Management Plan.

Other background information, including the Agenda Report and Resolution, will be available at the City Clerk's Office, 955 School Street, or on the City's website at www.cityofnapa.org on the Friday before the meeting and may be available earlier depending on the completion and photocopying of the report.

Note: a citizen wishing to challenge the nature of the above action in court may be limited to raising only those issues that they or someone else raised at the public hearing described in this notice, or in written correspondence delivered to the City of Napa at, or prior to, the public hearing.

Interested persons needing special accommodations or language translation should contact the Office of the City Clerk at 707-257-9503 at least three working days in advance of the meeting. The hearing impaired may call the City's Telecommunication Device for the Deaf at 257-9506.

Dated: June 6, 2011

Signed: Dorothy Roberts, City Clerk

147352 6/7, 6/14/2011

---

struction, expansion, remodeling, renovation, furnishing, equipping and acquisition of health facilities owned and operated by the Corporations located at the above addresses of the Corporations, and for related costs. The owner and operator of all facilities and equipment to be financed with proceeds of the Bonds at the above-listed addresses is described above.

DATED this 14th day of June, 2011.

Barbara J. Liebert, Executive Director

CALIFORNIA HEALTH FACILITIES FINANCING AUTHORITY

915 Capitol Mall, Suite 590

Sacramento, California 95814

147521 6/14/2011

PUBLIC NOTICE

NOTICE OF PUBLIC HEARING 2020 WATER CONSERVATION TARGET

NOTICE IS HEREBY GIVEN that on June 21, 2011, at or after 6:30 p.m. in the City Council Chambers, City Hall, 955 School Street, Napa, California, a public hearing will be conducted by the City Council of the City of Napa at which time and place all persons may attend and be heard upon:

Adoption of a method for determining the City of Napa urban water use target for Year 2020 for compliance with the Water Conservation Bill of 2009 (SBx7-7), and authorization to include the target in the 2010 Update of the Urban Water Management Plan. SBx7-7 seeks to achieve a statewide reduction of 20 percent in urban per capita water use by 2020, but its methods of compliance provide a water supplier credit for some conservation already achieved. Target calculation, a general implementation plan, and potential economic impacts will be reviewed.

DESCRIPTION:

Background information, including the Agenda Report and Resolution will be available at the City Clerk's Office, 955 School Street, or on the City's website at www.cityofnapa-.org on the Friday before the meeting and may be available earlier depending on the completion and photocopying of the report.

Written comments should be directed to the City Council through the City Clerk at P.O. Box 660, Napa, California, 94559-0660 or at clerk@cityofnapa.org.

Note: a citizen wishing to challenge the nature of the above action in court may be limited to raising only those issues that they or someone else raised at the public hearing described in this notice, or in written correspondence delivered to the City of Napa at, or prior to, the public hearing.

Interested persons needing special accommodations or language translation should contact the Office of the City Clerk at 707-257-9503 at least three working days in advance of the meeting. The hearing impaired may call the City's Telecommunication Device for the Deaf at 257-9506.

SOLD AT A PUBLIC SALE. IF YOU NEED AN EXPLANATION OF THE NATURE OF THE PROCEEDING AGAINST YOU, YOU SHOULD CONTACT A LAWYER. A public auction sale to the highest bidder for cash, cashier's check drawn on a state or national bank, check drawn by state or federal credit union, or a check drawn by a state or federal savings and loan association, or savings association, or savings bank specified in Section 5102 to the Financial code and authorized to do business in this state, will be held by duly appointed trustee. The sale will be made, but without covenant or warranty, expressed or implied, regarding title, possession, or encumbrances, to pay the remaining principal sum of the note(s) secured by the Deed of Trust, with interest and late charges thereon, as provided in the note(s), advances, under the terms of the Deed of Trust, interest thereon, fees, charges and expenses of the Trustee for the total amount (at the time of the initial publication of the Notice of Sale) reasonably estimated to be set forth below. The amount may be greater on the day of sale. BENEFICIARY MAY ELECT TO BID LESS THAN THE TOTAL AMOUNT DUE. Trustor(s): STEVE CUENCA, A SINGLE MAN AND MICHAEL AZUCENA AND AIMEE C. AZUCENA, HUSBAND AND WIFE AS JOINT TENANTS Recorded: 12/6/2005 as Instrument No. 2005-0049686 in book xxx, page xxx of Official Records in the office of the Recorder of NAPA County, California; Date of Sale: 6/24/2011 at 1:30 PM Place of Sale: At the Brown Street entrance to the County Courthouse, 825 Brown Street, Napa, CA 94558 Amount of unpaid balance and other charges: $869,729.11 The purported property address is: 19 SPIKERUSH CIRCLE AMERICAN CANYON, CA 94503 Assessor's Parcel No. 058-642-016-000 The undersigned Trustee disclaims any liability for any incorrectness of the property address or other common designation, if any, shown herein. If no street address or other common designation is shown, please refer to the referenced legal description for property location. In the event no common address or common designation of the property is provided herein directions to the location of the property may be obtained within 10 days of the date of first publication of this Notice of Sale by sending a written request to Bank of America 475 Crosspoint Parkway Getzville NY 14068. Pursuant to California Civil Code 2923.5 (c), the beneficiary or authorized agent declares as follows: Declaration - Notice of Sale Borrower Contact and Due Diligence Pursuant to CC 2923.5 Re: CUENCA, STEVEN AND AZUCENA, MICHAEL 19 SPIKERUSH CH*, AMERICAN CANYON, CA, 945031290 LaSalle Bank, N.A. as Trustee for the MLMI Trust Series 2006-HE2 Loan No: 1817916 Trust-

---

the Recorder of NAPA County, State of CALIFORNIA, under the power of sale therein contained, WILL SELL AT PUBLIC AUCTION TO THE HIGHEST BIDDER, for cash, cashier's check drawn on a state or national bank, check drawn by a state or federal credit union, or a check drawn by a state or federal savings and loan association, or savings association, or savings bank specified in Section 5102 of the Financial Code and authorized to do business in this state will be held by the duly appointed trustee as shown below, of all right, title, and interest conveyed to and now held by the trustee in the hereinafter described property under and pursuant to a Deed of Trust described below. The sale will be made, but without covenant or warranty, expressed or implied, regarding title, possession, or encumbrances, to pay the remaining principal sum of the note(s) secured by the Deed of Trust, with interest and Sate charges thereon, as provided in the note(s), advances, under the terms of the Deed of Trust, interest thereon, fees, charges and expenses of the Trustee for the total amount (at the time of the initial publication of the Notice of Sale) reasonably estimated to be set forth below. The amount may be greater on the day of sale. Property is being sold "as is - where is". TAX PARCEL NO. 004-013-007-000 From information which the Trustee deems reliable, but for which Trustee makes no representation or warranty, the street address or other common designation of the above described property is purported to be 230 CHELSEA AVENUE , NAPA, CA 94558. Said property is being sold for the purpose of paying the obligations secured by said Deed of Trust, including fees and expenses of sale. The total amount of the unpaid principal balance, interest thereon, together with reasonably estimated costs, expenses and advances at the time of the initial publication of the Notice of Trustee's Sale is $329,207.96. WE ARE ATTEMPTING TO COLLECT A DEBT, AND ANY INFORMATION WE OBTAIN WILL BE USED FOR THAT PURPOSE. SALE INFORMATION LINE: 714-730-2727 or www.fidelityasap.com Dated: 5/23/2011 ASSET FORECLOSURE SERVICES, INC., AS TRUSTEE By Georgina Rodriguez, Trustee Sale Officer 146966 ASAP# 4005557 05/31/2011, 06/07/2011, 06/14/2011

ADVERTISE

in the Valley Classifieds

707-226-3719

---

opening bid may b
total indebtedness
to cash, the Trus
cashier's checks dr
or national bank, a
a state or federal c
check drawn by a
savings and loan a
ings association, o
specified in Section
nancial Code and a
business in this stat
be made, in an "A
but without covena
express or implied,
possession or en
satisfy the indebted
said Deed of T
thereunder, with in
ed, and the unpaid
Note secured by sa
with interest thereo
said Note, plus fe
expenses of the Tr
trusts created by
Trust. DATED:
RECONTRUST C
1800 Tapo Canyo
01-94 SIMI VALL
Phone: (800) 281
mation (626) 927-
ee's Sale Officer
COMPANY, N.A. is
attempting to colle
formation obtained
that purpose.
3999055 05/31/20
06/14/2011

PUBLIC

NOTICE OF TRUS
No. 1318278-02
002-000 TRA: 5
Xxxxxx4923 F
Humberto IMPOF
TO PROPERTY
ARE IN DEFAULT
OF TRUST, DATE
2003. UNLESS
TION TO PROTEC
ERTY, IT MAY E
PUBLIC SALE. IF
EXPLANATION O
OF THE PROCEE
YOU, YOU SHOU
LAWYER. On Ju
1:30pm,
Reconveyance Co
appointed trustee
suant to Deed o
December 29, 20
2003-0066952 in b
of Official Record
the County Rec
County, State of C
ed by Humberto C
Man, will sell at
highest bidder fo
check drawn on a
bank, a check dra
federal credit uni
drawn by a state c
and loan associati
ciation, or saving
brown street entra
courthouse 825 Br
California, all right

Can't sell

CITY of NAPA
www.cityofnapa.org/water

PUBLIC WORKS DEPARTMENT
WATER DIVISION
1340 Clay Street
Mailing Address:
P.O. Box 660
Napa, California 94559-0660
(707) 257-9521
Fax (707) 258-7831

June 7, 2011

John McDowell
Deputy Planning Director
County of Napa
1195 Third Street, Suite 210
Napa, CA 94559

Subject: **City of Napa Urban Water Management Plan Public Hearing**

Dear Mr. McDowell:

This letter is to notify you that the City of Napa City Council will hold a Public Hearing at the regularly scheduled meeting on Tuesday, June 21 at 6:30 pm in the Council Chambers, City Hall, 955 School Street, Napa, to consider Adoption of the Urban Water Management Plan (UWMP) 2010 Update, a summary of City policies and procedures addressing water supply, demand, and conservation required by the California Department of Water Resources.

The Draft UWMP 2010 Update has been posted on the City's web site and hard copies made available for review at the Public Works Department, the Water Division, and the Napa City-County Library. I have enclosed a separate hard copy of the Draft UWMP 2010 Update for your department. Should you or your staff have any comments on the City of Napa's UWMP 2010 Update prior to the public hearing, please forward them to me at pcostello@cityofnapa.org. A final copy of the document will be filed with your agency no later than 30 days after adoption.

Immediately preceding the UWMP adoption hearing on June 21, a separate public hearing will consider adoption of a method for determining the City's 2020 Urban Water Use Target to comply with the Water Conservation Act of 2009 (SBx7-7).

Questions on the City of Napa UWMP adoption process or SBx7-7 compliance can be directed to me at (707) 257-9309 or pcostello@cityofnapa.org.

Sincerely,

Patrick Costello
Water Resources Analyst

CITY of NAPA
www.cityofnapa.org/water

PUBLIC WORKS DEPARTMENT
WATER DIVISION
1340 Clay Street
Mailing Address:
P.O. Box 660
Napa, California 94559-0660
(707) 257-9521
Fax (707) 258-7831

June 7, 2011

Donald G. Ridenhour
Director of Public Works
County of Napa
1195 Third Street, Room 201
Napa, CA 94559

Subject: **City of Napa Urban Water Management Plan Public Hearing**

Dear Mr. Ridenhour:

This letter is to notify you that the City of Napa City Council will hold a Public Hearing at the regularly scheduled meeting on Tuesday, June 21 at 6:30 pm in the Council Chambers, City Hall, 955 School Street, Napa, to consider Adoption of the Urban Water Management Plan (UWMP) 2010 Update, a summary of City policies and procedures addressing water supply, demand, and conservation required by the California Department of Water Resources.

The Draft UWMP 2010 Update has been posted on the City's web site and hard copies made available for review at the Public Works Department, the Water Division, and the Napa City-County Library. I have enclosed a separate hard copy of the Draft UWMP 2010 Update for your department. Should you or your staff have any comments on the City of Napa's UWMP 2010 Update prior to the public hearing, please forward them to me at pcostello@cityofnapa.org. A final copy of the document will be filed with your agency no later than 30 days after adoption.

Immediately preceding the UWMP adoption hearing on June 21, a separate public hearing will consider adoption of a method for determining the City's 2020 Urban Water Use Target to comply with the Water Conservation Act of 2009 (SBx7-7).

Questions on the City of Napa UWMP adoption process or SBx7-7 compliance can be directed to me at (707) 257-9309 or pcostello@cityofnapa.org.

Sincerely,

Patrick Costello
Water Resources Analyst

CITY of NAPA
www.cityofnapa.org/water

PUBLIC WORKS DEPARTMENT
WATER DIVISION
1340 Clay Street
Mailing Address:
P.O. Box 660
Napa, California 94559-0660
(707) 257-9521
Fax (707) 258-7831

June 7, 2011

Timothy Healy
General Manager
Napa Sanitation District
935 Hartle Court
Napa, CA 94559

Subject: **City of Napa Urban Water Management Plan Public Hearing**

Dear Mr. Healy:

This letter is to notify you that the City of Napa City Council will hold a Public Hearing at the regularly scheduled meeting on Tuesday, June 21 at 6:30 pm in the Council Chambers, City Hall, 955 School Street, Napa, to consider Adoption of the Urban Water Management Plan (UWMP) 2010 Update, a summary of City policies and procedures addressing water supply, demand, and conservation required by the California Department of Water Resources.

The Draft UWMP 2010 Update has been posted on the City's web site and hard copies made available for review at the Public Works Department, the Water Division, and the Napa City-County Library. I have enclosed a separate hard copy of the Draft UWMP 2010 Update for your department. Should you or your staff have any comments on the City of Napa's UWMP 2010 Update prior to the public hearing, please forward them to me at pcostello@cityofnapa.org. A final copy of the document will be filed with your agency no later than 30 days after adoption.

Immediately preceding the UWMP adoption hearing on June 21, a separate public hearing will consider adoption of a method for determining the City's 2020 Urban Water Use Target to comply with the Water Conservation Act of 2009 (SBx7-7).

Questions on the City of Napa UWMP adoption process or SBx7-7 compliance can be directed to me at (707) 257-9309 or pcostello@cityofnapa.org.

Sincerely,

Patrick Costello
Water Resources Analyst

CITY of NAPA
www.cityofnapa.org/water

PUBLIC WORKS DEPARTMENT
WATER DIVISION
1340 Clay Street
Mailing Address:
P.O. Box 660
Napa, California 94559-0660
(707) 257-9521
Fax (707) 258-7831

June 7, 2011

Michael W. Throne
Director of Public Works
City of American Canyon
4381 Broadway Street, Suite 201
American Canyon, CA 94503

Subject: **City of Napa Urban Water Management Plan Public Hearing**

Dear Mr. Throne:

This letter is to notify you that the City of Napa City Council will hold a Public Hearing at the regularly scheduled meeting on Tuesday, June 21 at 6:30 pm in the Council Chambers, City Hall, 955 School Street, Napa, to consider Adoption of the Urban Water Management Plan (UWMP) 2010 Update, a summary of City policies and procedures addressing water supply, demand, and conservation required by the California Department of Water Resources.

The Draft UWMP 2010 Update has been posted on the City's web site and hard copies made available for review at the Public Works Department, the Water Division, and the Napa City-County Library. I have enclosed a separate hard copy of the Draft UWMP 2010 Update for your department. Should you or your staff have any comments on the City of Napa's UWMP 2010 Update prior to the public hearing, please forward them to me at pcostello@cityofnapa.org. A final copy of the document will be filed with your agency no later than 30 days after adoption.

Immediately preceding the UWMP adoption hearing on June 21, a separate public hearing will consider adoption of a method for determining the City's 2020 Urban Water Use Target to comply with the Water Conservation Act of 2009 (SBx7-7).

Questions on the City of Napa UWMP adoption process or SBx7-7 compliance can be directed to me at (707) 257-9309 or pcostello@cityofnapa.org.

Sincerely,

Patrick Costello
Water Resources Analyst

CITY of NAPA
www.cityofnapa.org/water

PUBLIC WORKS DEPARTMENT
WATER DIVISION
1340 Clay Street
Mailing Address:
P.O. Box 660
Napa, California 94559-0660
(707) 257-9521
Fax (707) 258-7831

June 7, 2011

Graham Wadsworth
Public Works Director/Town Engineer
Town of Yountville
6550 Yount Street
Yountville, CA 94599

Subject: **City of Napa Urban Water Management Plan Public Hearing**

Dear Mr. Wadsworth:

This letter is to notify you that the City of Napa City Council will hold a Public Hearing at the regularly scheduled meeting on Tuesday, June 21 at 6:30 pm in the Council Chambers, City Hall, 955 School Street, Napa, to consider Adoption of the Urban Water Management Plan (UWMP) 2010 Update, a summary of City policies and procedures addressing water supply, demand, and conservation required by the California Department of Water Resources.

The Draft UWMP 2010 Update has been posted on the City's web site and hard copies made available for review at the Public Works Department, the Water Division, and the Napa City-County Library. I have enclosed a separate hard copy of the Draft UWMP 2010 Update for your department. Should you or your staff have any comments on the City of Napa's UWMP 2010 Update prior to the public hearing, please forward them to me at pcostello@cityofnapa.org. A final copy of the document will be filed with your agency no later than 30 days after adoption.

Immediately preceding the UWMP adoption hearing on June 21, a separate public hearing will consider adoption of a method for determining the City's 2020 Urban Water Use Target to comply with the Water Conservation Act of 2009 (SBx7-7).

Questions on the City of Napa UWMP adoption process or SBx7-7 compliance can be directed to me at (707) 257-9309 or pcostello@cityofnapa.org.

Sincerely,

Patrick Costello
Water Resources Analyst

CITY of NAPA
www.cityofnapa.org/water

PUBLIC WORKS DEPARTMENT
WATER DIVISION
1340 Clay Street
Mailing Address:
P.O. Box 660
Napa, California 94559-0660
(707) 257-9521
Fax (707) 258-7831

June 7, 2011

John Ferons
Director of Public Works
City of St. Helena
1480 Main Street
St. Helena, CA 94574

Subject: **City of Napa Urban Water Management Plan Public Hearing**

Dear Mr. Ferons:

This letter is to notify you that the City of Napa City Council will hold a Public Hearing at the regularly scheduled meeting on Tuesday, June 21 at 6:30 pm in the Council Chambers, City Hall, 955 School Street, Napa, to consider Adoption of the Urban Water Management Plan (UWMP) 2010 Update, a summary of City policies and procedures addressing water supply, demand, and conservation required by the California Department of Water Resources.

The Draft UWMP 2010 Update has been posted on the City's web site and hard copies made available for review at the Public Works Department, the Water Division, and the Napa City-County Library. I have enclosed a separate hard copy of the Draft UWMP 2010 Update for your department. Should you or your staff have any comments on the City of Napa's UWMP 2010 Update prior to the public hearing, please forward them to me at pcostello@cityofnapa.org. A final copy of the document will be filed with your agency no later than 30 days after adoption.

Immediately preceding the UWMP adoption hearing on June 21, a separate public hearing will consider adoption of a method for determining the City's 2020 Urban Water Use Target to comply with the Water Conservation Act of 2009 (SBx7-7).

Questions on the City of Napa UWMP adoption process or SBx7-7 compliance can be directed to me at (707) 257-9309 or pcostello@cityofnapa.org.

Sincerely,

Patrick Costello
Water Resources Analyst

CITY of NAPA
www.cityofnapa.org/water

PUBLIC WORKS DEPARTMENT
WATER DIVISION
1340 Clay Street
Mailing Address:
P.O. Box 660
Napa, California 94559-0660
(707) 257-9521
Fax (707) 258-7831

June 7, 2011

Dan Takasugi
Public Works Director/City Engineer
City of Calistoga
414 Washington Street
Calistoga, CA 94515

Subject: **City of Napa Urban Water Management Plan Public Hearing**

Dear Mr. Takasugi:

This letter is to notify you that the City of Napa City Council will hold a Public Hearing at the regularly scheduled meeting on Tuesday, June 21 at 6:30 pm in the Council Chambers, City Hall, 955 School Street, Napa, to consider Adoption of the Urban Water Management Plan (UWMP) 2010 Update, a summary of City policies and procedures addressing water supply, demand, and conservation required by the California Department of Water Resources.

The Draft UWMP 2010 Update has been posted on the City's web site and hard copies made available for review at the Public Works Department, the Water Division, and the Napa City-County Library. I have enclosed a separate hard copy of the Draft UWMP 2010 Update for your department. Should you or your staff have any comments on the City of Napa's UWMP 2010 Update prior to the public hearing, please forward them to me at pcostello@cityofnapa.org. A final copy of the document will be filed with your agency no later than 30 days after adoption.

Immediately preceding the UWMP adoption hearing on June 21, a separate public hearing will consider adoption of a method for determining the City's 2020 Urban Water Use Target to comply with the Water Conservation Act of 2009 (SBx7-7).

Questions on the City of Napa UWMP adoption process or SBx7-7 compliance can be directed to me at (707) 257-9309 or pcostello@cityofnapa.org.

Sincerely,

Patrick Costello
Water Resources Analyst

Costello, Patrick

From: Martin, Barry
Sent: Thursday, June 16, 2011 2:19 PM
To: Everybody
Subject: Construction update; Water management plan news - City of Napa NewsWeekly 6-16-11

CITY of NAPA
NewsWeekly

"The latest from City Hall and your neighborhood." www.c

[City of Napa News Archive]

Quick Links

- Agendas and Minutes
- Online Police Reports
- Service Center
- Video on Demand
- City of Napa News
- Permits and Licenses
- Municipal Code
- Search Public Records
- Maps
- Zoning and Project Information

Online Service Center makes it easy to get information and results
The Service Center is an online communication tool that enables any person to:

- Explore our Knowledge Base of Frequently Asked Questions (FAQ)
- Submit a specific question to City staff assigned to topic areas
- Enter a service request for specific activities performed by City staff
- Track the questions and service requests you have submitted

Visit the Service Center by using this link, or from any computer, PDA or other de access, go to www.cityofnapa.org and click on any *Service Center* link you find. page, look in the upper left part of the screen.

Urban Water Management Plan update
The draft of the City of Napa Urban Water Management Plan (UWMP) 2010 Upd available for review in advance of a public hearing scheduled for June 21. The d online at www.cityofnapa.org/water and printed hard copies may be viewed at th 1340 Clay Street, the Public Works Department, 1600 First Street, and the Napa Library, 580 Coombs Street. (Read more)

Survey on urgent communications continues
When an emergency occurs, it's critically important that local government can co effectively with residents and businesses. The City of Napa is conducting a surve ways to get the word out. Follow this link to take this brief, five question survey. menu to select your language. The WARN system, one of the methods used for

Water Conservation Act of 2009 (SBx7-7)

June 21, 2011

GOAL: 20% reduction in urban *per capita* water use statewide by 2020

2007-2009 Drought → Governor's "20x2020" Initiative

November 2009 Comprehensive Water Package (Special Session)
→ **SBx7-7** enacts version of "20x2020" into State law
Requires all urban suppliers to increase water use efficiency

SBx7-7 Compliance

- Baseline Daily Per Capita Water Use
- **2020 Urban Water Use Target**, 2015 Interim Target
- Reporting in Urban Water Management Plans (UWMPs)
  → UWMP 2010 deadline extended to July 1, 2011
- **Public Hearing**
  - Target Method Selection
  - General Implementation Plan
  - Potential Economic Impacts

Effective 2016:
SBx7-7 compliance determines eligibility for State water grants & loans

$

Baseline Daily Per Capita Water Use

10-Year Average Gallons Per Capita Per Day (GPCD)
(10-year period ending no earlier than 2004)

Department of Water Resources (DWR) Methodology:

- **Gross Water Use** =
  Treatment Plant Production – Exports – Agricultural
- **Service Area Population** =
  City Limits Population
  + (Outside City Households X Persons Per Household)
  + Napa State Hospital Residents

City of Napa Baseline = 164.9 GPCD
Based on 1995-2004 10-Year Period

2020 Target Method Selection

METHOD 1
80% of Baseline

- Simple to understand, calculate, document
- Offers full flexibility in implementation
- Compatible with California Urban Water Conservation Council MOU Compliance

METHOD 2
Performance Standards

- Efficiency Standards for
  - Indoor Residential
  - Landscape Irrigation
  - Commercial/Industrial/Institutional
- Data- and Labor-Intensive
- Favors agencies expecting decreasing commercial use

METHOD 3
95% of Region Target

- Simple to understand, calculate, document
- SF Bay Hydrologic Region Target in 20x2020 Plan
- Stringent 124.5 GPCD target in 2020, easier for coastal cities, dense urban

METHOD 4
Water Sectors

- Developed by DWR late in process, released Feb 2011
- Data- and Labor-Intensive
- Favors agencies expecting decreasing commercial use
- Useful for agencies with unmetered connections

Method 1

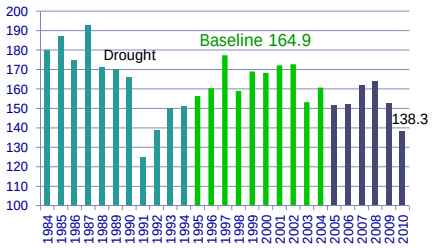
Recommended based on flexibility, ease of implementation, consistency with ongoing City water conservation efforts,

would establish the following Urban Water Use Targets for the City of Napa:

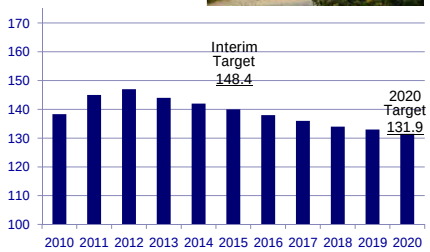
Time Period	GPCD
10-Year Base (1995-2004)	164.9
Actual 2010	138.3
2015 Interim Target	148.4
2020 Target	**131.9**

GPCD Trends

History 1984-2010



Path to 2020



How Do We Get There?

Continue/adapt our successful 3-pronged approach...

New Development Water Efficiency

- High Performance Building Regulations
  - More stringent than *CAL*Green
- Water Efficient Landscape Ordinance
  - Adherence to 60% of ETo Budget
- Water Offset Requirement
  - Transition from toilets to landscape

...SB 407 will upgrade existing structures

Recycled Water Conversions

- 1998 Agreement w/Napa Sanitation Dist.
  - 300 AF annual savings so far
- New Napa Sanitation District Policy identifies **750 AF** additional commitments
  - Includes 200-250 AF for Napa State Hospital, pipeline under construction
- Some may offset new commercial development (e.g., Stanly Ranch)

Conservation Services, Rebates

- Continue Toilet, Urinal, Washer incentives
  - Shift funds to landscape over time
- Accelerate Landscape Irrigation Audit and "Cash For Grass" Programs
  - Add Smart Controller and Irrigation Hardware Rebates
- Train local Landscape Professionals
  - Bay-Friendly, QWEL
- Graywater Reuse, Rainwater Harvesting
  - Education, possible incentives
- Tracking for Program Effectiveness
- Use of Grant Funding to minimize costs

...plus
Water Conserving
Rate Structure

SBx7-7 Economic Impacts

- **City**: No effect on annual Water Conservation Budget
  - Funds will be *shifted* from indoor to outdoor programs over time
  - Grant funding will be sought to minimize costs (e.g., Prop 84)
- **Water Customers**: Potential Rate Impact
  - Lower demand projections a factor in Cost of Service Water Rate Study
  - Rate changes may be required as a result of the Study
  - Impact minimized by taking advantage of City conservation incentives
- **Developers**: Status Quo
  - Fees and costs associated with High Performance Building, Water Efficient Landscaping, Water Offset Requirement are pre-existing, independent of SBx7-7

SBx7-7 Compliance Flexibility

- **City may change its Target and Method in 2015**
- **Compliance GPCD may be adjusted based on:**
  - Differences in ET and rainfall vs. Baseline Period
  - Substantial increases in Commercial or Industrial water use resulting from increased business output, economic development
  - Substantial changes to Institutional water use resulting from fire suppression or other extraordinary events, or from new or expanded operations

Recommended Actions

June 21, 2011

- Adopt Resolution approving the use of Method 1 to determine the City's 2020 Urban Water Use Target and 2015 Interim Urban Water Use Target in compliance with the Water Conservation Act of 2009 (SBx7-7).
  - thereby authorizing its inclusion in the City's Urban Water Management Plan 2010 Update

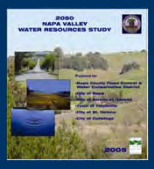
City of Napa
Urban Water Management Plan 2010 Update
(UWMP 2010)

City Council – Public Hearing
June 21, 2011

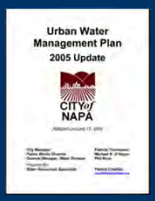
UWMP

- Urban Suppliers: >3,000 customers or >3,000 AF
- Submit Complete Plan to State DWR every 5 years
- Retain Eligibility for State water grants and loans (e.g., Prop 84)
- CHANGES since UWMP 2005:
  - Show full compliance with Water Conservation MOU
  - SBx7-7 GPCD Target; deadline extended to July 1
  - Population projections, State Water Project reliability
- Public Notice: CA Government Code Section 6066

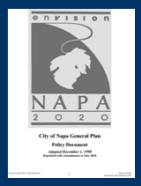
Development and Coordination



2050 Study

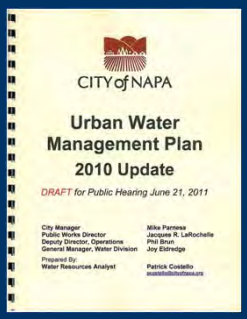


UWMP 2005



General Plan

SWP Reliability 2009



UWMP 2010

Water Supply Sources, Reliability

(UWMP 2010 Chapters 3, 4)

- Lake Hennessey
  - 31,000 AF Storage
- Milliken Reservoir
  - 1,390 AF Storage/700 AF Yield
- State Water Project (NBA)
  - 21,900 AF Entitlement
    - St. Helena, Yountville Purchases
  - Delivery estimates lowered due to Delta issues (7% Single-Dry Year)
- Total Reliable Supplies in 2020:

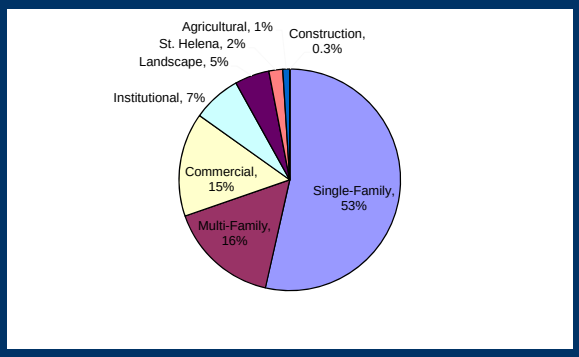
Normal Year	31,340 AF
Multiple-Dry Year	19,896 AF
Single-Dry Year	13,533 AF

Water Demand and Conservation

(UWMP 2010 Chapter 5)

Since 2005:

Total Annual Demand on the City of Napa Water System has ranged from 13,877 AF to 16,123 AF



- City "On Track" for all Conservation BMPs, GPCD (App. C)
- Demand projected to remain <15,000 AF through 2035 (SBx7-7 compliance)

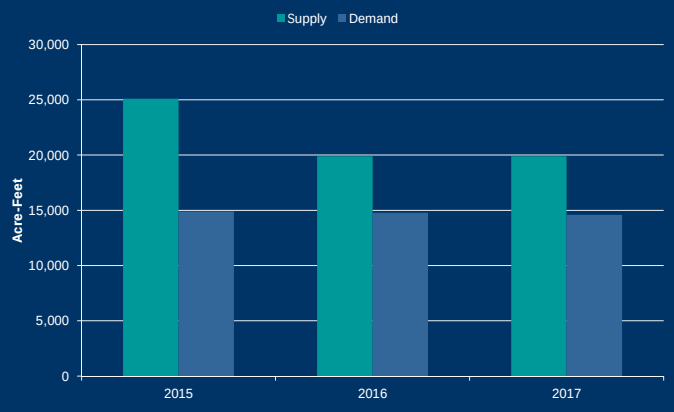
Supply vs. Demand (UWMP 2010 Chapter 7)

Normal Year Scenario

Healthy Surpluses 52-55% of Supply are Projected

Supply vs. Demand (UWMP 2010 Chapter 7)

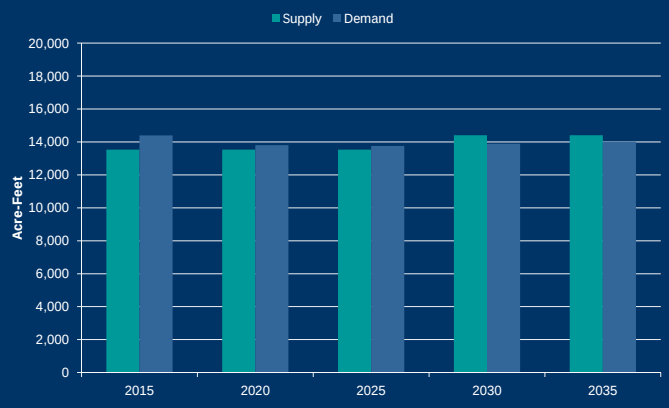
Multiple-Dry Year Scenario (e.g., 2015-2017)



Surpluses of at least 25% of Supply are Projected

Supply vs. Demand (UWMP 2010 Chapter 7)

Single-Dry Year Scenario



- Tight supply-demand situation for the most critical Single-Dry Year
- Shortfalls of 2-6% through 2025 w/conservative supply assumptions

Recommended Actions

- Adopt Resolution adopting the UWMP 2010 Update, a summary of City policies and procedures addressing water supply, demand, and conservation required the State Department of Water Resources.
  - Water Division to file Final UWMP 2010 with DWR and local agencies within 30 days of Adoption, make available for Public Review

CITY of NAPA
www.cityofnapa.org/water

PUBLIC WORKS DEPARTMENT
WATER DIVISION
1340 Clay Street
Mailing Address:
P.O. Box 660
Napa, California 94559-0660
(707) 257-9521
Fax (707) 258-7831

July 6, 2011

Attention: Coordinator, Urban Water Management Plans
Department of Water Resources
Statewide Integrated Water Management
Water Use and Efficiency Branch
PO Box 942836
Sacramento, CA 94236-0001

Subject: **City of Napa Urban Water Management Plan 2010**

Dear Coordinator:

On June 21, 2011, the Napa City Council passed Resolution R2011 95 adopting the 2010 update of the City's Urban Water Management Plan (UWMP). As required under State Water Code Section 10644(a), the City of Napa hereby files this UWMP 2010 update with the Department of Water Resources. One bound hard copy is enclosed, along with a CD-ROM containing a PDF electronic version. An additional hard copy has been forwarded to the California State Library.

Should you or your staff have any questions, feel free to contact me at pcostello@cityofnapa.org or (707) 257-9309.

Sincerely,

Patrick Costello
Water Resources Analyst

Enclosures

CITY of NAPA
www.cityofnapa.org/water

PUBLIC WORKS DEPARTMENT
WATER DIVISION
1340 Clay Street
Mailing Address:
P.O. Box 660
Napa, California 94559-0660
(707) 257-9521
Fax (707) 258-7831

July 6, 2011

Attention: Coordinator, Urban Water Management Plans
California State Library
Government Publications Section
PO Box 942837
Sacramento, CA 94237-0001

Subject: **City of Napa Urban Water Management Plan 2010**

Dear Coordinator:

On June 21, 2011, the Napa City Council passed Resolution R2011 95 adopting the 2010 update of the City's Urban Water Management Plan (UWMP). As required under State Water Code Section 10644(a), the City of Napa hereby files this UWMP 2010 update with the California State Library. One bound hard copy is enclosed. An additional hard copy and an electronic version have been filed with the Department of Water Resources.

Please contact me at pcostello@cityofnapa.org or (707) 257-9309 if there are any questions.

Sincerely,

Patrick Costello
Water Resources Analyst

Enclosure

CITY of NAPA
www.cityofnapa.org/water

PUBLIC WORKS DEPARTMENT
WATER DIVISION
1340 Clay Street
Mailing Address:
P.O. Box 660
Napa, California 94559-0660
(707) 257-9521
Fax (707) 258-7831

July 6, 2011

John McDowell
Deputy Planning Director
County of Napa
1195 Third Street, Suite 210
Napa, CA 94559

Subject: **ADOPTED City of Napa Urban Water Management Plan 2010**

Dear Mr. McDowell:

On June 21, 2011, the Napa City Council passed Resolution R2011 95 adopting the 2010 update of the City's Urban Water Management Plan (UWMP). As required under State Water Code Sections 10635(b) and 10644(a), the City of Napa hereby files this UWMP 2010 update with the County of Napa. One bound hard copy is enclosed. An electronic version is posted on our web site, www.cityofnapa.org/water.

This adopted version of UWMP 2010 has been filed with the Department of Water Resources. It replaces the draft version that was sent to your office last month.

Should you or your staff have any questions, feel free to contact me at pcostello@cityofnapa.org or 257-9309.

Sincerely,

Patrick Costello
Water Resources Analyst

Enclosure

CITY of NAPA
www.cityofnapa.org/water

PUBLIC WORKS DEPARTMENT
WATER DIVISION
1340 Clay Street
Mailing Address:
P.O. Box 660
Napa, California 94559-0660
(707) 257-9521
Fax (707) 258-7831

July 6, 2011

Donald G. Ridenhour
Director of Public Works
County of Napa
1195 Third Street, Room 201
Napa, CA 94559

Subject: **ADOPTED City of Napa Urban Water Management Plan 2010**

Dear Mr. Ridenhour:

On June 21, 2011, the Napa City Council passed Resolution R2011 95 adopting the 2010 update of the City's Urban Water Management Plan (UWMP). As required under State Water Code Sections 10635(b) and 10644(a), the City of Napa hereby files this UWMP 2010 update with the County of Napa. One bound hard copy is enclosed. An electronic version is posted on our web site, www.cityofnapa.org/water.

This adopted version of UWMP 2010 has been filed with the Department of Water Resources. It replaces the draft version that was sent to your office last month.

Should you or your staff have any questions, feel free to contact me at pcostello@cityofnapa.org or 257-9309.

Sincerely,

Patrick Costello
Water Resources Analyst

Enclosure

CITY of NAPA
www.cityofnapa.org/water

PUBLIC WORKS DEPARTMENT
WATER DIVISION
1340 Clay Street
Mailing Address:
P.O. Box 660
Napa, California 94559-0660
(707) 257-9521
Fax (707) 258-7831

July 6, 2011

Timothy Healy
General Manager
Napa Sanitation District
935 Hartle Court
Napa, CA 94559

Subject: **ADOPTED City of Napa Urban Water Management Plan 2010**

Dear Mr. Healy:

On June 21, 2011, the Napa City Council passed Resolution R2011 95 adopting the 2010 update of the City's Urban Water Management Plan (UWMP). As required under State Water Code Sections 10635(b) and 10644(a), the City of Napa hereby files this UWMP 2010 update with the Napa Sanitation District. One bound hard copy is enclosed. An electronic version is posted on our web site, www.cityofnapa.org/water.

This adopted version of UWMP 2010 has been filed with the Department of Water Resources. It replaces the draft version that was sent to your office last month.

Should you or your staff have any questions, feel free to contact me at pcostello@cityofnapa.org or 257-9309.

Sincerely,

Patrick Costello
Water Resources Analyst

Enclosure

CITY of NAPA
www.cityofnapa.org/water

PUBLIC WORKS DEPARTMENT
WATER DIVISION
1340 Clay Street
Mailing Address:
P.O. Box 660
Napa, California 94559-0660
(707) 257-9521
Fax (707) 258-7831

July 6, 2011

Michael W. Throne
Director of Public Works
City of American Canyon
4381 Broadway Street, Suite 201
American Canyon, CA 94503

Subject: **ADOPTED City of Napa Urban Water Management Plan 2010**

Dear Mr. Throne:

On June 21, 2011, the Napa City Council passed Resolution R2011 95 adopting the 2010 update of the City's Urban Water Management Plan (UWMP). As required under State Water Code Sections 10635(b) and 10644(a), the City of Napa hereby files this UWMP 2010 update with the City of American Canyon. One bound hard copy is enclosed. An electronic version is posted on our web site, www.cityofnapa.org/water.

This adopted version of UWMP 2010 has been filed with the Department of Water Resources. It replaces the draft version that was sent to your office last month.

Should you or your staff have any questions, feel free to contact me at pcostello@cityofnapa.org or 257-9309.

Sincerely,

Patrick Costello
Water Resources Analyst

Enclosure

CITY of NAPA
www.cityofnapa.org/water

PUBLIC WORKS DEPARTMENT
WATER DIVISION
1340 Clay Street
Mailing Address:
P.O. Box 660
Napa, California 94559-0660
(707) 257-9521
Fax (707) 258-7831

July 6, 2011

Graham Wadsworth
Public Works Director/Town Engineer
Town of Yountville
6550 Yount Street
Yountville, CA 94599

Subject: **ADOPTED City of Napa Urban Water Management Plan 2010**

Dear Mr. Wadsworth:

On June 21, 2011, the Napa City Council passed Resolution R2011 95 adopting the 2010 update of the City's Urban Water Management Plan (UWMP). As required under State Water Code Sections 10635(b) and 10644(a), the City of Napa hereby files this UWMP 2010 update with the Town of Yountville. One bound hard copy is enclosed. An electronic version is posted on our web site, www.cityofnapa.org/water.

This adopted version of UWMP 2010 has been filed with the Department of Water Resources. It replaces the draft version that was sent to your office last month.

Should you or your staff have any questions, feel free to contact me at pcostello@cityofnapa.org or 257-9309.

Sincerely,

Patrick Costello
Water Resources Analyst

Enclosure

CITY of NAPA
www.cityofnapa.org/water

PUBLIC WORKS DEPARTMENT
WATER DIVISION
1340 Clay Street
Mailing Address:
P.O. Box 660
Napa, California 94559-0660
(707) 257-9521
Fax (707) 258-7831

July 6, 2011

John Ferons
Director of Public Works
City of St. Helena
1480 Main Street
St. Helena, CA 94574

Subject: **ADOPTED City of Napa Urban Water Management Plan 2010**

Dear Mr. Ferons:

On June 21, 2011, the Napa City Council passed Resolution R2011 95 adopting the 2010 update of the City's Urban Water Management Plan (UWMP). As required under State Water Code Sections 10635(b) and 10644(a), the City of Napa hereby files this UWMP 2010 update with the City of St. Helena. One bound hard copy is enclosed. An electronic version is posted on our web site, www.cityofnapa.org/water.

This adopted version of UWMP 2010 has been filed with the Department of Water Resources. It replaces the draft version that was sent to your office last month.

Should you or your staff have any questions, feel free to contact me at pcostello@cityofnapa.org or 257-9309.

Sincerely,

Patrick Costello
Water Resources Analyst

Enclosure

CITY of NAPA
www.cityofnapa.org/water

PUBLIC WORKS DEPARTMENT
WATER DIVISION
1340 Clay Street
Mailing Address:
P.O. Box 660
Napa, California 94559-0660
(707) 257-9521
Fax (707) 258-7831

July 6, 2011

Dan Takasugi
Public Works Director/City Engineer
City of Calistoga
414 Washington Street
Calistoga, CA 94515

Subject: **ADOPTED City of Napa Urban Water Management Plan 2010**

Dear Mr. Takasugi:

On June 21, 2011, the Napa City Council passed Resolution R2011 95 adopting the 2010 update of the City's Urban Water Management Plan (UWMP). As required under State Water Code Sections 10635(b) and 10644(a), the City of Napa hereby files this UWMP 2010 update with the City of Calistoga. One bound hard copy is enclosed. An electronic version is posted on our web site, www.cityofnapa.org/water.

This adopted version of UWMP 2010 has been filed with the Department of Water Resources. It replaces the draft version that was sent to your office last month.

Should you or your staff have any questions, feel free to contact me at pcostello@cityofnapa.org or 257-9309.

Sincerely,

Patrick Costello
Water Resources Analyst

Enclosure

APPENDIX B

CITY COUNCIL ADOPTION

Included in this Appendix are the following documents:

- **Resolution Approving SBx7-7 Target Method**
- **Resolution Adopting the UWMP 2010 Update**
- **Agenda Summary Reports for June 21, 2011**
- **City Council Meeting Agenda, June 21, 2011**
- **Preliminary Summary of Actions, June 21, 2011**

RESOLUTION R2011 94

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF NAPA, STATE OF CALIFORNIA, APPROVING THE USE OF METHOD ONE TO DETERMINE THE CITY'S 2020 URBAN WATER USE TARGET AND 2015 INTERIM URBAN WATER USE TARGET IN COMPLIANCE WITH THE WATER CONSERVATION ACT OF 2009 (SBX7-7)

WHEREAS, the Water Conservation Act of 2009 (SBx7-7) requires each urban retail water supplier serving more than 3,000 customers or supplying more than 3,000 acre-feet annually to develop an urban water use target for the year 2020 and an interim water use target for the year 2015; and

WHEREAS, the City must adopt one of four methods outlined in California Water Code 10608.20(b) for determining urban and interim urban water use targets; and

WHEREAS, the City has considered each of the four methods for calculating its urban and interim urban water use targets; and

WHEREAS, "Method One" outlined in California Water Code Section 10608.20(b)(1) is based on eighty percent of the City's base daily per capita water use for the ten-year period 1995-2004 and provides flexibility, ease of implementation, and credit for past conservation; and

WHEREAS, a Public Hearing was held by the City Council on June 21, 2011 to receive public comments regarding the urban water use target methods, SBx7-7 implementation, and potential economic impacts just prior to this vote; and

WHEREAS, the City Council has considered all information related to this matter, as presented at the public meetings of the City Council identified herein, including supporting reports by City Staff, and information provided during public meetings.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Napa, as follows:

1. The City Council hereby finds that the facts set forth in the recitals to this Resolution are true and correct, and establish the factual basis for the City Council's adoption of this Resolution.

2. The City Council hereby determines that the Recommended Action is not a project as defined in Section 15378 of the CEQA Guidelines, which defines a project as an action that has a potential for resulting in either a direct physical change in the environment or a reasonably foreseeable indirect physical change.

3. The City Council hereby approves the use of Method One as outlined in California Water Code Section 10608.20(b)(1) to determine the City's urban water use target.

4. The City Council hereby authorizes the urban water use target determined by Method One for inclusion in the City's Urban Water Management Plan 2010 Update.

5. This Resolution shall take effect immediately upon its adoption.

I HEREBY CERTIFY that the foregoing Resolution was duly adopted by the City Council of the City of Napa at a public meeting of said City Council held on the 21st day of June, 2011, by the following vote:

AYES: van Gorder, Krider, Inman, Krider, Techel

NOES: None

ABSENT: None

ABSTAIN: None

ATTEST: Dorothy Roberts
Dorothy Roberts
City Clerk

Approved as to form:

Michael W. Barrett
City Attorney

RESOLUTION R2011 95

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF NAPA, STATE OF CALIFORNIA, ADOPTING THE URBAN WATER MANAGEMENT PLAN 2010 UPDATE, A SUMMARY OF CITY POLICIES AND PROCEDURES ADDRESSING WATER SUPPLY, DEMAND, AND CONSERVATION REQUIRED BY THE STATE DEPARTMENT OF WATER RESOURCES

WHEREAS, California's Urban Water Management Planning Act requires urban water suppliers serving more than 3,000 customers or supplying more than 3,000 acre-feet annually to develop an Urban Water Management Plan and submit a complete update to the State Department of Water Resources every five years; and

WHEREAS, the City's Urban Water Management Plan 2010 Update has been drafted to address all changes in the Urban Water Management Planning Act since 2005, including incorporation of documentation regarding the City's compliance with the Water Conservation Act of 2009 (SBx7-7); and

WHEREAS, public notification of the completion and availability of the Urban Water Management Plan 2010 Update was completed pursuant to Section 6066 of the Government Code; and

WHEREAS, a Public Hearing was held by the City Council on June 21, 2011 to receive public comments regarding the Urban Water Management Plan 2010 Update prior to this vote; and

WHEREAS, the City Council has considered all information related to this matter, as presented at the public meetings of the City Council identified herein, including supporting reports by City Staff, and information provided during public meetings.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Napa, as follows:

1. The City Council hereby finds that the facts set forth in the recitals to this Resolution are true and correct, and establish the factual basis for the City Council's adoption of this Resolution.

2. The City Council hereby determines that the Recommended Action is exempt from the California Environmental Quality Act (CEQA) pursuant to California Water Code 10652, which exempts the preparation and adoption of urban water management plans from the requirements of CEQA.

3. The City Council hereby adopts the Urban Water Management Plan 2010 Update of the City of Napa and authorizes and directs the Public Works Director to file

the Urban Water Management Plan 2010 Update with the State Department of Water Resources and the State Library.

4. This Resolution shall take effect immediately upon its adoption.

I HEREBY CERTIFY that the foregoing Resolution was duly adopted by the City Council of the City of Napa at a public meeting of said City Council held on the 21st day of June, 2011, by the following vote:

AYES: van Gorder, Mott, Krider, Inman, Techel

NOES: None

ABSENT: None

ABSTAIN: None

ATTEST: Dorothy Roberts
Dorothy Roberts
City Clerk

Approved as to form:

Michael W. Barrett
City Attorney

CITY OF NAPA CITY COUNCIL
AGENDA REPORT

PUBLIC HEARING
AGENDA ITEM 30.A.
Date: June 21, 2011

To: Honorable Mayor and Members of City Council

From: Jacques R. LaRochelle, Public Works Director

Prepared by: Patrick Costello, Water Resources Analyst

Subject: 2020 Urban Water Use Target

ISSUE STATEMENT:

Adopt a resolution approving use of a method to determine the City's 2020 Urban Water Use Target in compliance with the Water Conservation Act of 2009 (SBx7-7).

DISCUSSION:

The Water Conservation Act of 2009 (SBx7-7) was passed in November 2009 as part of a comprehensive package addressing the Sacramento-San Joaquin Delta and overall state water supply reliability issues. For urban water agencies, SBx7-7 essentially enacts an earlier "20x2020" state water conservation initiative. The law seeks to achieve a 20% reduction in urban per capita water use statewide by 2020, and an interim 10% reduction by 2010. Agencies are required to include the new SBx7-7 compliance information in their Urban Water Management Plan (UWMP) 2010 Update, and hold a hearing to allow public input into SBx7-7 target setting, implementation, and potential economic impacts.

In addressing SBx7-7, water agencies are offered flexibility in determining their 2020 Urban Water Use Target, providing them with an ability to receive some credit for water conservation already achieved. Also, a water supplier reserves the right to revise its chosen method of selecting a target in its 2015 UWMP Update. An agency cannot change target methods after its 2015 UWMP has been submitted. Effective 2016, water suppliers who do not comply with SBx7-7 water conservation requirements are not eligible for state water grants or loans. Currently, grant and loan eligibility is tied to compliance with AB 1420, which requires implementation of water conservation Best Management Practices. The City of Napa was recently declared AB 1420-compliant in conjunction with a 2011 Proposition 84 grant application.

As explained in depth in Attachment 2, an excerpted section from the City's Draft UWMP 2010 Update, there are four methods available for determining an agency's SBx7-7 Urban Water Use Target. Method One would have the City meet a target of 131.9 gallons per capita per day (GPCD) in 2020, offer full flexibility in achieving the target, and be compatible with existing water conservation plans and practices. For reference, the City's actual GPCD for 2010 was 138.3. Method Three would require the

City meet a more difficult target of 124.5 GPCD in 2020 because it is tied to the San Francisco Bay hydrologic region that includes coastal communities with naturally lower irrigation needs. Methods Two and Four require meeting efficiency performance standards for individual customer sectors, and are best suited for communities projecting a decline in commercial water use. Upon evaluating the four methods, staff recommend that Method One be adopted, establishing a 2020 Target of 131.9 GPCD and a 2015 Interim Target of 148.4 for the City.

With a GPCD of 138.3 in 2010, the City met the 2015 target and is less than 5% away from meeting its 2020 target; however, the very low per capita water use in 2010 was influenced by factors other than established conservation. Reduced economic activity, an extended rainy season, and a mild summer all served to suppress demand. The City expects water demand to rise over the next two years as hotel occupancies increase and the overall economy improves.

To continue its path of GPCD reduction to 2020, the City does not plan a radical departure from existing practices, but more of a transition to tap into the large potential savings in landscape irrigation. With an estimated 7,000 acre-feet of potable water used in Napa landscapes each year, just a 15% savings there could address the demand reduction needed to meet the 2020 target. Overall, the City will continue to rely on the three-pronged strategy that has achieved an approximately 1,500 AF reduction in annual water demand compared with the 1997-2002 period preceding our conservation program expansion. The first is to maximize the water efficiency of new development to minimize its impact on demand. The second is to offer existing water customers an array of free services, generous rebates, and education so that older high-water-use equipment and behaviors are replaced with water-efficient ones. The third is to support the continued expansion of NSD recycled water use for irrigation. In addition, changes in the water billing rate structure to inclining tiers could potentially drive conservation more effectively than the City's current uniform volumetric rate.

FINANCIAL IMPACTS:

No major impact on the annual water conservation budget is expected, as funds will gradually be shifted into more effective landscape programs away from existing indoor programs, and regional grant funding will be sought. The reduced future water demand associated with SBx7-7 compliance is one of many factors considered in a 2011 Cost of Service Water Rate Study for the City (Study.) Staff will present results of the Study at the Council workshop in July and based on the results of that meeting will return to Council in August to request authorization to adjust water rates and to issue a public notification in accordance with Proposition 218.

Lower demand projections cause lower revenue projections. However, lower demands do not equitably correspond to reduced costs to operate and maintain the system. The size of the water system is driven by the need to meet fire flow demands and is unaltered by reduced daily consumption and conservation practices. Rate changes resulting from the Study may cause higher bills for some water customers to meet revenue requirements and maintain the ability to fund essential water system operations and critical investment in capital improvements. The rate structure will retain a strong financial incentive for conservation.

CEQA:

City staff recommends that the City Council determine that the Recommended Action is not a project as defined in Section 15378 of the California Environmental Quality Act (CEQA) Guidelines, which defines a project as an action that has a potential for resulting in either a direct physical change in the environment or a reasonably foreseeable indirect physical change.

DOCUMENTS ATTACHED:

1. Attachment 1: Resolution approving the use of Method One to determine the City's urban water use targets in compliance with SBx7-7.

2. Attachment 2: Excerpt Section 5.3 from the Draft Urban Water Management Plan 2010 Update.

NOTIFICATION:

Legal notice of public hearing published in the Napa Valley Register on June 7, 2011 and June 14, 2011.

RECOMMENDED ACTION:

Staff recommends that the City Council move, second and approve each of the actions set forth below, in the form of the following motion. Move to:

> Adopt a resolution approving the use of Method One to determine the City's 2020 Urban Water Use Target and 2015 Interim Urban Water Use Target in compliance with the Water Conservation Act of 2009 (SBx7-7).

CITY OF NAPA CITY COUNCIL
AGENDA REPORT

PUBLIC HEARING
AGENDA ITEM 30.B.
Date: June 21, 2011

To: Honorable Mayor and Members of City Council

From: Jacques R. LaRochelle, Public Works Director

Prepared by: Patrick Costello, Water Resources Analyst

Subject: Urban Water Management Plan 2010 Update

ISSUE STATEMENT:

Adopt a resolution adopting the Urban Water Management Plan 2010 Update, a summary of City policies and procedures addressing water supply, demand, and conservation.

DISCUSSION:

California's Urban Water Management Planning Act (Act) requires all urban water suppliers serving more than 3,000 customers or supplying more than 3,000 acre-feet annually to develop an Urban Water Management Plan (UWMP). The required contents of the UWMP are set forth in the Act. An UWMP describes and evaluates sources of water supply, population and future water demand, demand management (conservation), water shortage response strategies, and other related information.

Under the Act, urban water suppliers are required to update their UWMP and submit a complete plan to the State Department of Water Resources (DWR) every five years. With its water system size well above the thresholds in the Act, the City of Napa has complied with the UWMP provisions since the Act's inception, submitting its previous UWMP to DWR for 2005. Changes to the Act since 2005 have created two new water conservation requirements for the UWMP 2010 Update. First, California Urban Water Conservation Council (CUWCC) members must now be shown to be in full compliance with the Best Management Practice (BMP) coverage requirements in the Memorandum of Understanding Regarding Urban Water Conservation in California (MOU). Second, and most significantly, the Water Conservation Act of 2009 (SBx7-7), seeks a statewide 20% reduction in daily per capita water use by 2020. Because urban water suppliers must include their SBx7-7 compliance information in the UWMP, the deadline for UWMP 2010 adoption was extended to July 1, 2011.

In preparing the UWMP 2010 Update, Water Division staff coordinated with other City departments and local agencies, and continued to benefit somewhat from the City's participation in the 2050 Napa Valley Water Resources Study (2050 Study) completed by West Yost & Associates in 2005. While local reservoir supply assumptions from the 2050 Study were useful, its population and demand projections proved to be extremely

high however. Updated population growth projections, improved conservation, and SBx7-7 compliance result in much lower future water demand projections in the UWMP 2010 Update. On the supply side, the most recent State Water Project (SWP) reliability data from DWR indicate reduced deliveries may be expected due to environmental and legal issues. Overall, the UWMP 2010 Update projects generally strong, reliable water service for the next 25 years, with no shortfalls expected for normal or multiple-dry year periods. Potential water supply shortfalls could occur in the most critical single-dry years.

The Act requires that an UWMP be made available for public inspection and that a public hearing be held prior to adoption. Pursuant to Section 6066 of the Government Code, a Notice of Plan Availability and Public Hearing was published in the Napa Valley Register on Tuesday, June 7, 2011 and Tuesday, June 14, 2011. The draft UWMP 2010 Update was made available for public inspection at the Public Works Department Building, the Water Division Building, and the Napa City-County Library. It was also posted on the City web site for wider public access. The public was invited to forward any comments to Patrick Costello of the Water Division.

The benefits of the UWMP 2010 Update are not simply to comply with State law and help ensure the efficient use of California water resources. The UWMP may support future updates to the City's General Plan and help facilitate the implementation of two other State water planning laws that address the impact of large developments on water supply, SB 610 and SB 221. Also, by submitting a complete UWMP, the City remains eligible for state grants and loans for water projects, including a Proposition 84 Implementation Grant conditionally awarded in 2011. Supply and demand data from the City's UWMP 2010 will also become part of the Bay Area Integrated Regional Water Management Plan (IRWMP) update. The IRWMP addresses the need for more coordination and mutual support in water planning for the overall Bay Area. An update to the Bay Area IRWMP is to be completed in 2013 using Proposition 84 grant funds.

FINANCIAL IMPACTS:

Submission of a complete UWMP to DWR ensures eligibility for state grants and loans for water projects.

CEQA:

The City Council hereby determines that the Recommended Action is exempt from the California Environmental Quality Act (CEQA) pursuant to California Water Code 10652, which exempts the preparation and adoption of urban water management plans from the requirements of CEQA.

DOCUMENTS ATTACHED:

1. Attachment 1: Resolution adopting the Urban Water Management Plan 2010 Update as required by the State Department of Water Resources.

2. Attachment 2: Draft Urban Water Management Plan 2010 Update.

NOTIFICATION:

Legal notice of public hearing published in the Napa Valley Register on June 7, 2011 and June 14, 2011.

RECOMMENDED ACTION:

Staff recommends that the City Council move, second and approve each of the actions set forth below, in the form of the following motion. Move to:

> Adopt a resolution adopting the Urban Water Management Plan 2010 Update, a summary of City policies and procedures addressing water supply, demand, and conservation required by the State Department of Water Resources.

CITY of NAPA

REGULAR MEETING AGENDA
FOR THE CITY COUNCIL OF THE CITY OF NAPA
AND THE
NAPA COMMUNITY REDEVELOPMENT AGENCY (NCRA)

AND

SPECIAL MEETING AGENDA
FOR THE HOUSING AUTHORITY OF THE CITY OF NAPA (HACN)

June 21, 2011

3:30 P.M. Afternoon and 6:15 P.M. Evening Session

City Hall Council Chambers
955 School Street

INFORMATION FOR CITY MEETINGS:

Information Available: Documents related to the City Council or the Board for the Housing Authority and/or Redevelopment Agency are available at www.cityofnapa.org; or email clerk@cityofnapa.org; or contact the Office of the City Clerk: 955 School Street, Napa, CA 94559/ telephone: (707) 257-9503. Any documents related to an agenda item provided to a majority of the City Council (Board) after distribution of the agenda packet are available for public inspection at the Office of the City Clerk or in a binder so labeled in the Council Chambers on the meeting date.

Public Comment: Speaker cards are available; it is requested but not required, to submit a card to the City Clerk before the meeting begins. Speakers will be limited to five minutes and will comply with the City's rules of order. If your comments pertain to a specific item on the agenda, reserve your comments until the item is before the City Council (Board). Time limits will be enforced by the Mayor to facilitate the fair and efficient conduct of the meeting.

Consent Calendar: Items are considered routine and may be approved by a single vote. Only the Mayor (Chair) or a majority of the City Council (Board) may authorize public input.

Consent Hearings: These routine items may be approved by a single vote; however, any member of the public or City Council (Board) may remove an item for consideration during the public hearing portion of the agenda.

Administrative Reports: Only the Mayor (Chair) or a majority of the governing body may authorize public input for these items.

Public Hearings/Appeals: Applicants (or appellants) are allowed 10 minutes to present testimony at the beginning of the public hearing, and if needed, 5 minutes to present rebuttal at the end of the public hearing. All other speakers will be limited to 5 minutes.

Meeting Dates: The City Council meets regularly on the first and third Tuesday of each month; however additional meetings may be scheduled as needed.

Governing Law: City Council (Board) conducts all meetings in accordance with the "Ralph M. Brown Act" (California Government Code Sections 54950, et seq.) and pursuant to the City's Rules of Order for City Council meetings (Policy Resolution 19).

NAPA COMMUNITY REDEVELOPMENT AGENCY (NCRA)
3:30 P.M.
BOARD MEMBERS
Juliana Inman, James Krider, Peter Mott, Mark van Gorder, Chair Jill Techel

---

1. CALL TO ORDER:

1.A. Roll Call

2. AGENDA REVIEW AND SUPPLEMENTAL REPORTS:

3. PUBLIC COMMENT:

4. CONSENT CALENDAR:

4.A. Approval of Napa Community Redevelopment Agency Regular Meeting Minutes:
Approval of Napa Community Redevelopment Agency Minutes for May 17, 2011.

5. ADMINISTRATIVE REPORTS:

5.A. Napa Community Redevelopment Agency FY 2011-12 and 2012-13 Budget Adoption:
Adopt a resolution approving and adopting the two-year budget for Fiscal Years 2011-12 and 2012-13.

6. BRIEF COMMENTS BY AGENCY MEMBER OR EXECUTIVE DIRECTOR:

7. ADJOURNMENT:

The next regularly scheduled meeting of the Napa Community Redevelopment agency is July 19, 2011.

SPECIAL MEETING OF THE HOUSING AUTHORITY OF THE CITY OF NAPA (HACN)
3:30 P.M.
BOARD MEMBERS:
Juliana Inman, Peter Mott, Mark van Gorder, James Krider, Chair Techel, Johanna Moore, Carol Hamilton

---

8. CALL TO ORDER:

8.A. Roll Call:

9. AGENDA REVIEW AND SUPPLEMENTAL REPORTS:

10. PUBLIC COMMENTS:

11. ADMINSTRATIVE REPORTS:

11.A. 2011-12 and 2012-13 Proposed Operating Budget:
Adopt a resolution approving and adopting the Housing Authority of the City of Napa (HACN) proposed Budget for Fiscal Years 2011-12 and FY 2012-13.

10. PUBLIC COMMENTS:

11. SPECIAL SESSION:

12. ADJOURNMENT:

The next regularly scheduled meeting of the Housing Authority of the City of Napa is August 2, 2011.

CITY COUNCIL MEETING: AFTERNOON SESSION
3:30 P.M.
Juliana Inman, Peter Mott, Mark van Gorder, Vice Mayor James Krider, Mayor Jill Techel

---

13. CALL TO ORDER:

13.A. Roll Call

14. AGENDA REVIEW AND SUPPLEMENTAL REPORTS:

15. PUBLIC COMMENT/PRESENTATIONS:

15.A. Recognition of the Justin-Siena High School Girls Softball Team:
The Justin-Siena High School Girls Softball team will be recognized for their win of the North Coast Section Division IV Title.

15.B. Proclamation "Napa ARTwalk 2010 PEOPLE'S CHOICE":
Proclamation designating the "Napa ARTwalk 2010 PEOPLE'S CHOICE".

16. CONSENT CALENDAR:

16.A. Update to Policy Resolution No. 10:
Adopt a resolution amending Policy Resolution to clarify procedures used to fill board and commission seats for unexpired terms.

16.B. Adopt Resolution of Intention to Levy Assessments and Set a Public Hearing Date:
Adopt a Resolution of the City Council of the City of Napa declaring its intention to levy assessments on properties in the Downtown Napa Property and Business Improvement District, and authorizing the City Clerk to set a public hearing date of July 19, 2011, to levy said assessments.

16.C. Statement of Investment Policy:
Adopt resolution to update Statement of Investment Policy.

16.D. Chemical Purchases for Potable Water Treatment Facilities:
Authorize the Public Works Director to execute contracts for the two-year period including Fiscal Year 2011-12 and Fiscal Year 2012-13 in an amount not to exceed $650,000 per Fiscal Year for aluminum sulfate, and in an amount not to exceed $150,000 per Fiscal Year for sodium hydroxide (caustic soda) for use at the three City of Napa potable water treatment facilities.

16.E. Water Meter Purchases from National Meter and Automation:
Authorize the Public Works Director to execute contracts with National Meter and Automation for the two-year period including Fiscal Years 2011-12 and 2012-13 in the amount not to exceed $550,000 per Fiscal Year (based on budget availability) to supply water meters and associated items for use in the municipal water distribution system.

16.F. Sludge Drying Contract for the Edward I. Barwick Jamieson Canyon Water Treatment Plant:
Authorize the Public Works Director to execute an agreement for sludge dewatering at the Edward I. Barwick Jamieson Canyon Water Treatment Plant in the amount not-to-exceed $350,000.

16.G. Summary Abandonment of Public Utility Easement for Water Line Purposes:
Adopt a resolution authorizing summary abandonment of a public utility easement for water line purposes affecting portions of real property located at 3322 Cambridge Court, 7 Lynn Drive, 45 Lynn Drive, 51 Lynn Drive, and 2675 Redwood Road.

16.H. Amendment to Agreement for On-Call Engineering Services
Authorize the Public Works Director to execute Amendment No. 5 with Gossett Civil Engineering in the amount of $75,000 to provide on-call engineering services.:

16.I. Aggregate Material Purchases from Syar Industries for FY2011-12:
Authorize the City Manager, or his designee, to issue purchase orders to Syar Industries in an amount not to exceed a total of $2,500,000 for aggregate material purchases in Fiscal Year 2011-12.

16.J. Extending Volunteer Fire Chief Services:
Adopt a resolution extending reimbursement for expenses and reasonable benefits for Timothy Borman in connection with his voluntary performance of Fire Chief duties.

16.K. Authorize amendment to Professional Services Agreement with William Zenoni:
Authorize an amendment to the Professional Services Agreement with Interim Finance Director William Zenoni.

17. ADMINISTRATIVE REPORTS:

17.A. Gang and Youth Violence Master Plan Presentation:
Presentation of findings and recommendations resulting from Steering Committee meetings regarding the Gang and Youth Violence Master Plan.

17.B. Benefit Cost Sharing for Members of the City Council:
Adopt a resolution implementing a benefit cost sharing arrangement for members of the City Council in the amount of 1.5% of salary for Fiscal Year 2011-2012, and in the amount of 3% of salary for Fiscal Year 2012-2013.

17.C. Voluntary Reduction in Compensation for City Executive Staff:
Adopt a resolution implementing a 1.5% voluntary reduction in compensation for City Executive Staff for FY 2011-2012, and a 3% voluntary reduction in compensation for FY 2012-2013, by increasing the employee portion of the benefit cost sharing arrangement.

17.D. Volunteer Center of Napa County Agreement for Services Budget Allocation:
Adopt resolution to allocate $7,000 in FY 2011-12 and FY 2012-13 budgets for the Volunteer Center of Napa County Agreement for Services.

18. PUBLIC HEARINGS/APPEALS:

18.A. New gate fee and collection service rate for carpet recycling; Expand existing roll off box collection rates for "split" box service:
Adopt a resolution establishing a new MDF gate fee for carpet recycling. Adopt a resolution establishing new collection rates for carpet recycling and expanding existing roll box collection service rates to allow for "split" box service for certain construction and demolition debris (C&DD) materials. All fees and rates described are set to be effective August 1, 2011.

19. COMMENTS BY COUNCIL OR CITY MANAGER:

20. CLOSED SESSION:

20.A. CONFERENCE WITH LEGAL COUNSEL—EXISTING LITIGATION: Government Code Section 54956.9(a); Northern District of California Case No. C 09-02782 EDL; City of Napa Claim No. 08-044.

5:00 P.M. to 6:15 P.M. CITY COUNCIL RECESS

CITY COUNCIL MEETING: EVENING SESSION
6:15 P.M.
Juliana Inman, Peter Mott, Mark van Gorder, Vice Mayor James Krider, Mayor Jill Techel
****(Note: Commission interviews will start at 6:15 p.m.)**

21. CALL TO ORDER:

21.A. Roll Call

22. PLEDGE OF ALLEGIANCE:

23. AGENDA REVIEW AND SUPPLEMENTAL REPORTS

24. COMMISSION INTERVIEWS AND APPOINTMENTS:

24.A. Appointment: Civil Service Commission:
Approve one appointment to fill a regular member vacancy on the Civil Service Commission.

24.B. Commission: Napa City / County Library Commission:
Approve one appointment to fill a regular member vacancy on the Library Commission.

25. REPORT ACTION TAKEN IN CLOSED SESSION:

26. SPECIAL PRESENTATIONS:

26.A. Proclamation "Land Trust Month":
Proclamation designating June 2011 "Land Trust Month" in the City of Napa.

26.B. Proclamation "Parks and Recreation Month":
Proclamation designating July 2011 as "Parks and Recreation Month" in the City of Napa.

27. PUBLIC COMMENT:

28. ADMINSTRATIVE REPORTS:

28.A. Response to the 2010-2011 Grand Jury Report – Automated Red Light Enforcement:
Approve the City response to the 2010-2011 Napa County Grand Jury Final Report on Automated Red Light Enforcement.

28.B. Adopt Resolution Approving One Year Extension to Agreement with Redflex Traffic Systems, Inc., and Elimination of Cost Neutrality Clause:
Adopt a resolution approving a one year extension of the current agreement with Redflex Traffic Systems, Inc., (June 18, 2011 through June 17, 2012) and approving an amendment to the agreement to eliminate the cost neutrality clause.

28.C. City of Napa FY 2011-12 and 2012-13 Budget Adoption:
Approval and Adoption of the Budget for the Fiscal Years 2011-12 and 2012-13.

29. CONSENT HEARINGS:

29.A. Amending Napa Municipal Code regarding the Planning Commission:
First reading and introduction of an Ordinance amending Napa Municipal Code Chapter 2.68 to eliminate the alternate member of the Planning Commission, to add a requirement for the selection process of commissioners to include two "design professional" and to make minor clarifications to the procedures relating to the Planning Commission.

30. PUBLIC HEARINGS/APPEALS:

30.A. 2020 Urban Water Use Target:
Adopt a resolution approving use of a method to determine the City's 2020 Urban Water Use Target in compliance with the Water Conservation Act of 2009 (SBx7-7).

30.B. Urban Water Management Plan 2010 Update:
Adopt a resolution adopting the Urban Water Management Plan 2010 Update, a summary of City policies and procedures addressing water supply, demand, and conservation.

30.C. Establish the Criminal Justice Administration Fee/Jail Access Fee:
Adopt resolution to establish the Criminal Justice Administration Fee/Jail Access Fee.

31. COMMENTS BY COUNCIL OR CITY MANAGER:

32. ADJOURNMENT:

The next regularly scheduled meeting of the City of Napa City Council is July 19, 2011.

A Special City Council meeting will be held on June 28, 2011 for Board and Commission Interviews.

I HEREBY CERTIFY THAT THE AGENDA FOR THE ABOVE STATED MEETING (S) WAS POSTED AT A LOCATION FREELY ACCESSIBLE TO MEMBERS OF THE PUBLIC AT CITY HALL, 955 SCHOOL STREET, ON FRIDAY, JUNE 17, 2011 AT 3:30 P.M.

_____
Dorothy Roberts, City Clerk

MAYOR'S MESSAGE:

The City Council pledges to listen carefully to all sides of an issue, examine the rights of each individual, and consider the needs of our community before making a decision. Accordingly, the Council expects members of the audience to conduct themselves with courtesy and respect during the meeting. Thank you for your cooperation and for your public participation.

GENERAL INFORMATION:

Please turn off cell phones and pagers before entering the Council Chambers.

The City Council meets regularly on the first and third Tuesday of each month. The Council may also schedule additional special meetings for the purpose of completing unfinished business and/or study session. Regular meetings are held in the Council Chambers, City Hall, 955 School Street.

NOTE: ADDITIONAL WRITTEN INFORMATION IS AVAILABLE FOR ITEMS ON THIS AGENDA, AND MAY BE OBTAINED OR REVIEWED BY VISITING THE CITY WEBSITE AT WWW.CITYOFNAPA.ORG; E-MAILING CLERK@CITYOFNAPA.ORG; OR CONTACTING THE OFFICE OF THE CITY CLERK AT 955 SCHOOL STREET, NAPA, CA. 94559 BY MAIL OR IN PERSON OR BY TELEPHONE AT (707) 257-9503.

CITY POLICY TO FACILITATE ACCESS TO PUBLIC MEETINGS:

Each City entity, (including the Napa Community Redevelopment Agency and the Housing Authority of the City of Napa), offers public programs, services and meetings in a manner that is reasonably accessible to everyone, including individuals with disabilities. Each City entity complies with all applicable requirements of the Americans with Disabilities Act and California law, and does not discriminate against any person with a disability. Wheelchair access to the Council Chambers, and speaker's microphone, is available to all persons.

If any person has a disability and requires information or materials in an appropriate alternative format (or any other reasonable accommodation), or if you need any special assistance to participate in this meeting, please contact the City Clerk Department at 257-9503. If any person is hearing impaired and would like information regarding this meeting, please call the City's telecommunications device for the deaf (TTY) at 257-9506.

In making any request for assistance, advance notice to the City forty-eight hours prior to the meeting will enable the City to make reasonable arrangements.

Se les pide por favor que avise con 48 horas de anticipación cuando haga un pedido para asistencia. Esto les da suficiente tiempo antes de la junta para permitir que la ciudad tome medidas razonables.

CHALLENGING DECISIONS OF CITY ENTITIES:

The time limit within which to commence any lawsuit or legal challenge to any quasi-adjudicative decision made by any City Entity (including the City of Napa, the Napa Community Redevelopment Agency, or the Housing Authority of the City of Napa) is governed by Section 1094.6 of the Code of Civil Procedure, unless a shorter limitation period is specified by any other provision. Under Section 1094.6, any lawsuit or legal challenge to any quasi-adjudicative decision made by any City Entity must be filed no later than the 90th day following the date on which such decision becomes final. Any lawsuit or legal challenge, which is not filed within that 90-day period, will be barred.

If a person wishes to challenge the nature of the above actions in court, they may be limited to raising only those issues they or someone else raised at the meeting described in this notice, or in written correspondence delivered to the City of Napa, at or prior to the meeting. In addition, judicial challenge may be limited or barred where the interested party has not sought and exhausted all available administrative remedies.

agreement with Redflex Traffic Systems, Inc., (June 18, 2011 through June 17, 2012) and approving an amendment to the agreement to eliminate the cost neutrality clause, allow for early termination without penalty, and to eliminate the right turn on red violations at the 121/29/12 intersection, and to allow the right term violation to continue at First/Jefferson.
AYES: van Gorder, Inman, Krider, Mott
NOES: Techel

City Council asked for further information in the future regarding data on the relationship between right turn violations and accidents.

28.C. City of Napa FY 2011-12 and 2012-13 Budget Adoption:

Interim Finance Director Bill Zenoni provided an overview.

Action: Moved, seconded (Krider/Mott) and carried to adopt **Resolution R2011 93** approving and adopting a Budget for the Fiscal Years 2011-12 and 2012-13.
AYES: Krider, Mott, Inman, van Gorder, Techel
NOES: None

29. CONSENT HEARINGS:

29.A. Amending Napa Municipal Code regarding the Planning Commission:

Mayor Techel called for any member of the public to speak on the issue; since no one came forward, the Consent Hearing was open and closed without comment.

Action: Moved, seconded and carried (Krider/van Gorder) to approve the first reading and introduction of an ordinance amending Napa Municipal Code Chapter 2.68 to eliminate the alternate member of the Planning Commission, to add a requirement for the selection process of commissioners to include two “design professionals” and to make minor clarifications to the procedures relating to the Planning Commission.
AYES: Krider, van Gorder, Mott, Inman, Techel
NOES: None

30. PUBLIC HEARINGS/APPEALS:

30.A. 2020 Urban Water Use Target:

Patrick Costello, Water Resources Analyst, provided the background information regarding methodology options for the 2020 Urban Water Use Target, noting the staff recommendation is Method One.

Mayor Techel called for public comment, no one came forward.

Action: Moved, seconded and carried (van Gorder/Krider) to close the public hearing; the public hearing was closed.

Action: Moved, seconded and carried (van Gorder/Krider) to adopt **Resolution R2011 94** approving use of a Method One to determine the City's 2020 Urban Water Use Target in compliance with the Water Conservation Act of 2009 (SBx7-7).
AYES: van Gorder, Krider, Inman, Krider, Techel
NOES: None

30.B. Urban Water Management Plan 2010 Update:

Patrick Costello, Water Resources Analyst, provided the background information on the Urban Water Management update.

Mayor Techel called for public comment, no one came forward.

Action: Moved, seconded and carried (van Gorder/Mott) to close the public hearing; the public hearing was closed.

Action: Moved, seconded and carried (van Gorder/Mott) to adopt **Resolution R2011 95** adopting the Urban Water Management Plan 2010 Update, a summary of City policies and procedures addressing water supply, demand, and conservation.
AYES: van Gorder, Mott, Krider, Inman, Techel
NOES: None

30.C. Establish the Criminal Justice Administration Fee/Jail Access Fee:

Shirley Perkins, Administrative Services Officer provided background on the item.

Mayor Techel opened the public hearing; no one came forward to speak. The public hearing was closed.

Action: Moved, seconded and carried (van Gorder/Krider) to adopt **Resolution R2011 96** to establish the Criminal Justice Administration Fee/Jail Access Fee.
AYES: van Gorder, Krider, Mott, Inman, Techel
NOES: None

31. COMMENTS BY COUNCIL OR CITY MANAGER:

Councilmember Inman noted that Napa's first Porchfest will be held July 31st, and live music will be played on porches in Napa's downtown.

32. ADJOURNMENT: 9:13 p.m.

It was noted that the next regularly scheduled meeting of the City of Napa City Council would be July 19, 2011; and a Special City Council meeting would be held on June 28, 2011 at 6:30 p.m. for Board and Commission Interviews.

_____
Dorothy Roberts, City Clerk

APPENDIX C

BEST MANAGEMENT PRACTICES COVERAGE REPORTS 2009-2010

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

Agency: City of Napa **District Name:** City of Napa **CUWCC Unit #:** 6298
Retail

Primary Contact Patrick Costello **Telephone** 707-257-9309 **Email:** pcostello@cityofnapa.org

Compliance Option Chosen By Reporting Agency:
(Traditional, Flex Track or GPCD)
GPCD if used:

GPCD in 2010	**138**
GPCD Target for 2018	134

Year	Report	Target		Highest Acceptable Bound	
		% Base	GPCD	% Base	GPCD
2010	1	96.4%	158	100%	164
2012	2	92.8%	151	96%	158
2014	3	89.2%	146	93%	152
2016	4	85.6%	140	89%	146
2018	5	82.0%	134	82%	134

Not on Track if 2010 GPCD is $\geq$ than target

GPCD in 2010	138
Highest Acceptable GPCD for 2010	164

On Track

Agency: City of Napa **District Name:** City of Napa **CUWCC Unit #:** 6298
Retail

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

Foundational BMPs

BMP 1.1 Operational Practices

Conservation Coordinator provided with necessary resources to implement BMPs?

		2009	2010
1.Conservation Coordinator provided with necessary resources to implement BMPs?	Name	Patrick Costello	Patrick Costello
	Title	Water Resources Analyst	Water Resources Analyst
	Email	707-257-9309	707-257-9309
		On Track	**On Track**

2. Water waste prevention documentation

On Track if any one of the 6 ordinance actions done, plus documentation or links provided

	2009	2010
Descriptive File	CONAPA_6298_2009_BMP_1-	
Descriptive File 2010		CONAPA_6298_2010_BMP_1-1_HPBO2010.pdf,
URL	N/A	
URL 2010		N/A
Describe Ordinance Terms	Too large for text area. Information will be transferred into online data application when ready.	
Describe Ordinance Terms 2010		Too large for text area. Information will be transferred into online data application when ready.
	On Track	**On Track**

Agency: City of Napa | District Name: City of Napa | CUWCC Unit #: 6298
Retail

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

BMP 1.2 Water Loss Control

	2009		
Complete a prescreening Audit	yes	On Track	On Track if Yes
Metered Sales	14,361		
Verifiable Other Uses	76		
Total Supply	16,097		
(Metered Sales + System uses)/ Total Supply >0.89	0.90	On Track	On Track if =>.89, Not on Track if No
If ratio is less than 0.9, complete a full scale Audit in 2009?	N/A	On Track	On Track if Yes
Verify Data with Records on File?	N/A	On Track	On Track if Yes
Operate a system Leak Detection Program?	Yes	On Track	On Track if Yes

	2010		
Compile Standard Water Audit using AWWA Software?	Yes	On Track	On Track if Yes, Not on Track if No
AWWA file provided to CUWCC?	CONAPA_6298_2010_BMP	On Track	On Track if Yes, Not on Track if No
AWWA Water Audit Validity Score?	70		Info only until 2012
Completed Training in AWWA Audit Method?	no		
Completed Training in Component Analysis Process?	No		Info only until 2012
Complete Component Analysis?	No		Info only until 2012
Repaired all leaks and breaks to the extent cost effective?	Yes	On Track	On Track if Yes, Not on Track if No
Locate and repair unreported leaks to the extent cost effective.	Yes	On Track	On Track if Yes, Not on Track if No
Maintain a record-keeping system for the repair of reported leaks, including time of report, leak location, type of leaking pipe segment or fitting, and leak running time from report to repair.			Info only until 2012

Provided 7 types of Water Loss Control Info — Info only until 2012

Leaks Repaired	Value Real Losses	Value Apparent Losses	Miles Surveyed	Press Reduction	Cost of Interventions	Water Saved
0	$ -	$ -	0	Off	$ -	0

Agency: City of Napa
Retail

District Name: City of Napa

CUWCC Unit #: 6298

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

1.3 METERING WITH COMMODITY RATES FOR ALL NEW CONNECTIONS AND RETROFIT OF EXISTING CONNECTIONS

	2009		2010		
Exemption or 'At least as Effective As' accepted by CUWCC					If signed MOU prior to 31 Dec 1997, On Track if all connections metered; If signed after 31 Dec 1997, complete meter installations by 1 July 2012 or within 6 yrs of signing and 20% biannual reduction of unmetered connections.
Numbered Unmetered Accounts	0	On Track	0	On Track	On Track if no unmetered accounts
Metered Accounts billed by volume of use	Yes	On Track	Yes	On Track	Volumetric billing required for all connections on same schedule as metering
Number of CII accounts with Mixed Use meters	1,233		1,230		Info only
Conducted a feasibility study to assess merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters?	No		No		Info only until 2012
Feasibility Study provided to CUWCC?	No		No		Info only until 2012
Completed a written plan, policy or program to test, repair and replace meters	Yes	On Track	Yes	On Track	On Track if Yes, Not on Track if No

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

Agency: City of Napa **District Name:** City of Napa **CUWCC Unit #:** 6298
Retail
Coverage Report Date: May 19, 2011

Primary Contact Patrick Costello **Email:** pcostello@cityofnapa.org

1.4 Retail Conservation Pricing

Date 2009 data received May 31, 2011
Date 2010 data received May 31, 2011

On Track if: Increasing Block, Uniform, Allocation, Standby Service; Not on Track if otherwise

Metered Water Rate Structure

Customer Class	2009 Rate Type	Conserving Rate?	Customer Class	2010 Rate Type	Conserving Rate?
Single-Family	Uniform	Yes	Single-Family	Uniform	Yes
Multi-Family	Uniform	Yes	Multi-Family	Uniform	Yes
Commercial	Uniform	Yes	Commercial	Uniform	Yes
Institutional	Uniform	Yes	Institutional	Uniform	Yes
Dedicated Irrigation	Uniform	Yes	Dedicated Irrigation	Uniform	Yes
Agricultural	Uniform	Yes	Agricultural	Uniform	Yes
Other	Uniform	Yes	Other	Uniform	Yes
	On Track			**On Track**	

Year Volumetric Rates began for Agencies with some Unmetered Accounts

Info only

Agencies with Partially Metered Service Areas: If signed MOU prior to 31 Dec. 1997, implementation starts no later than 1July 2010. If signed MOU after 31 Dec. 1997, implementation starts no later than 1July 2013, or within seven years of signing the MOU,

Agency: City of Napa **District Name:** City of Napa **CUWCC Unit #:** 6298
Retail
Coverage Report Date: May 19, 2011

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

Adequacy of Volumetric Rates) for Agencies with No Unmetered Accounts

Customer Class	2009 Rate Type	2009 Volumetric Revenues $1000s	2010 Rate Type	2010 Volumetric Revenues $1000s
Single-Family	Uniform	$ 9,825	Uniform	$ 9,158
Multi-Family	Uniform	$ 2,708	Uniform	$ 2,643
Commercial	Uniform	$ 2,652	Uniform	$ 2,576
Institutional	Uniform	$ 1,721	Uniform	$ 1,447
Dedicated Irrigation	Uniform	$ 1,032	Uniform	$ 915
Agricultural	Uniform	$ 323	Uniform	$ 288
Other	Uniform	$ 1,185	Uniform	$ 991
Total Revenue Commodity Charges (V):		$ 19,446		$ 18,018
Total Revenue Fixed Charges (M):		$ 59		$ 58
Calculate: V / (V + M):		100%		100%
		On Track		On Track

Agency Choices for rates:

A) Agencies signing MOU prior to 13 June2007, implementation starts 1 July2007: On Track if (V / (V + M) ≥ 70% x .8 = **56% for 2009** and 70%x0.90 = **63% for 2010**; Not on track if (V / (V + M)) < 70%;

B) Use Canadian model. Agencies signing MOU after 13June2007, implementation starts July 1 of year following signing.

	2009	2010
Canadian Water & Wastewater Rate Design Model Used and Provided to CUWCC	No	No
	On Track	On Track
If Canadian Model is used, was 1 year or 3 year period applied?		

Wastewater Rates

	2009	2010
Does Agency Provide Sewer Service?	No	No

If 'No', then wastewater rate info not required.

Customer Class	2009 Rate Type	Conserving Rate?	Customer Class	2010 Rate Type	Conserving Rate?
		Yes			Yes
		Yes			Yes
		Yes			Yes
		Yes			Yes
		Yes			Yes
		Yes			Yes
		Yes			Yes
		On Track			On Track

On Track if: 'Increasing Block', 'Uniform', 'based on long term marginal cost' or 'next unit of capacity'

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

BMP 2. EDUCATION PROGRAMS

BMP 2.1 Public Outreach Actions Implemented and Reported to CUWCC

	2009	2010
1) Contacts with the public (minimum = 4 times per year)	44	57
2) Water supplier contacts with media (minimum = 4 times per year, i.e., at least quarterly).	13	21
3) An actively maintained website that is updated regularly (minimum = 4 times per year, i.e., at least quarterly).	Yes	Yes
4) Description of materials used to meet minimum requirement.	Newsletter articles on conservation Flyers and/or brochures, bill stuffers, messages Landscape water conservation media campaign Website Email messages Articles and/or stories resulting from outreach News releases Newspaper contacts	Newsletter articles on conservation Flyers and/or brochures, bill stuffers, messages Landscape water conservation media campaign Website Email messages Articles and/or stories resulting from outreach News releases Newspaper contacts
5) Annual budget for public outreach program.	$ 35,200	$ 38,000
6) Description of all other outreach programs	Description is too large for text area. Data will be stored in the BMP Reporting database when online.	Description is too large for text area. Data will be stored in the BMP Reporting database when online.
	On Track	**On Track**

All 6 action types implemented and reported to CUWCC to be 'On Track')

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

2.2 School Education Programs Implemented and Reported to CUWCC

	2009	2010	
Does a wholesale agency implement School Education Programs for this unility's benefit?	No	No	
Name of Wholesale Supplier?	0	0	
1) Curriculum materials developed and/or provided by agency	Water Education Foundation (WEF) Materials Project WET Curriculum & Activity Guide Water Week Teaching Kit (Channing Bete) Various activity booklets	Water Education Foundation (WEF) Materials Project WET Curriculum & Activity Guide, Conserve Water Educators Guide Water Week Teaching Kit (Channing Bete) Various activity booklets	Yes/ No
2) Materials meet state education framework requirements and are grade-level appropriate?	Yes	Yes	All 5 actions types implemented and reported to CUWCC to be 'On Track'
3) Materials Distributed to K-6?	Yes	Yes	
Describe K-6 Materials	Water Week Teaching Kit - 5 days of exercises and hands-on activities regarding fresh water supply issues WEF "California Water Story" - multidisciplinary approach to teaching Water Cycle and California Water "Water Conservation" Coloring and Activities Book (Channing Bete) "The Story of Drinking Water" (AWWA)	Water Week Teaching Kit - 5 days of exercises and hands-on activities regarding fresh water supply issues WEF "California Water Story" - multidisciplinary approach to teaching Water Cycle and California Water "Water Conservation" Coloring and Activities Book (Channing Bete) "The Story of Drinking Water" (AWWA)	Describe materials to meet minimum requirements
Materials distributed to 7-12 students?	Yes	Yes	Info Only
4) Annual budget for school education program.	$ 2,200	$ 2,500	
5) Description of all other water supplier education programs	The City continues its active membership in the Environmental Education Coalition of Napa County (EECNC) which distributes its Environmental Education Guide to area K-12 teachers. City Water Division offerings listed in the EECNC Guide include a Water Conservation Classroom Presentation, a Water Treatment Plant Field Trip, and free curriculum materials. For 2009, no field trips were hosted due to major construction at the City's primary water treatment plant. The City sits on the Earth Day planning committee to organize the annual educational event. Water staff also assist individual students with special water-themed projects upon request.	The City continues its active membership in the Environmental Education Coalition of Napa County (EECNC) which distributes its Environmental Education Guide to area K-12 teachers. City Water Division offerings listed in the EECNC Guide include a Water Conservation Classroom Presentation, a Water Treatment Plant Field Trip, and free curriculum materials. The City sits on the Earth Day planning committee to organize the annual educational event. Water staff also assist individual students with special water-themed projects upon request.	
	On Track	**On Track**	

APPENDIX D

CITY OF NAPA/NAPA SANITATION DISTRICT AGREEMENT #7247

City Agreement
7247
Budget Account
#_____

AGREEMENT BETWEEN CITY OF NAPA AND NAPA SANITATION DISTRICT FOR SALE OF RECYCLED WATER WITHIN CITY OF NAPA WATER SERVICE AREA

This Agreement is made this 4th day of Aug; 1998, by and between the City of Napa ("City"), a Charter City incorporated under the laws of the State of California, and Napa Sanitation District ("NSD"), a public district formed and governed by California Health and Safety Code section 4700 et seq.

WHEREAS, under its municipal powers CITY acquires water supplies and treats and delivers potable water to inhabitants and businesses within its water service area:

WHEREAS, NSD treats the wastewater generated by the inhabitants and businesses within the CITY's water service area and thus has a ready supply of recycled water available for non-potable uses:

WHEREAS, both the CITY and NSD desire to utilize the water supplies which they each have available to maximize the efficiency and minimize the costs of water supply for various purposes to the inhabitants and businesses within the CITY's water service area.

NOW THEREFORE, IN CONSIDERATION OF THE MUTUAL PROMISES CONTAINED HEREIN, THE PARTIES DO HEREBY AGREE AS FOLLOWS:

1. CITY Water Service Area Defined

a. The CITY's water service area covers the area generally shown on the map attached hereto as Exhibit A.

b. CITY is the sole purveyor of water within its water service area, provided however, that during the term of this Agreement, CITY agrees that NSD may provide and deliver recycled water within the CITY's water service area to the extent provided herein.

2. Service area for Recycled Water Delivery Designated:

a. Upon execution of this Agreement, and during its term, CITY shall permit NSD to solicit customers for its recycled water and to deliver recycled water to

customers within the portion of the CITY's water service area shown on Exhibit A as the ReUse Area, being;

(1) The area east of the Napa River, south of Imola Avenue, west of Highway 221, and north of the City of American Canyon water service area, and;

(2) The properties known as "Stanley Ranch", "South Napa Market Place", and "Napa State Hospital", and the NSD property north of and adjacent to Imola Avenue east of the Napa River.

b. Delivery of recycled water within additional portions of the CITY's water service area shall require the prior written approval of the CITY notwithstanding any approval or authority from SWRCB to convey recycled water within the entire area set forth on Exhibit A.

c. The area within which NSD may deliver recycled water pursuant to this Agreement or any amendment thereof shall be referred to as the "ReUse Area."

d. CITY shall not agree to or approve of the delivery of recycled water within the ReUse Area other than by NSD during the term of this Agreement.

3. Recycled Water Facilities:

a. Construction of facilities, including without limitation pipelines, meters and pumps, for treatment, conveyance and delivery of recycled water within the ReUse Area shall be subject to all applicable regulatory approvals and procedures, and subject further to the CITY's review and imposition of conditions designed to avoid conflicts with other facilities and utilities to the extent they are within the CITY rights-of-way.

b. NSD shall own, construct, maintain, operate and repair all facilities necessary for the treatment, conveyance, delivery, and measurement of recycled water.

c. NSD shall notify CITY of new recycled water customers within the reuse area at least 60 days prior to connection to NSD recycled water facilities.

4. Reimbursement for Loss of Revenue:

a. NSD shall reimburse CITY for CITY's loss of potable water sales revenue due to CITY's existing customers ("prior CITY customers") taking delivery of recycled water from NSD in lieu of purchasing potable water supplies from the CITY. The amount of reimbursement shall be calculated for the aggregate total of all prior CITY customers, as set forth below:

(1) Within 30 days of [the end of the calendar year], NSD shall report to CITY the identities and addresses of all recycled water customers within the ReUse Area, and the date that each customer connected to the recycled water system.

(2) The CITY shall determine whether each such recycled water customer is a prior CITY customer. For all such prior CITY customers, CITY shall determine the aggregate net revenue CITY would have received from the sale of potable water based on:

a. The quantity of potable water each prior CITY customer consumed the average of three year's prior to conversion to recycled water, and

b. The applicable potable water rates during the current calendar year that the prior CITY customer would have paid if remaining on CITY's potable system, less the costs of energy and chemicals required to produce and treat such water. Costs of producing and treating potable water shall be determined on a proportional basis with the cost of producing and treating all potable water delivered by CITY during the same period.

(3) CITY shall notify NSD in writing of its determination of the amount of reimbursement due CITY from NSD pursuant to this Article, together with the costs and calculations supporting its determination, and within 30 days of such notification NSD shall pay to CITY the amount of reimbursement owed (see Exhibit "B" for example calculation). If NSD disagrees with CITY's determination of the amount of reimbursement due, NSD shall notify CITY within 20 days of NSD's receipt of notice and pay any undisputed amount within 30 days of CITY's original notice to NSD. Thereafter, the parties shall meet as soon as possible to discuss the disagreement and attempt to resolve the matter within 60 days of CITY's original notice to NSD. If no resolution is achieved, the matter shall be arbitrated pursuant to the provisions of Section 10, below.

b. NSD's reimbursement obligation shall continue from year to year until the amount of CITY potable water sales, measured in gallons, has regained its previous level prior to such conversion. For purposes of calculating the amount of reimbursement due the CITY for conversion to recycled water by a prior CITY customer.

(1) The rate of increase of CITY potable water sales, measured in gallons, is deemed by the parties to be three-quarters of one percent (0.75%) per year, and

(2) The year from which growth in CITY's potable water sales is to be measured in gallons is the last preceding year in which NSD's reimbursement obligation was zero, and

(3) CITY's increase of .75% per year shall be subtracted from CITY's net lost potable water sales measured in gallons as defined in Section 4 a. (2) above (See Exhibit "B" for example calculation).

c. Reimbursement obligations shall apply only to customers which, prior to taking delivery of recycled water from NSD, purchased potable water supplies from CITY.

d. For purposes of water conservation reporting, NSD shall provide CITY with quantities of recycled water delivered to each recycled water customer within the ReUse Area.

5. Disclosure of Recycled Water Costs:

So that potential customers in the ReUse Area understand the cost factors associated with determining the price of recycled water, NSD shall advise all potential customers of the various components of the recycled water rate in advance of obtaining a service commitment including, but not limited to:

a. Capital Costs of Delivery Facilities (Pipelines, Pumps, Meters, etc.)

b. Operating and Maintenance Costs of Delivery Facilities

c. Capital Costs of Wastewater Treatment Facilities

d. Energy and Chemical Costs of Wastewater Treatment

6. Reciprocal Rights to Water Service:

a. NSD shall make available at no cost up to 16,300,000 gallons (approximately 50 acre feet) of recycled water per year to CITY for irrigation of Kennedy Park, not including the Kennedy Golf Course, for irrigation purposes. NSD shall make available at no cost up to 16,300,000 gallons (approximately 50 acre feet) of recycled water per year to Napa Valley College for irrigation purposes. Any water used by CITY's Kennedy Park in excess of 16,300,000 gallons per year shall be billed to CITY at NSD's recycled water rate charged to other comparable recycled water customers. Any water used by the Napa Valley College in excess of 16,300,000 gallons per year shall be billed to Napa Valley College at NSD's recycled water rate charged to other comparable recycled water customers.

b. CITY shall make available to NSD at no cost up to 3,600,000 gallons (approximately 11 acre feet) of potable water per year for use at NSD's wastewater treatment plants on Imola Avenue and Soscol Ferry Road and for flushing of sewer mains, but not for filling recycled water reservoir at NSD's Soscol Treatment Facility to allow delivery to NSD's recycled water customers for irrigation use. All potable water used by NSD in excess of 3,600,000 gallons per year or for filling recycled water reservoir for irrigation water deliveries, shall be billed to NSD at the rates which CITY then imposes on other potable water customers within CITY's incorporated boundaries.

c. All recycled water use provided for in this Agreement shall be metered and reported to the CITY. In addition, NSD shall meter separately and report to CITY the amount of all potable water used for filling recycled water reservoir for irrigation water deliveries to NSD customers.

d. NSD and City agree to execute the attached Agreement for Supply of Recycled Water to Kennedy Park (Exhibit "C") obligating NSD to provide and City to utilize NSD recycled water in place of City potable water to irrigate the Kennedy Golf Course and Park. NSD and City agree to treat the Kennedy Golf Course as a "prior City customer" pursuant to Section 4 hereof for purposes of NSD reimbursing City for its "loss of revenues" attributable to the use of reclaimed water for irrigation on the Kennedy Golf Course. NSD shall supply the recycled water to Kennedy Golf Course upon the same favorable rates and terms offered other users; provided, however, that should NSD impose a monthly surcharge on its recycle rates in order to recoup the monies paid to City under the reimbursement requirement of Section 4 hereof, the amount of the monthly surcharge to City together with NSD's regular rates charged for recycled water shall not exceed eighty percent (80%) of the rates charged by City to its customers within the City of Napa for potable water. The surcharge shall cease when NSD has recouped the reimbursement to City under Section 4.

In the event City chooses to directly bill recycled water costs to an operator, lessee, etc., of the Kennedy Golf Course, City agrees that such billings shall not exceed the rates charged by NSD plus such reasonable charges necessary to cover City's administrative costs in connection therewith. The City agrees not to utilize the well water on City property for irrigation of the Golf Course except in the event that NSD is unable to deliver sufficient reclaimed water to the City and use is in compliance with all applicable federal and state laws.

NSD and City agree to execute an Agreement for Sale of Recycled Water in substantially the form as attached hereto as Exhibit "C", within 30 days of this Agreement becoming effective as specified in Section 8 and Section 11, below.

7. Indemnification and Hold Harmless:

NSD shall indemnify CITY and hold harmless the CITY, its officers, officials, agents, and employees from and against any and all claims, damages, demands,

liability, costs, losses and expenses, including without limitation court costs and reasonable attorneys' fees arising out of or in connection with the treatment, conveyance, delivery of NSD's recycled water for subsequent use, except such loss or damage which was caused by the active negligence or willful misconduct of CITY.

8. Term of Agreement:

This Agreement shall become effective upon the later of the dates of approval and adoption of the Agreement by the Napa City Counsel and the NSD Board of Directors.

The Agreement shall remain effective until twenty years from its effective date, and may be renewed for successive terms upon conditions acceptable to both parties. The parties agree that NSD may continue to serve properties receiving recycled water pursuant to the terms of this Agreement on the termination date whether or not the Agreement is renewed. The parties also agree that Napa Sanitation District shall continue to supply recycled water to the City for Kennedy Park and to Napa Valley College and that the City will in return provide potable water to the District for main flushing and use at Districts treatment plants pursuant to Section 6 after the termination date of this Agreement whether or not this Agreement is renewed. District agrees that, if by virtue of changes in its treatment process and regulatory requirements, its recycled water is deemed "potable" pursuant to state law, it will not deliver said water to its recycled water customers within City's service area as "potable" water unless City grants written permission.

9. Miscellaneous:

a. This Agreement constitutes the entire agreement and under standing between the parties, and supersedes all offers, negotiations and other agreements concerning the subject matter contained herein. Any amendments to this Agreement must be in writing and duly authorized and executed by both parties.

b. If any provision of this Agreement is invalid or unenforceable with respect to any party, the remainder of this Agreement or the application of such provision to persons other than those as to whom it is held invalid or unenforceable, shall not be affected and each provision of this Agreement shall be valid and enforceable to the fullest extent permitted by law.

c. This Agreement shall be binding on and inure to the benefit of the successors of the respective parties.

d. Any notice of demand required to be given herein shall be made by certified or registered mail, return receipt requested, or reliable overnight courier to the address of the respective parties set forth below:

CITY:	NSD:
Mike O'Bryon, Public Works Director	Manager
City of Napa, Public Works Department	Napa Sanitation District
1600 First Street	950 Imola Avenue, West
P. O. Box 660	Post Office Box 2480
Napa, CA 94559	Napa, CA 94558

Either party may, from time to time, designate any other address for this purpose by written notice to the other party. All notices hereunder shall be deemed received upon actual receipt.

e. This Agreement shall be governed by the laws of the State of California.

f. In any case where the approval or consent of one party hereto is required, requested or otherwise to be given under this Agreement, such party shall not unreasonably delay or withhold is approval or consent.

g. All Exhibits annexed hereto form material parts of this Agreement.

h. This Agreement may be executed in duplicate counterparts, each of which shall be deemed an original.

10. Arbitration:

Any dispute or claim in law or equity between the parties arising out of this Agreement which is not settled through mediation shall be decided by neutral, binding arbitration and not by court action, except as provided by California Law for judicial review of arbitration proceedings. The arbitration shall be conducted in accordance with the rules of the American Arbitration Association. The parties may agree in writing to use different rules and/or arbitrators. In all other respects, the arbitration shall be conducted in accordance with Part 3, Title 9 of the California Code of Civil Procedure. Judgment upon the award rendered by the arbitrator may be entered in any court having jurisdiction thereof. The parties have the right to discovery in accordance with the Code of Civil Procedure Section 1283.05.

11. Effective Date:

NSD has filed a Petition for Change with the State Water Resources Control Board to permit it to convey recycled water within the area specified in the petition which is attached hereto as Exhibit C. This Agreement shall only become effective when NSD secures a permit from the State Water Resources Control Board permitting the change and obtains the required permissions from the Regional Water Quality

Control Board necessary to sell recycled water within the area encompassed by this Agreement.

Executed the day and year first above written, by the parties as follows:

CITY OF NAPA:

Ed Henderson

ATTEST:

Pamela Ingram
CITY CLERK

COUNTERSIGNED:

Ted Christensen
FINANCE DIRECTOR

APPROVED AS TO FORM:

CITY ATTORNEY

NAPA SANITATION DISTRICT

By:

ATTEST:

Susan Stapes
SECRETARY
NAPA SANITATION DISTRICT

APPROVED AS TO FORM:

Date: 7-8-98

DISTRICT LEGAL COUNSEL

EXHIBIT A

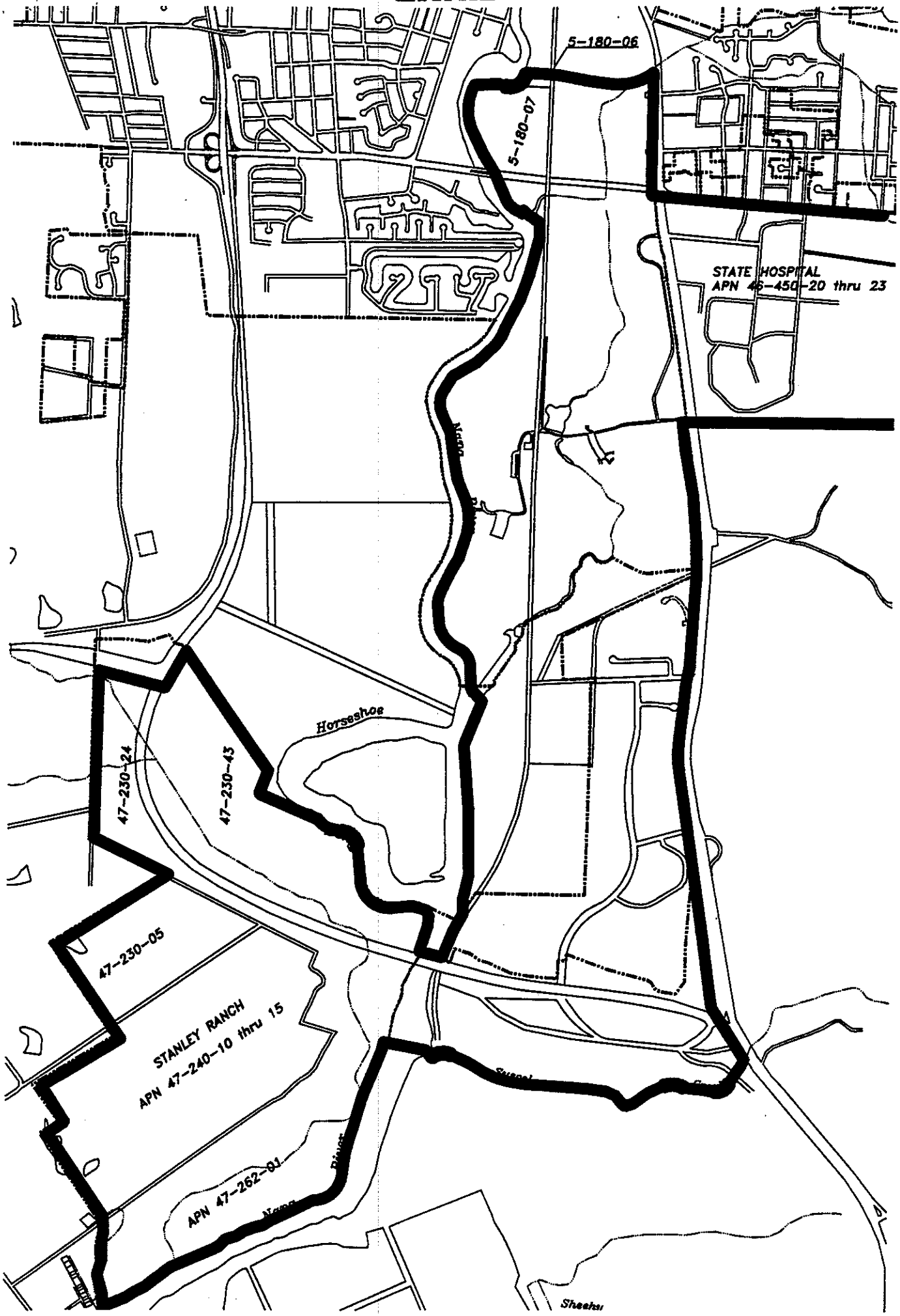

5-180-06
5-180-07
STATE HOSPITAL
APN 46-450-20 thru 23
Horseshoe
47-230-24
47-230-43
47-230-05
STANLEY RANCH
APN 47-240-10 thru 15
APN 47-262-01

EXHIBIT "B"

Example of Reimbursement to the City for Conversion to NSD Recycled Water

Notes:

1. Reimbursement for each customer is calculated independently from other customers converted to NSD Recycled Water.
2. The First year is the full calendar year following the date the potable water customer connects to NSD Recycled Water.
3. The First Year net potable water sales is used for revenue reimbursement calculations until reimbursement obligations are fulfilled.
4. The City of Napa's net potable water sales growth is determined to be 0.75% for the purpose of calculating the City's revenue reduction do to lost customers.
5. Potable annual water consumption is determined to be the average potable water use for the previous three years from the date of connection to NSD Recycled Water. Average annual water consumption will be based on less than three years of water use information if water use history is not available.
6. The current year potable water rate shall be used for calculating revenue loss to the City.

Example One:

Existing City of Napa water customer with the following characteristics:

Water Consumption = 50,000,000 gallons per year (prior 3 year average)
Current Water Rate (year 2000) = $3.00 per thousand gallons
Annual Revenue to City from Customer = $150,000
City Chemical and Energy Costs for Treatment = $0.20/ thousand gallons
City Revenue Reduction from Conversion to NSD = $140,000.00
Net Potable Water Sales (year 2000) = $11,500,000.00

Customer switches to NSD Recycled Water April 1, 1999. NSD notifies City of customer switch to recycled water and reimbursement begins with the following calendar year (for this example the year 2000). In January of 2001 the City bills NSD for Revenue lost due to conversion to Recycled Water for full calendar year.

First Year:

Reimbursement the first year equals the total revenue loss by the City.

City Revenue Reduction from Conversion to NSD:
$150,000 - ($0.20 x 50,000 units) = $140,000.00

Reimbursement to the City for January 1 through December 31, 2000 = $140,000.00.

Second Year:

Reimbursement is reduced by City's net potable water sales growth for year (0.75%). Use First Year as base year net potable water sales:

Revenue Growth = $11,500,000.00 x 0.0075 = $86,250.00
Current Water Rate (year 2001) = $3.25 per thousand gallons
Annual Revenue Loss to City from Customer = $162,500.00
City Chemical and Energy Costs for Treatment = $0.22/ thousand gallons
City Revenue Reduction from Conversion to NSD:
$162,500 - $86,250 - ($0.22 x 50,000 units) = $65,250.00

Reimbursement to the City for January 1 through December 31, 2001 = $65,250.00.

Third Year:

Reimbursement is reduced by City's net potable water sales growth for year (0.75%). Use First Year as base year net potable water sales:

Revenue Growth = $86,250 + ($11,586,250 x 0.0075) = $173,146.88
Current Water Rate (year 2002) = $3.35 per thousand gallons
Annual Revenue Loss to City from Customer = $167,500.00
City Chemical and Energy Costs for Treatment = $0.24/ thousand gallons
City Revenue Reduction from Conversion to NSD:
$167,500 - $173,146.88 - ($0.24 x 50,000 units) = $0.00

Reimbursement to the City for January 1 through December 31, 2002 = $0.00. **Reimbursement obligation for customer is complete.**

Example Two:

Existing City of Napa water customer with the following characteristics:

Water Consumption = 3,500,000 gallons per year (prior 3 year average)
Current Water Rate (year 2003) = $3.55 per thousand gallons
Annual Revenue to City from Customer = $12,425
City Chemical and Energy Costs for Treatment = $0.26/ thousand gallons
City Revenue Reduction from Conversion to NSD = $11,515.00
Net Potable Water Sales (year 2003) = $12,500,000.00

Customer switches to NSD Recycled Water July 25, 2002. NSD notifies City of customer switch to recycled water and reimbursement begins with the following calendar year (for this example the year 2003). In January of 2004 the City bills NSD for Revenue lost due to conversion to Recycled Water for full calendar year.

First Year:

Reimbursement the first year equals the total revenue loss by the City.

City Revenue Reduction from Conversion to NSD:

$12,425 - ($0.26 x 3,500 units) = $11,515.00

Reimbursement to the City for January 1 through December 31, 2003 = $11,515.00.

Second Year:

Reimbursement is reduced by City's net potable water sales growth for year (0.75%). Use First Year as base year net potable water sales:

Revenue Growth = $12,500,000.00 x 0.0075 = $93,750.00

Current Water Rate (year 2004) = $3.61 per thousand gallons

Annual Revenue Loss to City from Customer = $12,635.00

City Chemical and Energy Costs for Treatment = $0.27/ thousand gallons

City Revenue Reduction from Conversion to NSD:

$12,635 - $93,750 - ($0.27 x 3,500 units) = $ 0.00

Reimbursement to the City for January 1 through December 31, 2004 = $0.00. **Reimbursement obligation for customer is complete.**

Exhibit C

AGREEMENT FOR THE SUPPLY OF RECYCLED WATER TO KENNEDY PARK

This Agreement is made and entered into in Napa, California, as of this _____ day of _____, 199_, between NAPA SANITATION DISTRICT, a special district of the State of California (Producer), and the CITY OF NAPA, a Charter City incorporated under the laws of the State of California (User), and provides as follows:

RECITALS:

A. Producer owns and operates a wastewater treatment plant in Napa County, California, which is in the San Francisco Bay Region of the California Regional Water Quality Control Board (the Regional Board), and collects and treats wastewater, discharges treated wastewater to the Napa River and recycles wastewater generated within Producer's service area.

B. User owns approximately 340 acres of land in Napa County, California, more particularly described in Exhibit "1" attached hereto and incorporated herein by reference, which land has been improved for park and recreation purposes("Property") composed of Kennedy Park and Kennedy Golf Course.

C. Producer employs wastewater reclamation as a means of reducing the discharge of treated wastewater to the Napa River.

D. Producer is authorized to sell recycled water, pursuant to Order 96-011 adopted by the Regional Board on January 17, 1996, together with all attachments thereto.

E. User is interested in purchasing recycled water from Producer for use in irrigating its landscaping, to be used and applied only in such ways as are specifically permitted.

F. Producer desires to sell to User, and User desires to purchase from Producer, recycled water on the terms and conditions hereinafter set forth.

G. Producer and User entered into an Agreement for the Sale of Recycled Water within City of Napa Water Service Area dated _____ (hereinafter "Master Agreement")

AGREEMENT:

1. Term. This Agreement shall become effective on the date first above written and shall remain in effect through the term of the Master Agreement except that the provisions of Section 2, A and B below, shall be modified effective November 1, 2015 to render User's payment terms consistent with those of other users being served by Producer at that time.

2. Purchase Price; Payment.

A. From the commencement of delivery of recycled water through the year ending December 2001, the cost of recycled water shall be $.75 per one thousand (1000) gallons. Beginning January 1, 2002, and each calendar year thereafter during the term of this Agreement, the cost of "unrestricted use" recycled water shall be established by the annual CPI adjustment described below.

B. After December 31, 2001, the rates for recycled water shall be subject to adjustment as of the first day of January every year of the term (the adjustment date) beginning with the year 2002 according to the following computation. The basis for the adjustment is the index figure for the month of January, 2001, as

shown for the Consumer's Price Index for all Urban Consumers, San Francisco-Oakland Metropolitan Area (1982-84 = 100), published by the U. S. Department of Labor's Bureau of Labor Statistics (CPI), which is referred to as the "Beginning Index." The CPI index figure published for the month preceding the adjustment date in question, which is referred to as the "Adjustment Index," shall be utilized in determining the amount of adjustment.

If the Adjustment Index is different than the Beginning Index, the adjusted rates for the period beginning on each adjustment date and continuing to the next adjustment date shall be computed by multiplying the rates for 1000 gallons of recycled water provided in subparagraph B by a fraction, the numerator of which is the Adjustment Index and the denominator of which is the Beginning Index; provided, however, that in no year shall the cost of the recycled water as determined by the Annual CPI Adjustment increase or decrease from the cost for the previous year by more than 5%. For illustrative purposes only, examples of calculations of the cost of "unrestricted use" recycled water in accordance with the Annual CPI Adjustment are set forth in Exhibit "2" hereto.

If the CPI is changed so that the base year differs from that in effect in January, 2001, the index shall be converted in accordance with the conversion factor published by the United States Department of Labor, Bureau of Labor Statistics. If the CPI is discontinued or revised during the term, such other governmental index or computation with which it is replaced shall be used in order to obtain substantially the same result as would be obtained if the CPI had not been discontinued or revised.

C. Maximum cost of water provided to the City shall as be provided in Section 6 of Master Agreement.

D. Notwithstanding subparagraphs A through B above, if Producer is providing recycled water to any user (other than a federal, state or local agency whose use of the recycled water is for the creation, enhancement or restoration of

intermittent wetlands, wetlands or marshes) at a lower cost at any time during the term of this Agreement, that same lower cost shall be charged to User for the period of time during which said lower cost is in effect.

E. User shall be billed monthly for water delivered to the meter which serves the golf course and payment shall be due and payable within thirty (30) days of the date of the bill. Interest shall accrue on any amount not paid within thirty (30) days of the date of the bill at the rate of one (1%) percent per month. If User shall fail to pay any amount due within ninety (90) days of the date of a bill therefor, Producer may at its option suspend deliveries of recycled water until the account is brought current. Except as provided in the Master Agreement, User shall not be billed for Recycled Water supplied to Kennedy Park.

3. Compliance With Water Quality Control Board Order 96-011; Compliance With Requirements of Producer.

A. Producer and User shall comply with all of the provisions and requirements of Order 96-011 adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on January 17, 1996, and all attachments thereto (the Order), as it may subsequently be amended. A copy of the Order is attached hereto as Exhibit "3" and incorporated herein by this reference. User acknowledges to Producer that User is aware that the water sold pursuant to this Agreement is recycled water to be used for only specified and limited uses, that User has received a copy of the Order attached as Exhibit "3" to this Agreement, that User is familiar with and understands all of the provisions and requirements contained in the Order and that those provisions and requirements are reasonable, and that User covenants and warrants that it shall comply with all the provisions and requirements of the Order in the purchase and use of the recycled water.

B. User also shall comply with all of the additional provisions and requirements established by Producer, in the purchase and use of the recycled

water, which are set forth in the Producer's Water Reuse Program Manual, Exhibit "4", attached hereto and incorporated herein by this reference.

C. User shall use the recycled water delivered hereunder only for those uses authorized in the Recycled Water User permit and consistent with the Order and the requirements of Producer set forth in Exhibit "4".

4. Quality of Recycled Water Sold.

A. User understands that the recycled water that will be delivered to User hereunder has undergone a tertiary treatment process at Producer's Soscol Water Recycling Facility and is commonly referred to as "Unrestricted Use Recycled Water."

B. User understands that the recycled water to be purchased and used by User is wastewater that has been reclaimed as a result of sewerage treatment operations, and is suitable only for these uses, and in those areas specified in the permit granted User by Producer. The quality of the recycled water sold pursuant to this Agreement shall comply in all respects with the quality criteria established by the Order, although the recycled water's quality may vary within those criteria. Producer shall test the recycled water as required by the Regional Board to ensure that it meets the quality criteria set forth in the Order. The results of this testing program shall be available to User for its review upon request at any time during Producer's normal business hours. In addition to the monitoring and testing requirements of the Regional Board, Producer will test the recycled water delivered to User for the following parameters listed in Table 1.

(The rest of this page left intentionally blank)

TABLE 1			
Parameter	**Desired Agronomic Range**	**Typical Maximum Values**	**Testing Frequency**
pH (pH units)	6.5 - 8.0	9.0	Daily
EC (mmhos/cm.)	<0.75	1.4	Monthly
Total Dissolved	<500	800	Monthly
Calcium	<60	100	Monthly
Magnesium	No agronomic value	35	Monthly
Sodium	<30	200	Monthly
Carbonates	8	15	Monthly
Bicarbonates	75	240	Monthly
Chloride	30	260	Monthly
Ammonium-N plus	<3.0	<20	Monthly
Nitrate-N			Monthly
Boron	<0.5	0.7	Monthly
SAR	<6.0	6.0	Monthly
Adjusted SAR	<6.0	6.0	Monthly
Phosphorous	3.0	7.0	Monthly
Potassium	5.0	20	Monthly
Sulfur	<40	<40	Monthly
Iron	<1.0	<1.0	Monthly
Zinc	<2.0	<2.0	Monthly
Aluminum	<5.0	<1.0	Monthly
Arsenic	<0.1	<0.1	Monthly
Barium	No agronomic value established	<0.05	Semi-annual
Beryllium	<0.1	<0.1	Semi-annual
Cadmium	<0.01	<0.01	Monthly
Chromium (VI)	<0.1	<0.1	Monthly
Cobalt	<0.05	<0.05	Semi-annual
Copper	<0.2	<0.1	Monthly
Fluoride	<1.0	<1.0	Semi-annual
Lead	<5.0	<0.5	Monthly
Lithium	<2.5	<1.0	Semi-annual

Manganese	<0.2	<0.2	Semi-annual
Molybdenum	<0.01	<0.01	Monthly
Nickel	<0.2	<0.1	Monthly
Selenium	<0.02	<0.02	Monthly
Silver	No agronomic value established	<0.005	Monthly
Strontium	Same as above	<1.0	Semi-annual
Tin	Same as above	<1.0	Semi-annual
Titanium	Same as above	<1.0	Semi-annual
Tungsten	Same as above	<1.0	Semi-annual
Zirconium	Same as above	<1.0	Semi-annual
Vanadium	<0.1	<0.1	Semi-annual

Results in Table 1 in mg/l unless noted.

The tests shall be performed according to the "Standards For The Examination of Water And Wastewater" as published jointly by APHA, AWWA, and WEF latest edition.

The results of said tests shall be maintained at Producer's treatment plant and may be reviewed or a copy obtained by User by telephoning Producer. Each February an annual report of the test values will be sent by mail to User. When the test results consistently exceed any of the maximum ranges set forth in Table 1 above, Producer will notify User by telephone or facsimile by the close of the next business day following the day of Producer's receipt of any such test results.

If test results are consistently outside the Maximum Range set forth in Table 1 above, User may, at its option, do the following:

(1) Continue receiving the recycled water, as is;

(2) Continue receiving the recycled water as is and request in writing that Producer increase the frequency of testing for the item outside the Maximum Range; or

(3) Temporarily refuse to accept the recycled water. In this case, User shall notify Producer in writing of its intention to discontinue use and the date on which use will stop. The notice shall include reference to the test results in question (type, test date, etc.).

Upon User having notified Producer as provided for in 3. above, and temporarily refusing to accept the recycled water, User shall be under no obligation to later increase its use to make-up for the water not used. User shall resume acceptance of recycled water within fourteen (14) days after receipt of written notification by Producer that the quality of the recycled water is within the Maximum Ranges set forth in Table 1.

5. <u>Delivery and Availability of Recycled Water; Interruption of Service</u>.

A. Producer will deliver the recycled water to User through a pipeline extension from Producer's reclamation site, located at the end of Soscol Road, Napa, California, to the "Delivery Point" on User's Property shown on the site plan at Exhibit "5" attached hereto and incorporated herein by this reference. The recycled water shall be delivered to the Delivery Point between 100 and 150 pounds per square inch and at a rate of between 2,150 and 2,200 gallons per minute. User shall install at its own expense, as necessary, a pressure regulator at the Delivery Point. User may have its own irrigation pump stations and reservoirs located on the Property, to be paid for by User. User shall be responsible for the operation, maintenance and repair of any pressure regulator and the pipeline transporting the recycled water and for the recycled water from the Delivery Point to User's places of use. Producer shall be responsible for the operation, maintenance and repair of the pipeline transporting recycled water and for the recycled water to the Delivery Point.

B. User acknowledges and understands that Producer's delivery of recycled water during the winter discharge period is subject to the Order and the waste discharge requirements imposed by the Regional Board, as such may be amended from time to time.

C. User agrees to cooperate with Producer, at Producer's request, in the establishment of reasonable and mutually agreeable delivery schedules for the recycled water. User recognizes that the requests of various users may overload the capacity of Producer's Water Recycling Facility and delivery system and that Producer therefore may need to reduce the rates at which recycled water is delivered to the various users from time to time. In the event that the Producer reduces User's requested rate of delivery, Producer shall use its best efforts to restore the rate of delivery as soon as possible and provide User with that amount of water it would have received had its rate of delivery not been reduced.

D. Producer shall insure that the number of new customers and volume of water committed does not exceed the capacity of the plant to supply recycled

water consistently to the City. In the event Producer creates a system of user priorities for use of recycled water, Producer agrees that User shall be in the highest level for water delivered to the golf course.

E. Producer shall use its best efforts to ensure that service to User is provided consistent with the established delivery schedules, and User shall use its best efforts to accept recycled water as provided herein. However, both parties acknowledge that Producer's supply and delivery of recycled water and User's ability to take delivery of said water may occasionally be interrupted or curtailed due to Acts of God, power failures, accident, fire, strikes, riots, war, facility failures, facility improvements, inspection, maintenance and repairs of plant and equipment, actions or decisions by a governmental agency, or any condition outside of a party's control. Each party shall not be liable to the other for damages arising out of interruption or curtailment of service for these reasons. Insofar as feasible, the party whose performance hereunder is affected by such condition shall give the other party at least 72 hours advance notice of a temporary discontinuance or reduction in its delivery (in the case of Producer) or in its acceptance (in the case of User) of recycled water, except in the case of emergency, in which case notice need not be given. In the event of such discontinuance or reduction, the parties shall deliver or accept, as appropriate, upon resumption of service and as nearly as may be feasible, the quantity of recycled water that would have been delivered or accepted in the absence of such discontinuance or reduction.

F. Producer agrees to cooperate with user in delivering water before May 1 and after November 1 if climatic conditions require irrigation to landscaping during those periods.

G. In the event Producer is unable to deliver a sufficient quantity and pressure of water to User, User may utilize alternative sources of water for its Property. Use of alternative sources of water may continue until such time as Producer is able to deliver recycled water in accordance with the terms of this Agreement. User may also utilize alternative sources of water to irrigate the greens of the golf course to supplement its use of recycled water.

6. Measurement of Delivered Recycled Water. All recycled water delivered pursuant to this Agreement shall be measured by the Producer at the meter located at the Delivery Point. Producer shall own, inspect operate, maintain, repair and replace the measuring equipment. All determinations relative to the measuring of recycled water shall be made by the Producer. Upon request by User, the accuracy of a measurement shall be investigated by the Producer and any error appearing therein shall be adjusted. User may inspect such measuring equipment for the purpose of determining the accuracy thereof.

7. Monitoring Reports. User shall fill out monitoring reports on the form prescribed by the District on a weekly basis or as otherwise required by the Producer and submit them to Producer by the fifth (5th) day of each month with respect to the immediately preceding month. Any loss of recycled water off-site by spray or runoff shall be fully reported by User in such reports stating what corrective action(s) have been taken to prevent the violation from occurring again.

8. User's Rights to Recycled Water Nontransferable. User's rights to recycled water deliveries hereunder are not transferable or assignable. User shall not sell, give, transfer or distribute any of the recycled water purchased by it pursuant to this Agreement to any other party for any use, and User shall be the sole party using the recycled water.

9. Hold Harmless and Indemnification. Each party hereto agrees to release, indemnify, defend and hold harmless the other party and its directors, officers, employees, agents, successors and assigns from and against any and all actual or potential claims, liabilities, damages, losses, fines, penalties, judgments, awards, costs and expenses (including without limitation reasonable attorneys' fees and costs and all foreseeable, unforeseeable and consequential damages) asserted against, resulting to, imposed upon or incurred by said other party by reason of the first party's breach of any provisions of this Agreement or the Order. This indemnification shall survive the termination of this Agreement.

10. Notices. Any notice, action, or demand by either party to the other in connection with this Agreement shall be deemed to have been fully given or made when such notice, action, or demand is written and deposited in a sealed envelope postage prepaid, and addressed as designated at the end of this Agreement. Either party may change its address by giving the other party written notice of its new address as herein provided.

11. Entire Agreement. This Agreement and the Master Agreement shall constitute the entire agreement between the parties relating to the rights granted and obligations assumed in this Agreement. Any oral representations or modifications concerning this Agreement shall be of no force and effect unless contained in a subsequent written modification signed by both parties.

12. Amendments. This Agreement may not be amended except by a written instrument that is signed by both parties.

13. Interpretation. This Agreement shall be construed, interpreted, and applied according to the laws of the State of California.

14. Attorneys' Fees. If either party commences an action at law or in equity, arbitration or other proceeding against the other party to enforce or interpret this Agreement, the prevailing party shall be entitled to recover from the losing party reasonable attorneys' fees and costs of such proceeding, in addition to any other amounts which may be awarded.

15. Severability. If any clause or provision of the Agreement is or becomes illegal, invalid, or unenforceable because of present or future laws, or any rules or regulations of any governmental body or entity, effective during its term, the intention of the parties is that the remaining parts of this Agreement shall remain in full force and effect if the fundamental purpose of the Agreement is not destroyed.

Executed the day and year first above written, by the parties as follows:

CITY OF NAPA

MAYOR

ATTEST:

CITY CLERK

NAPA SANITATION DISTRICT

CHAIRMAN

ATTEST:

SECRETARY
NAPA SANITATION DISTRICT

COUNTERSIGNED:

FINANCE DIRECTOR

APPROVED AS TO FORM:

CITY ATTORNEY

APPROVED AS TO FORM:

DISTRICT LEGAL COUNSEL

DATED: 4 August 1998

C:\AGREEMNTS\RECWATERCITY

APPENDIX E

NAPA SANITATION DISTRICT
RECYCLED WATER POLICY

Included in this Appendix are the following documents:

- **Recycled Water Policy, NSD Board Resolution No. 11-004**
- ***Strategic Plan for Recycled Water Use in the Year 2020*, Executive Summary**

RESOLUTION NO. 11-004

A RESOLUTION
OF THE BOARD OF DIRECTORS OF THE NAPA SANITATION DISTRICT TO PROVIDE POLICY FOR FUTURE ACTIVITIES ASSOCIATED WITH THE RECYCLED WATER PROGRAM

WHEREAS, the Napa Sanitation District and its ratepayers have invested significant funds to enable reliable compliance with its NPDES permit; and

WHEREAS, the Board of Directors desires to retain its NPDES permit for discharge to the Napa River but supports increasing water recycling for agricultural, urban and environmental uses; and

WHEREAS, the District has spent much time, effort and money on performing studies, completing designs and seeking funding for various expansion projects, but until recently did so without formal partnership with the beneficiaries of the expansion; and

WHEREAS, the District has determined that this approach would be more effective with partners committing to both sharing of project costs and the use of the recycled water; and

WHEREAS, the District has determined that the maximum amount of recycled water that can be treated and delivered to customers using existing treatment plant pond storage is between 3,700 and 4,600 acre-feet per year, and potential near-term demand for recycled water may be between 5,000 and 6,000 acre-feet per year; and

WHEREAS, existing treatment plant recycled water capacity is approximately 1,700 acre-feet per year; and

WHEREAS, the Wastewater Treatment Plant Master Plan identified phased capital projects to increase high quality recycled water capacity from 1,700 acre-feet per year up to a capacity that maximizes pond storage and plant influent; and

WHEREAS, the District desires to set priorities for the allocation of recycled water to potential users, based on existing commitments to users and input from potential users, and.

WHEREAS, there exist properties within the District's service area and near the District's existing recycled water system that either have not developed or have not yet connected to the District's recycled water system, but have or will be paying sewer service charges to the District that support the recycled water system, and

WHEREAS, the Board of Directors has deliberated various options for recycled water policies and received input from affected stakeholders in the region on this matter; and

WHEREAS, the Board of Directors desires to adopt various recycled water policies to provide direction to staff for future recycled water activities;

NOW THEREFORE BE IT RESOLVED, the Board of Directors of the Napa Sanitation District hereby authorizes and directs the implementation of the following policies for future recycled water activities:

1. The priorities for supply of available recycled water are set as follows, and are based on the planning information contained in Table 1, attached:
   (a) Current recycled water customers;
   (b) Parcels within the District's existing service area close to the District's existing recycled water system that either have not yet developed, or have already developed but not yet connected to the District's recycled water;
   (c) Parcels for which an agreement has been executed with the District committing recycled water in the future (e.g. MST);
   (d) Parcels that have been or will be required to use recycled water by local land use authorities or retail water suppliers; and
   (e) Parcels in areas where a recycled water delivery system has been studied and funding is being arranged for construction of piping (e.g. Los Carneros).

2. In order to maximize the availability of recycled water to the most customers, the District may require the user to store recycled water where feasible. The District may utilize pricing to encourage storage, discourage wasteful usage, and stretch water supply.

3. The District supports expansion of the recycled water system to areas outside the District's service area for the purpose of water supply, but the costs of expansion (such as studies, design, funding, construction and operation) cannot be solely the burden of the District's ratepayers. For new recycled water projects, the District may require an agreement addressing both funding of the costs of expansion and a commitment to use recycled water. The District will respect service boundaries of adjacent utilities and agreements executed with those utilities for the orderly provision of service.

4. Grant programs for the purpose of expanding recycled water to new customers will be pursued when a partnering agreement with that potential customer or beneficiary is in place.

5. The District, in partnership with Napa County, will continue pursuit of federal, state or other funding.

I hereby certify that the foregoing is a full, true and correct copy of a Resolution duly adopted and passed by the Board of Directors of the Napa Sanitation District, Napa County, California, on the 6th day of April, 2011, by the following vote:

AYES: GRAVETT, LUCE, SHINNAMON, TECHEL, VAN GORDER
NOES: NONE
ABSENT: NONE
ABSTAIN: NONE

Secretary, Napa Sanitation District
Napa County, California

APPROVED:

Chair

Table 1. Planning Information for Allocation of Recycled Water

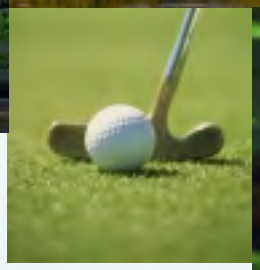
Type of User	Estimated Demand (acre-feet per year)	
Existing Uses/Commitments		
Existing Customers in Service Area	1,400	
Montelcino Golf Course (Somky)	300	
Valley Gate Vineyards	100	
MST (could be as little as 500 AF)	1,000	
District Use (Jameson Ranch)	100	
SUBTOTAL EXISTING USES/COMMITMENTS		**2,900**
Probable Commitments		
Infill (Kennedy Park, Industrial Parks)	300	
Napa State Hospital	250	
Stanly Ranch (St. Regis)	200	
SUBTOTAL PROBABLE COMMITMENTS		**750**
Other Areas Being Discussed in Near-Term		
Los Carneros Water District	1,650	
Suscol Mountain Vineyards	150	
SUBTOTAL OTHER POSSIBLE AREAS		**1,800**
TOTAL PROBABLE DEMAND (acre-feet per year)		**5,450**

AUGUST 2005

FINAL DRAFT

NAPA SANITATION DISTRICT

Strategic Plan for Recycled Water Use in the Year *2020*



prepared by

LARRY WALKER ASSOCIATES

Napa Sanitation District
Strategic Plan for Recycled Water Use in the Year 2020

Executive Summary

Background and Purpose

The Napa Sanitation District (District) owns and operates the Soscol Water Recycling Facility (WRF) south of the City of Napa. The facility has an average dry weather design capacity of 15.4 million gallons per day (mgd). Currently, treated wastewater is sent to the Napa River during the wet season (November 1 through April 30) and used for irrigation during the dry season (May 1 through October 31). During the dry season, wastewater is filtered and distributed to local vineyards, industrial parks, and golf courses. Recycled water produced at the Soscol WRF is "disinfected tertiary quality," the highest quality recognized under the Department of Health Services, Title 22 requirements.

Significant factors are prompting the District to consider expansion of its water recycling program. Principal benefits to the community would include the following:

- Assurance that the highest quality water is reserved for the highest quality use, public drinking water
- Decreased reliance on dwindling groundwater supplies
- Increased availability of recycled water for irrigation in water-short areas
- Prevention or postponement of costly water supply projects
- Enhancement of the Bay-Delta System by reducing dependence on the North Bay Aqueduct
- Broader rate base for the District with more recycled water users
- Reduction of emphasis on the National Pollutant Discharge Elimination System (NPDES) permit for river discharge and its associated costs and uncertainty

As a result, the District is exploring options to maximize recycling of wastewater produced at the Soscol WRF. To support this effort, a Strategic Plan for Recycled Water Use in 2020 was developed. This executive summary provides a brief description of the process and results for development of the Strategic Plan.

GROWTH AND INFLUENT FLOW PROJECTIONS

Growth and influent flow projections were based on predicted development in the District's service area in 2020. The Year 2020 was selected to correspond with the date estimated for build-out, as specified in the City of Napa General Plan. The following procedures were used to project an influent flowrate for 2020:

- Identification and review of population and business growth projections for the Napa area;
- Analysis of sewer connection data for the Napa Sanitation District;
- Determination of design conditions (the 2020 population and development predictions);
- Calculation of influent flowrates based on the design conditions; and
- Selection of a representative influent flowrate for 2020.

Population and Business Growth Projections

Population and business growth projections were estimated using scenarios presented in the City of Napa General Plan and the Association of Bay Area Governments (ABAG) Projections 2003. These population and business growth estimates were adapted to reflect the District's entire sewer service area (City of Napa, Airport/Industrial Area, and the Silverado Country Club Area). Using information on known (2003) District sewer connections and established conversions for number of persons per dwelling unit and square footage per commercial-industrial connections, the number of sewer connections in 2020 was estimated. The results of this analysis are summarized in **Table ES-1**.

Table ES-1. Number of Existing and 2020 Sewer Connections in the Napa Sanitation District Service Area

Growth Scenarios	Number of Sewer Connections			
	Residential		Commercial/Industrial/Other	
	Existing[1]	2020	Existing[1]	2020
City of Napa General Plan – Buildout Conditions	30,973	35,650	4,077	5,086 (10,381,162 sf)
ABAG 2020 Projection		36,342		4,835 (9,867,536 sf)

[1]Napa Sanitation District sewer connections in 2003.

Projected Influent Flowrates

Influent flowrates for the Soscol WRF in 2020 were estimated using winter water use data for residences and commercial/industrial facilities. Water use during the winter months (January and February) typically reflects the volume of water entering the sewer system. The water use data was obtained from the City of Napa Water Division.

The volume of wastewater generated by a particular source was then multiplied by the predicted number of sewer connections in 2020. The City of Napa General Plan was used as the representative growth scenario. It was determined to be the most predictive of growth in the Napa area through 2020. The Rural Urban Limit (RUL) delineated in the General Plan has remained unchanged since 1978 and the development predicted for the RUL has been in effect since 1994. The Napa community feels strongly about limiting development according to the RUL and General Plan, so this growth scenario was selected instead of the ABAG projections. Influent flowrates based on winter water use and General Plan build-out conditions are summarized in **Table ES-2**. The annual average influent flowrate in 2020 is projected to be 9.56 mgd, an 8% increase over the average influent flowrate of 8.83 mgd measured from 1998 to 2003.

Table ES-2. Projected Influent Flowrates for the Soscol Water Recycling Facility in 2020

Wastewater Source	Annual Average Influent Flowrate (mgd)
Residential	7.31
Commercial/Industrial	1.55
Other Connections	0.701
Average Influent (2020) ***Average Influent (1998 to 2003)***	**9.56** ***8.83***

RECYCLED WATER PRODUCTION IN 2020

Using the 2020 average influent flowrate and a seasonal distribution of inflows from 1998 to 2002, representative monthly influent flowrates were determined. The monthly influent flowrates were then used to initiate a water balance of the Soscol WRF and determine the amount of recycled water that could be produced in 2020. Potential gains and losses were estimated using historical precipitation data and typical evaporative losses in the existing 344 acres of storage ponds and reservoirs. Based on the results of the water balance, potential recycled water production in 2020 was estimated to be 9,800 acre-ft per year.

RECYCLED WATER DEMAND

The District currently holds agreements with a number of landowners to supply recycled water for irrigation of turf grass, vineyards, and landscaping. Reclamation is also undertaken by the District on its own sites when needed for recycled water disposal. Potential, new recycled water users were identified through conversations with District staff, examination of recent aerial photos (GlobeXplorer, 2002), review of real estate parcel data and maps, distance from the proposed recycled water pipeline (within 0.25 miles), and previous requests for inclusion in the District's recycled water program. Existing recycled water users, as well as the irrigated areas that could be hooked-up to an expanded recycled water distribution system by 2020 are shown in **Table ES-3**.

Table ES-3. Summary of Existing and Potential Recycled Water Users

Type of Recycled Water Use	Existing Users (irrigated acres)	Potential Users (irrigated acres)	Total Users in 2020 (irrigated acres)
Landscape and Turf Grass Irrigation	383	617	1,000
Agricultural Irrigation			
Vineyards	446	7,545	7,991
Pasture	0	199	199
District Reclamation Sites			
Vineyards	10	0	10
Turf	43	213	256
Reclamation	693	-213	480
Total	**1,575**	**8,361**	**9,936**

Annual Napa area irrigation requirements for turf grass, pasture, and vineyards are presented in **Table ES-4**. Vineyards, the most prevalent agricultural crop, typically use very little water and only require irrigation during 4 months of the year.

Table ES-4. Annual Irrigation Requirements in the Napa Area

Type of Planting	Irrigation Water Requirement	Irrigation Months
Turf Grass	2.8 ft/yr	April-October
Pasture	2.5 ft/yr	April-October
Vineyards	0.25 ft/yr	June-September

The total irrigation demand for recycled water in 2020 was determined by applying the irrigation requirements to the potential user acreages. The total 2020 irrigation demand was calculated to be 7,360 acre-ft per year.

Several types of industrial users have been targeted for future recycled water connections: cooling towers, equipment wash-down, gravel washing, fire fighting, and concrete production. For these industrial uses, a conservative value of 3 mgd (3,360) acre-ft per year) was used for planning purposes (based on discussions with power plant operators). Total 2020 recycled water demand was determined by combining the projected irrigation demand and the projected industrial demand. This value was estimated to be 10,700 acre-ft/year. The monthly distribution of the 2020 recycled water demand is presented in **Figure ES-1.**

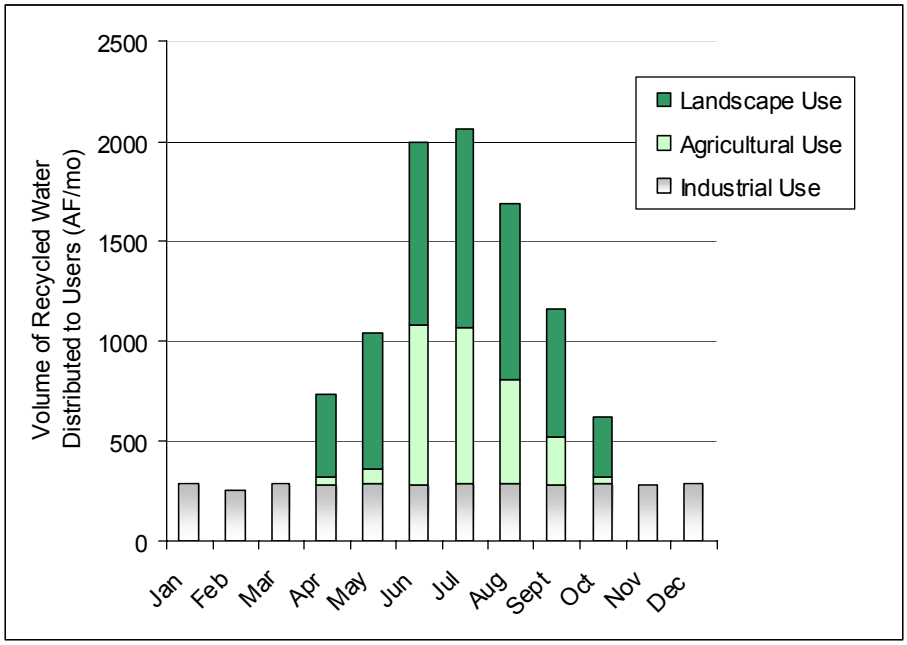


Figure ES-1. Potential Recycled Water Use by Month in 2020

The existing irrigation sites, as well as the recycled water use sites identified for 2020, are shown in **Figure ES-2** on the following page. The boundaries of the Los Carneros Water District (LCWD) are delineated in **Figure ES-2**. LCWD was formed primarily to facilitate the delivery of recycled water to agricultural users in the South Los Carneros area. Including all identified users, the total demand of 10,700 acre-ft/year is actually greater than the 2020 estimated recycled water production value of 9,800 acre-ft/year.

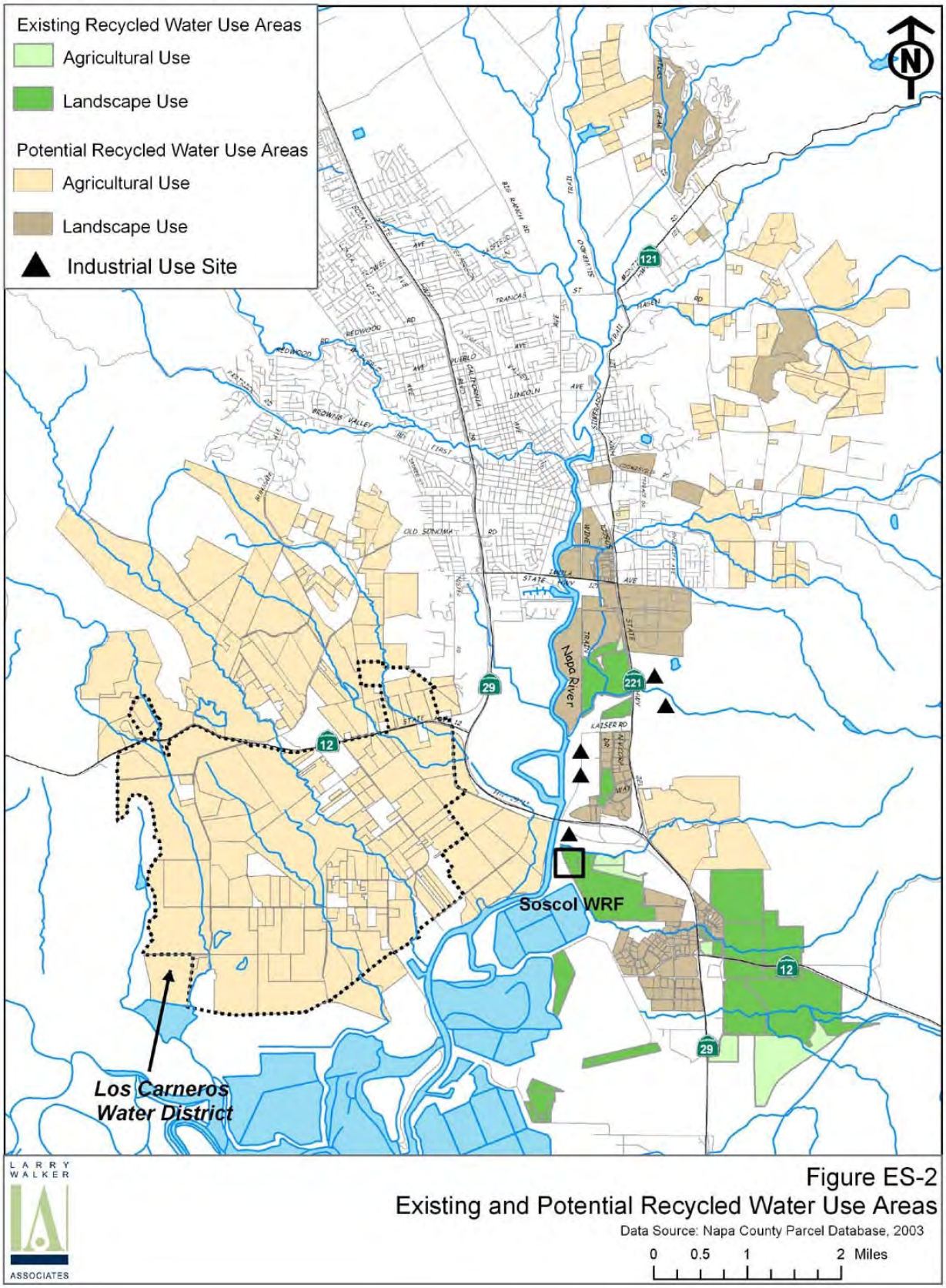


Figure ES-2
Existing and Potential Recycled Water Use Areas
Data Source: Napa County Parcel Database, 2003

RECYCLED WATER STRATEGIES

Seven recycled water distribution strategies were developed to represent the range of interests relevant to the District. The strategies and their key components are described in **Table ES-5**.

Table ES-5. Summary of Recycled Water Strategies Evaluated

Strategy No. - Title	Description
1- Recycle All Water Produced	• Treat all influent wastewater to recycle water standards • Store all water produced • Distribute water through pipelines to landscape, agricultural, and industrial users
2- Recycle Enough to Meet NPDES Permit Requirements	• Deliver recycled water to sufficient recycled water users during the dry season in order to reliably meet the dry weather discharge prohibition
3- Maximize Use of Existing Storage (Optimize Largest Users)	• Maximize use of existing storage facilities (have water available in ponds at beginning of irrigation season and empty ponds prior to start of river discharge season) • Minimize volume of treated effluent discharged to the Napa River • Deliver recycled water to the largest users • Maximize the number of paying customers
4- Maximize Use of Existing Storage (Least Pipeline Cost)	• Maximize use of existing storage facilities (as in Strategy 3) • Minimize the capital outlay for pipeline construction
5- Deliver Recycled Water to MST Area	• Deliver recycled water to the Milliken-Sarco-Tulucay area as quickly as possible • Provide recycled water, primarily for golf course and vineyard irrigation, to reduce the groundwater deficit in the area
6- Deliver Recycled Water to the Carneros Area	• Deliver recycled water to the Carneros area as quickly as possible • Provide recycled water for agricultural irrigation to improve water supply conditions in the area
7- Maximize Use of Existing Storage (Augment Water Supply)	• Maximize use of existing storage facilities (as in Strategies No. 3 and 4) • Focus on augmenting water supply in water-short areas of Napa County • Maximize the volume of recycled water delivered to both the MST and Carneros areas.

EVALUATION OF RECYCLED WATER STRATEGIES

Each of the seven recycled water strategies has a different focus and achieves different goals for the District. Some of these achievements can be quantified; such as the reduction in river discharge, volume of recycled water supplied to water-short areas, construction costs, and operations and maintenance (O&M) costs. Many of the benefits realized by implementation of a particular recycled water strategy cannot be quantified. A comparison of the recycled water strategies was completed based on quantifiable data, as well as a comparison of the intangible benefits associated with the projects. A list of the values and data used to evaluate the distribution strategies is presented in **Table ES-6**. The metric comparison of distribution strategies is presented as **Table ES-7** on the following page.

Table ES-6. List of Benefits Used to Evaluate Potential Recycled Water Distribution Strategies

Quantifiable Benefits	Intangible Benefits
• Low Capital Costs • Low O&M Costs • Augment Supply in Water-Short Areas • Reduction in River Discharge • Large Volume of Recycled Water Distributed	• Acceptance by Outside Stakeholders • Helps Environment • Rapid Implementation • Simple Implementation

The strategies and evaluation criteria were presented to the District Board of Directors in February, 2005. The Board was asked to review the results and identify a preferred strategy for 2020. The Board indicated that costs to sewer customers is paramount and must factor heavily into any recycled water planning efforts. However, the Board also indicated an interest in augmenting water supply in the community. Embracing these two priorities, the Board expressed a desire to certainly implement Strategy No. 2, but as funding opportunities become available, Strategy No. 3 would be implemented in stages. Since Strategy No. 2 is effectively a subset of Strategy No. 3, Strategy No. 3 was identified for development of an implementation plan.

Table ES-7. Metric Comparison of Recycled Water Strategies

	Strategy No. and *Primary Goals*						
Criteria	**No. 1** *Recycle all effluent produced*	**No. 2** *Recycle enough to meet permit requirements*	**No. 3** *Maximize use of existing storage, deliver water to largest users*	**No. 4** *Maximize use of existing storage, least pipeline cost*	**No. 5** *Deliver water quickly to the MST area*	**No. 6** *Deliver water quickly to the Carneros area*	**No. 7** *Maximize use of existing storage, augment water supply*
Total Volume of Recycled Water Delivered (acre-ft/yr)	9,800	3,590	4,540	4,280	3,780	3,780	4,260
Total Volume of Recycled Water Provided to Water-Short Areas (acre-ft/yr)	2,110 (Carneros) 420 (MST)	0	730 (Carneros) 420 (MST)	2,040 (Carneros)	420 (MST)	590 (Carneros)	1,400 (Carneros) 420 (MST)
Total Volume of Effluent Discharged to the Napa River (acre-ft/yr) [mgal/yr]	0	6,200 [2,020]	5,260 [1,710]	5,520 [1,800]	6,010 [1,960]	6,010 [1,960]	5,520 [1,800]
Total Capital Costs ($, million)	91.8	1.91	64.0	34.9	30.9	16.3	62.9
Additional O&M Costs ($/yr)	3,040,000	39,400	424,000	431,000	157,000	134,000	482,000

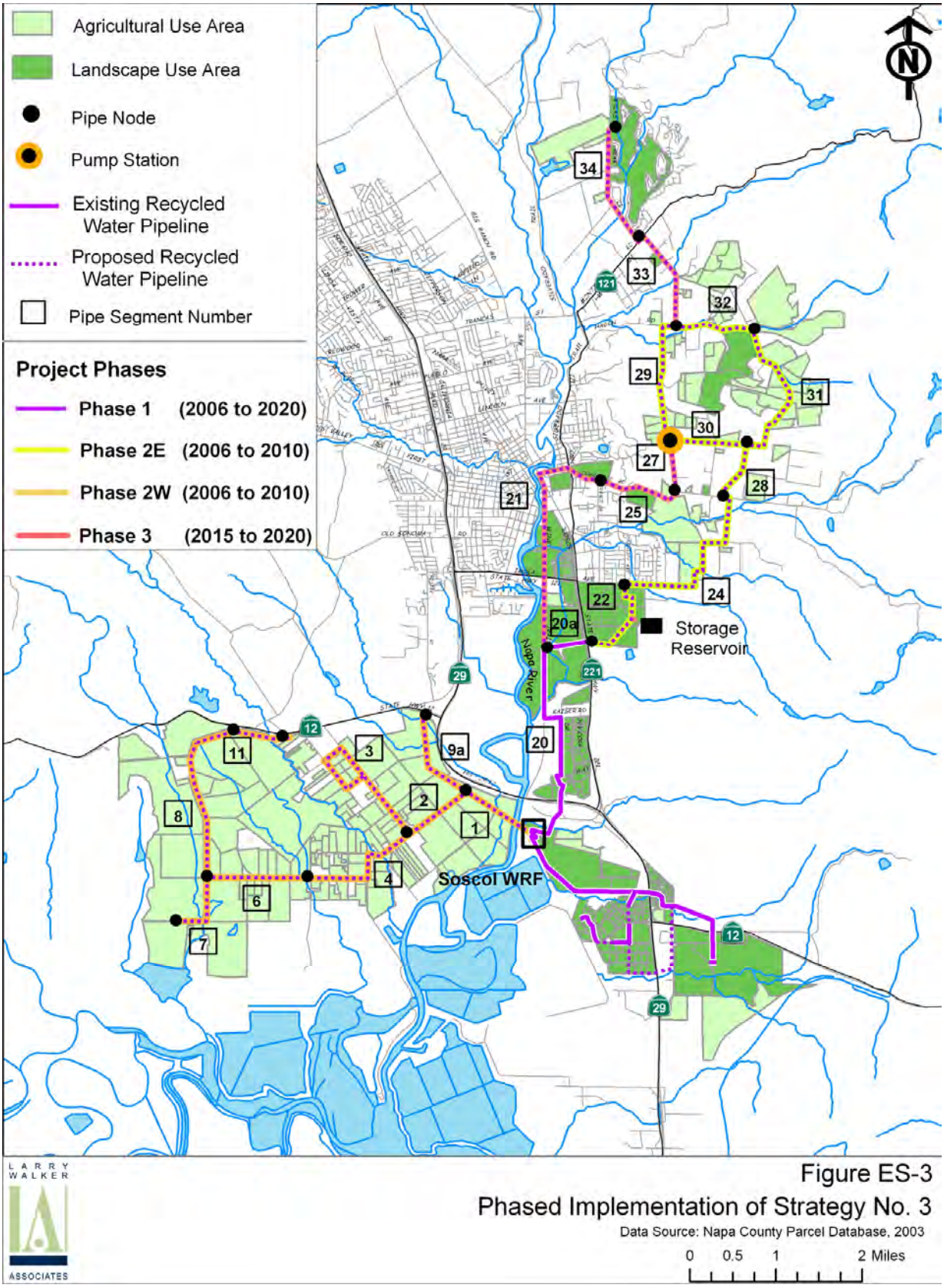
RECOMMENDED RECYCLED WATER STRATEGY

The recycled water distribution system specified for Strategy No. 3 is shown in **Figure ES-3** on the following page. Strategy No. 3 would be implemented in phases according to defined areas of service and the availability of funding assistance. The proposed construction phases/projects are presented in **Table ES-8** along with the estimated construction costs. The construction phases are also shown in **Figure ES-3**. The dates listed in **Table ES-8** are approximate and subject to change based on when funding becomes available.

Table ES-8. Phased Implementation of Strategy No. 3

Phase	Construction Project	Construction Dates[1] (approximate)	Construction Costs[2] (millions, $)
1	User Hook-up to the Existing Recycled Water Pipeline - *Strategy No. 2* (as parcels are developed and infrastructure is provided)	2006 to 2020	1.91
2E	Recycled Water Delivery to the MST Area (pipe segments 22,24,28, 29,30,31,32)	2006 to 2010	30.8
2W	Recycled Water Delivery to South Los Carneros (pipe segments 1,2,3,4,6,7,8,9a,11)	2006 to 2010	17.6
3	Recycled Water Delivery to Downtown Napa and Silverado (pipe segments 21,25,27,33,34)	2015 to 2020	13.8
Total			**64.1**

[1]Actual construction dates will be determined by funding availability.
[2]Capital costs are presented in July, 2005 dollars for comparison purposes only (ENR = 8,392)



LARRY WALKER ASSOCIATES

Figure ES-3

Phased Implementation of Strategy No. 3

Data Source: Napa County Parcel Database, 2003

0 0.5 1 2 Miles

APPENDIX F

NAPA MUNICIPAL CODE
CHAPTERS 13.09, 13.10, 13.12

Chapter 13.09

PERMANENT WATER CONSERVATION REGULATIONS*

Sections:

13.09.010 New development and remodels.

EDITOR'S NOTE: Ordinance 4305 (PC) an urgency ordinance regarding Water Shortage Regulations expired and was not extended. Said ordinance enacted Sections 13.10.070 and 13.12.070, New Development and Remodels. Reference now 13.09.010

13.09.010 New development and remodels.

A. New development shall completely offset its water requirements by installing ultra low-flush toilets which use no more than 1.6 gallons per flush and which meet performance standards established by the American Society of Mechanical Engineers Standards A112.19.2M and A112.19.6 in a sufficient number of existing residences having toilets that use three and one-half gallons or more per flush. Other existing noncommercial and commercial facilities may also be retrofitted to offset new development, by installing ultra low-flush toilets which use no more than 1.6 gallons per flush and/or urinals which use no more than one gallon per flush and which also meet the above performance standards. Any new development which obtained a building permit prior to January 16, 1991 and whose foundation was constructed prior to May 8, 1991 shall be exempted from this requirement.

1. New dwelling units offered for sale shall be exempt from this retrofit requirement if the monthly housing costs are not greater than thirty percent of one hundred percent of the median family income for Napa County. "Monthly housing costs" shall include the payment of principal and interest on the mortgage loan, utility cost, taxes and insurance.

2. New rental units shall be exempted from this retrofit requirement if the monthly housing costs (rent and utilities) are not greater than thirty percent of eighty percent of the median family income for Napa County.

3. The maximum income limits and monthly housing costs allowable for this retrofit exemption are as set forth in "Exhibit A" to Resolution 89-480. The housing authority of the city shall revise these figures on an annual basis.

4. The housing authority of the city shall certify on initial sale or renting that each affording dwelling unit qualifies for the retrofit exemption.

B. In the event the water general manager determines that actual retrofitting of existing residences, other noncommercial facilities, or commercial facilities is impractical or constitutes an unusual hardship on an applicant, the manager may authorize the payment to the city of an in-lieu retrofit fee equivalent to the cost of retrofitting a sufficient number of existing residences, other noncommercial facilities, or commercial facilities with ultra low-flush toilets, urinals, and other required water saving devices as described in paragraph D. The fee shall also include the cost of staff time to accomplish the required retrofitting using the fees collected. The in-lieu fee may be established by resolution. The water department is authorized to require retrofitting and not accept in-lieu retrofit fee, regardless of hardship, if it appears unlikely the city can complete retrofitting prior to the expected occupancy.

C. All residences, other noncommercial facilities, or commercial facilities that are retrofitted with toilets and/or urinals shall also be retrofitted with the following water saving devices: shower heads emitting no more than 2.5 gallons per minute, interior faucet aerators that emit no more than 2.2 gallons per minute.

11/02

D. The city water department will determine the number of existing residences, other noncommercial facilities, or commercial facilities that will offset the water use of each new development and must verify that the retrofits have been completed prior to issuance of a certificate of occupancy. The city is authorized to charge the developer a fee for the staff time spent on any retrofit requirements. In the event that an in-lieu fee has been paid, the city water department will administer a program to retrofit existing residences, other noncommercial facilities, or commercial facilities using the fees collected. In-lieu fees must be paid upon issuance of a building permit so that sufficient time exists for the retrofits to be made prior to occupancy of the new development.

E. All new development shall use water closets and associated flush/o/meter valves, if any, which use no more than 1.6 gallons per flush and which meet performance standards established by the American Society of Mechanical Engineers Standards A112.19.2M and A112.19.6 and urinals and associated flush/o/meter valves, if any, which use no more than one gallon per flush and which also meet the above performance standards.

F. In the city, building permits, certificates of occupancy and/or water connections can be withheld pending compliance with these regulations. In the county, water service will be withheld pending compliance.

G. Residential remodeling would trigger a retrofit if the remodeling involved work that would increase water use, such as adding or remodeling a bathroom, adding a bedroom, granny unit, hot tub, spa, pool or laundry. Remodeling that does not increase water use, such as reroofing, adding a family room or increasing the size of a room would not trigger a retrofit. (Ord. 4305 § 1 (part), 1992; Ord. No. O93-010, Enacted, 04/06/1993; Ord. No. O2001 22, Amended, Sec 1, 11/6/2001)

Chapter 13.10

MODERATE WATER SHORTAGE REGULATIONS

Sections:

13.10.010 Purpose and scope.
13.10.020 Findings.
13.10.030 Definitions.
13.10.040 Water use regulations.
13.10.050 Prohibitions and limitations.
13.10.060 Water use guidelines.
13.10.070 Reserved.
13.10.080 Appeals.
13.10.090 Responsibility of owners, landlords, employers, property managers and contractors.
13.10.100 Civil fines authorized.
13.10.110 Civil fines established.
13.10.120 Violation--Penalty.

13.10.010 Purpose and scope.

This chapter adopts regulations to deal with a moderate water shortage emergency. These regulations shall become effective immediately upon approval by the city council of a resolution declaring the existence of a moderate water shortage and shall remain in effect until the city council finds that the moderate water shortage no longer exists. (Ord. 4305 § 1 [part], 1992)

13.10.020 Findings.

The city council finds, determines and declares that the following facts are true:

A. The regulations set forth herein are necessary and proper to protect the water supply for human consumption, sanitation and fire protection during the duration of the shortage.

B. This chapter shall apply to customers receiving water from the city and expressly applies to customers outside the city limits pursuant to the city's charter powers and Water Code Section 355 et seq. and 375 et seq. (Ord. 4305 § 1 [part], 1992)

13.10.030 Definitions.

The following terms are defined for the purpose of this chapter:

"Customer" means the person responsible for paying for each water service account on the city of Napa or Congress Valley water district's water distribution system, both inside city limits and outside city limits.

"Domestic use" means any water used by a person for cooking, cleaning, bathing, washing clothes, drinking and sanitation.

"Irrigation customer" means any customer that is using water for the sole purpose of landscape irrigation.

"New development" means any of the following construction projects that have not received a certificate of occupancy from either the city or county building department prior to March 6, 1991 or that was issued a building permit after January 15, 1991:

A. Any free-standing building that contains water-using fixtures;

B. Any floor area additions to existing nonresidential structures;

C. Any residential additions or remodeling that increases the number of independent living units.

"Person" means any individual, firm, partnership, association, corporation, company, organization or governmental agency.

"Retrofit an existing house" means to replace all the toilets, shower heads, and faucet aerators in the house not complying with the flow requirements as stated in this chapter.

"Ultra low-flush toilet" means any toilet which uses no more than 1.6 gallons per flush and meets performance standards established by the American Society of Mechanical Engineers Standard A112.19.2.M.

"Water" means any water that is supplied by the city's water distribution system. (Ord. 4305 § 1 [part], 1992)

13.10.040 Water use regulations.

A. Each customer shall make every attempt possible to reduce water usage by the amount specified in the city council resolution declaring the moderate water shortage.

B. The Congress Valley water district must enact and enforce water use regulations identical to those water use regulations included in this chapter.

C. Interruptible surplus agricultural water contracts are suspended during the water shortage period as no surplus water is available.

D. No single-family residence shall use more than fifty thousand gallons of water bimonthly unless a specific allocation is approved by the water general manager based on criteria established by the public works department.

E. A special drought block-rate structure will be established by resolution to meet the budgetary obligations of the water division caused by the need to reduce water consumption, the possible need to purchase supplemental water, and the need to administer and enforce this chapter. Additional blocks will be established. Rate changes will be smallest for the lower usage blocks and greatest in the highest usage blocks to encourage conservation efforts.

F. The drought rates will be applied to all water used. In addition, a penalty will be charged for the use of water quantities that exceeds fifty thousand gallons bimonthly for single-family residences. Where additional allocations have been approved for specific single-family residential customers, penalties will be charged for the use of water quantities that exceed the higher allocation. The penalty charge will be two times the highest applicable inside city block rates. (Ord. 4305 § 1 [part], 1992)

13.10.050 Prohibitions and limitations.

A. No customer or person shall waste water. As used herein, the term "waste" means:

1. Use of water for decorative fountains where the water is not recirculated;

2. Washing cars, boats, trailers, aircraft or other vehicles by hose without a shutoff nozzle except commercial or fleet vehicle washing facilities operated at fixed locations;

3. Washing streets, sidewalks, walkways, driveways, patios, parking lots or other hard-surfaced areas with water, except as required for health and safety;

4. Watering lawns or gardens in a manner which results in runoff in gutter or other waterway, or excessive overspray of patios, driveways, walks or streets;

5. Serving water to restaurant patrons unless specifically requested;

6. Withdrawing water from fire hydrants, except for firefighting, firefighting training and water system maintenance purposes;

7. Use of water for cleaning streets during or following construction activities; flushing sewers and storm drains; and flow testing for fire sprinkler design;

8. Use of water for grading, dust control, street, pipeline or similar heavy construction. Hydrant meters shall not be issued for construction purposes.

B. No person or customer shall irrigate landscaping between the hours of ten a.m. and five p.m., except for the initial watering of newly planted landscaping and germination requirements of newly seeded lawns.

C. Water for hauling shall be supplied at the city Corporation Yard only. Prior approval from the water division is required. Water shall not be supplied for construction purposes. Tanker trucks hauling for domestic use must be certified to carry potable water.

D. All projects for which the planning department requires approved landscape plans must adhere to the city's xeriscape standards in order to obtain plan approval.

E. Draining and refilling of swimming pools shall be permitted only as needed for the purpose of pool repair or to correct a severe chemical imbalance. Draining and refilling of decorative ponds and lakes shall be permitted only as needed for the purpose of lining the bottom to prevent absorption. (Ord. 4305 § 1 [part], 1992)

13.10.060 Water use guidelines.

All persons are encouraged to use the following water conservation guidelines:

A. Establish procedures in the home and business to recycle water where possible;

B. Use water in a manner which minimizes waste and repair leaks as soon as possible;

C. Install low-flow shower heads and ultra low-flush toilets;

D. Refrain from additional irrigation and unnecessary use of water, such as car washing, on days when the temperature exceeds eighty-five degrees F. Customers with manual systems should irrigate only on odd numbered days if the property address is an odd number and on even numbered days if the property address is an even number;

E. All new or replacement landscaping should be designed and installed in accordance with the city's xeriscape standards in order to be water efficient. Lawns should comprise no more than twenty-five percent of the area landscaped, and the remaining areas should be planted with low water-using trees and plants and irrigated with a drip system. those projects for which the planning department requires an approved landscape plan must follow the xeriscape standards in order to receive approval. (Ord. 4305 § 1 [part] 1992)

13.10.070 Reserved.

EDITOR'S NOTE: Ordinance 4305 (PC), an urgency ordinance regarding Water Shortage Regulations expired and was not extended. Said ordinance enacted Sections 13.10.070 and 13.12.070, New development and remodels. Reference now 13.09.010.

13.10.080 Appeals.

Exceptions to the above allocations and prohibitions may be made for the protection of public health or safety or undue hardship including adverse economic impacts such as loss of production or jobs. Any exceptions are subject to the following requirements and procedures:

A. Any person who wishes to make an appeal shall do so in writing by using the form provided by the water department.

B. The appeal shall be reviewed by the general manager of the water division or the manager's designee or designees.

C. It must be shown that there are no alternatives to the use of city water and that all appropriate conservation measures are being used.

D. Verification may be required of any condition/situation listed on application for exception.

E. The decision of the general manager of the water division (or his or her designee) will be final. (Ord. 4305 § 1 [part], 1992)

13.10.090 Responsibility of owners, landlords, employers, property managers and contractors.

A. Every customer who has requested city water service is responsible for civil penalties for water waste whether or not the acts of water waste are committed by that person or third parties. The civil penalty may be reduced or discharged if the water waste was beyond the control of the customer and if all reasonable means had been previously taken to prevent water waste. "All reasonable means" includes, but is not limited to,

securing hose bibbs, written warnings to tenants or other water users and amendments to rental agreements where permitted by the lease.

B. Every employer is responsible for civil penalties for acts of water waste committed by employees.

C. Every property manager is responsible for civil penalties for acts of water waste resulting from irrigation prohibited by this chapter.

D. Every licensed contractor or development owner is liable for acts of water waste committed on the job site. (Ord. 4305 § 1 [part], 1992)

13.10.100 Civil fines authorized.

A. Acts of water waste and other acts prohibited by this chapter are subject to civil fines as herein prescribed. Any person receiving an administrative citation may appeal it within ten business days from the date the citation was issued. The notice of appeal for administrative citations must be made in writing and filed in the public works department.

B. Civil fines are payable at the city collections office. Fines must be paid within ten business days. If an appeal is filed, the bail for the fine must be paid within said ten days.

C. The finance department is authorized to collect all unpaid civil fines. (Ord. 4305 § 1 [part], 1992)

13.10.110 Civil fines established.

A. All violations of this chapter are subject to a civil fine of fifty dollars for a first offense, one hundred fifty dollars for a second offense and three hundred dollars for a third offense.

B. Violations of Sections 13.10.050(A)(7-8) are subject to a civil fine of five hundred dollars for a first offense and one thousand dollars for a second offense.

C. Violations of Section 13.10.050(A)(6) are subject to a civil fine of two thousand five hundred dollars per occurrence.

D. Filing a false certificate of compliance for any requirement contained in this chapter shall be subject to a civil fine of ten thousand dollars for each offense. (Ord. 4305 § 1 [part], 1992)

13.10.120 Violation--Penalty.

Any person, firm or corporation violating any of the provisions of this chapter shall be deemed guilty of a misdemeanor and upon conviction thereof shall be fined in an amount not exceeding one thousand dollars or be imprisoned in the county jail for a period not exceeding six months or be both so fined and imprisoned. Each day such violation is committed or permitted to continue shall constitute a separate offense and shall be punishable as such hereunder. (Ord. 4305 § 1 [part], 1992)

Chapter 13.12

SEVERE WATER SHORTAGE REGULATIONS

Sections:

13.12.010 Purpose and scope.
13.12.020 Findings.
13.12.030 Definitions.
13.12.040 Water allocation regulations for twenty percent reduction.
13.12.050 Prohibitions and limitations.
13.12.060 Water use guidelines.
13.12.070 Reserved.
13.12.080 Appeals.
13.12.090 Customer responsibilities.
13.12.100 Civil fines authorized.
13.12.110 Civil fines established.
13.12.120 Penalties.

13.12.010 Purpose and scope.

This chapter adopts regulations to deal with a severe water shortage where a reduction in consumption of twenty percent must be mandated. These regulations become effective immediately upon approval by the city council of a resolution declaring the existence of a severe water shortage and shall remain in effect until the city council finds that the severe water shortage no longer exists. (Ord. 4305 § 3 [part], 1992: prior code § 29-100)

13.12.020 Findings.

The city council finds, determines and declares that the following facts are true:

A. The regulations set forth herein are necessary and proper to protect the water supply for human consumption, sanitation and fire protection during the duration of the shortage.

B. This chapter shall apply to customers receiving water from the city and expressly applies to customers outside the city limits pursuant to the city's charter powers and Water Code Section 355 et seq. and 375 et seq.

C. Due to said severe water shortage, the city finds it reasonable and necessary for the temporary period of the drought to partially suspend and modify that certain agreement (as amended) between the city and the state to supply water to the Napa State Hospital and the Veteran's Home of California. Special circumstances with respect to said customer includes: the findings set forth in the resolution finding a drought induced water shortage emergency exists; the state is the city's largest water user having used 133 million gallons of water during 1990; the state has large amounts of outside landscaping, and the state has access to alternative sources of water, such as Rector Dam. Therefore, notwithstanding said agreement, the state shall be given a water allocation as allowed for other water customers as per Section 13.12.040(B)(1). Said allocation may be increased pursuant to agreement between the city and the state if the agreement for the use of Rector Dam water can be reached. (Ord. 4305 § 3 [part], 1992: prior code § 29-101)

13.12.030 Definitions.

The following terms are defined for the purpose of this chapter:

"Customer" means the person responsible for paying for each water service account on the city or Congress Valley Water District's water distribution system, both inside city limits and outside city limits.

"Domestic use" means any water used by a person for cooking, cleaning, bathing, washing clothes, drinking and sanitation.

"Historical" means the available water consumption data from mid-1987 to the end of 1990.

"Irrigation customer" means any customer that is using water for the sole purpose of landscape irrigation.

"New development" means any of the following construction projects that have not received a certificate of occupancy from either the city or county building department prior to March 6, 1991 or that was issued a building permit after January 15, 1991:

1. Any free-standing building that contains water-using fixtures;

2. Any floor area additions to existing nonresidential structures;

3. Any residential additions or remodeling that increases the number of independent living units.

"Person" means any individual, firm, partnership, association, corporation, company, organization or governmental agency.

"Retrofit an existing house" means to replace all the toilets, shower heads, and faucet aerators in the house not complying with the flow requirements as stated in this chapter.

"Ultra low flush toilet" means any toilet which uses no more than 1.6 gallons per flush and meets performance standards established by the American National Standards Institute Standard A112.19.2.

"Water" means any water that is supplied by the city's water distribution system. (Ord. 4305 §§ 3 [part], 4, 1992; prior code § 29-102)

13.12.040 Water allocation regulations for twenty percent reduction.

A. A water use allocation will be given to each new and existing water customer of the city. The goal of the allocation program is to reduce water use throughout the service area by an overall amount of twenty percent from the pre-drought consumption levels.

B. No customer shall use water in excess of allocations determined as follows:

1. Each existing customer shall receive a bimonthly allocation equal to ninety percent of his/her average historical winter consumption plus seventy percent of historical water usage in excess of the average historical winter consumption for each non-winter billing period. These percentages may be adjusted by five percent higher or lower as needed to achieve the twenty percent system-wide goal. If adjustments are made, they will be applied in a similar way for all customers;

2. Each irrigation customer shall receive a bimonthly allocation equal to seventy percent of his/her historical consumption. These percentages may be adjusted by five percent higher or lower as needed to achieve the twenty percent system-wide goal. If adjustments are made, they will be applied in a similar way for all customers;

3. City parks and recreation department and Napa Valley College shall receive an annual allocation equal to seventy-five percent of their 1987 usage;

4. The Napa Valley Unified School District (NVUSD) shall receive an annual allocation equal to seventy-five percent of its 1986 usage;

5. The Town & Country Fairgrounds shall receive an annual allocation of eighty percent of its 1987 usage. City water shall not be used for dust control;

6. Customers with incomplete historical consumption records shall receive bimonthly allocations based upon the records available and/or computations using similar customer's historical consumption records;

7. New development shall receive an allocation as determined by Section 13.12.070;

8. Allocations will not be reduced below the historical water usage so long as the historical water usage is below ten thousand gallons bimonthly;

9. No single family residence shall receive an allocation more than fifty thousand gallons bimonthly.

C. Water used for the public swimming pools operated by NVUSD will be excluded from their annual allocation if they are kept open during the summer months for public use.

D. The Congress Valley Water District must enact and enforce a water conservation program identical to those water conservation programs adopted by the city.

E. The city's fifty largest water users shall submit a water conservation plan to implement all reasonably feasible water conservation measures. Any such user shall reduce all landscape irrigation to no greater than seventy percent of historical irrigation usage.

F. Interruptible surplus agricultural water contracts are suspended during this water shortage period as no surplus water is available.

G. A special drought block rate structure will be established by resolution to meet the budgetary obligations of the water division caused by the need to purchase supplemental water supplies and to administer and enforce this chapter. Additional blocks will be established. Rate changes will be smallest for the lower usage blocks and greatest in the highest usage blocks to encourage conservation efforts.

H. The drought rates will be applied to all water used. In addition, a penalty will be charged for the use of water quantities that exceeds twenty-five thousand gallons bimonthly and exceeds the customer's allocation. The penalty charge will be two times the highest applicable inside city block rate for the first offense, three times said rate for the second consecutive offense, and four times said rate for the third and subsequent consecutive violations. Upon the second offense or where the customer's historical average is exceeded by five percent or more, the city shall have the right to install a flow restrictor in the water meter, which reduces water flow and pressure, or may terminate service. At the end of the calendar year, any public entity given an annual allocation, such as NVUSD and the Town & Country Fairgrounds, will be billed a penalty equal to four times the applicable rate for water quantities that exceed their allocation. (Prior code § 29-103)

13.12.050 Prohibitions and limitations.

A. No customer or person shall waste water. As used herein, the term "waste" means:

1. Use of water for decorative fountains or the filling of decorative lakes or ponds;

2. Washing cars, boats, trailers, aircraft or other vehicles by hose without a shutoff nozzle except commercial or fleet vehicle washing facilities operated at fixed locations;

3. Washing streets, sidewalks, walkways, driveways, patios, parking lots or other hard-surfaced areas with water;

4. Watering lawns or gardens in a manner which results in runoff in gutter or other waterway, or excessive overspray of patio, driveway, walk or street;

5. Filling or refilling swimming pools with city water or water from any public agency within Napa County which prohibits the use of their water for filling or refilling of swimming pools including the Congress Valley Water District public water system. Water source arrangements shall be made and verified prior to issuance of building permit or draining of existing pools. Verification following delivery will also be required. This does not prohibit adding water to pools to maintain proper pool water levels resulting from normal use of the pool;

6. Serving water to restaurant patrons unless specifically requested;

7. Withdrawing water from fire hydrants, except for firefighting and water system maintenance purposes;

8. Use of water for cleaning streets during or following construction activities; flushing sewers, hydrants, storm drains; flow testing for fire sprinkler design and training of fire fighting personnel;

9. Use of water for grading, dust control, street, pipeline or similar heavy construction. Hydrant meters shall not be issued for construction purposes.

B. The installation of new or replacement lawn, sod, or turf by any customer or person is prohibited unless irrigation is provided from a well. New or replacement landscaping shall be limited to low water using plants watered with drip irrigation systems. The water division is authorized to adopt standards for and definitions of low-water-using shrubs, bushes and trees.

C. No person or customer shall irrigate landscaping between the hours of ten a.m. and five p.m.

D. Water shall not be used for the irrigation of any commercial crops, including vineyards. Violation of this provision shall be penalized by the installation of a flow restrictor or termination of service.

E. Water for hauling shall be limited to indoor domestic uses within Napa County and shall be supplied at the city corporation yard only. Prior approval from the water division is required. Tanker trucks must be certified to carry potable water. Verification of delivery to approved address is required.

F. All projects for which the planning department requires approved landscape plans must adhere to the city's xeriscape standards in order to obtain plan approval. Any project with a city-approved landscape plan that does not comply with the city's xeriscape standards may not install the landscaping while this chapter is in effect, unless the plan is revised to comply with the xeriscape standards. (Ord. 4305 § 3 [part], 1992; prior code § 29-104)

13.12.060 Water use guidelines.

All persons are encouraged to use the following water conservation guidelines:

A. Establish procedures in the home and business to recycle water where possible;

B. Use water in a manner which minimizes waste and repair leaks as soon as possible;

C. Install low flow shower heads and ultra low flush toilets;

D. Refrain from additional irrigation and unnecessary use of water, such as car washing, on days when the temperature exceeds eighty-five degrees Fahrenheit. Customers with manual systems should irrigate only on odd numbered days if the property address is an odd number and on even numbered days if the property address is an even number. There is a limit to the amount of water that can be imported daily from outside of Napa County due to the capacity of the city's treatment plant. When the daily peak demand exceeds that capacity, water must be drawn out of Lake Hennessey to meet the demand. This guideline helps to keep the daily demand down so that Lake Hennessey water can be saved for next year;

E. All new or replacement landscaping should be designed and installed in accordance with the city's xeriscape standards in order to be water efficient. Lawns should comprise no more than twenty-five percent of the area landscaped, and the remaining areas should be planted with low-water-using trees and plants and irrigated with a drip system. Those projects for which the planning department requires an approved landscape plan must follow the xeriscape standards in order to receive approval. (Prior code § 29-105)

13.12.070 Reserved.

EDITOR'S NOTE: Ordinance 4305 (PC) , an urgency ordinance regarding Water Shortage Regulations expired and was not extended. Said ordinance enacted Sections 13.10.070 and 13.12.070, New development and remodels. Reference now 13.09.010.

13.12.080 Appeals.

Exceptions to the above allocations and prohibitions may be made for the protection of public health or safety or undue hardship including adverse economic impacts, such as loss of production or jobs. Any exceptions are subject to the following requirements and procedures:

A. Any person who wishes to make an appeal shall do so in writing by using the form provided by the water department.

B. The appeal shall be reviewed by the general manager of the water division or his or her designee or designees.

C. It must be shown that there are no alternatives to the use of city water and that all appropriate conservation measures are being used.

D. Verification may be required of any condition/situation listed on application for exception.

E. The decision of the general manager of the water division (or his or her designee) will be final. (Prior code § 29-107)

13.12.090 Customer responsibilities.

A. Every customer who has requested city water service is responsible for civil penalties for water waste whether or not the acts of water waste are committed by that person or third parties. The civil penalty may be reduced or discharged if the water waste was beyond the control of the customer and if all reasonable means had been previously taken to prevent water waste. All reasonable means includes, but is not limited to, securing hose bibs, written warnings to tenants or other water users, and amendments to rental agreements where permitted by the lease.

B. Every employer is responsible for civil penalties for acts of water waste committed by employees.

C. Every property manager is responsible for civil penalties for acts of water waste resulting from irrigation prohibited by this chapter.

D. Every licensed contractor or development owner is liable for acts of water waste committed on the job site. (Prior code § 29-108)

13.12.100 Civil fines authorized.

A. Acts of water waste and other acts prohibited by this chapter are subject to civil fines as herein prescribed. Any person receiving an administrative citation may appeal it within ten business days from the date the citation was issued. The notice of appeal for administrative citations must be made in writing and filed in the public works department.

B. Civil fines are payable at the city collections office. Fines must be paid within ten business days. If an appeal is filed, the bail for the fine must be paid within said ten days.

C. The finance department is authorized to collect all unpaid civil fines. (Prior code § 29-109)

13.12.110 Civil fines established.

A. All violations of this chapter are subject to a civil fine of fifty dollars for a first offense, one hundred fifty dollars for a second offense, and three hundred dollars for a third offense.

B. Violations of Sections 13.12.050(A)(5), (A)(8), (A)(9), (B) or (D) are subject to a civil fine of five hundred dollars for a first offense and one thousand dollars for a second offense.

C. Violations of Section 13.12.050(A)(7) are subject to a civil fine of two thousand five hundred dollars per occurrence.

D. Filing a false certificate of compliance for any requirement contained in this chapter shall be subject to a civil fine of ten thousand dollars for each offense. (Prior code § 29-110)

13.12.120 Penalties.

Any person, firm or corporation violating any of the provisions of this chapter shall be deemed guilty of a misdemeanor and upon conviction thereof shall be fined in an amount not exceeding one thousand dollars or be imprisoned in the county jail for a period not exceeding six months or be both so fined and imprisoned. Each day such violation is committed or permitted to continue shall constitute a separate offense and shall be punishable as such hereunder. (Prior code § 29-111)

APPENDIX G

WATER SHORTAGE CONTINGENCY PLAN

CITY of NAPA

WATER SHORTAGE CONTINGENCY PLAN

Robert J. Peterson
General Manager - Water Division

David L. Coggiola
Water Conservation Specialist

TABLE OF CONTENTS

Section 1	Coordinate Planning	1
Section 2	Past, Current, and Projected Water Use	4
Section 3	Worst Case Water Availability	6
Section 4	Stages of Action	10
Section 5	Mandatory Prohibition on Water Waste	12
Section 6	Consumption Limits	13
Section 7	Penalties or Charges for Excessive Use	15
Section 8	Analysis of revenue Impact	18
Section 9	Implementation of the Plan	19
Section 10	Water Use Monitoring Procedures	20
Section 11	Plan Adoption Standards	21

TABLES

Table I	Customer Type and Demand	4
Table II	Supply Sources & Worst Case Supply Projections	6
Table III	Lake Hennessey Staged Reductions	7
Table IV	Worst Case Reservoir Water Availability	7
Table V	Contractual NBA Entitlement	8
Table VI	Rationing Stages and Reduction Goals	10
Table VII	Water Supply Triggering Levels	11
Table VIII	Percent and Acre-Foot Reductions by Stage	13

ATTACHMENTS

Attachment "A"	Off-site Retrofit Program	23
Attachment "B"	Relevant Section of The California Water Codes	31
Attachment "C"	Ordinance No. 4277	33
Attachment "D"	Ordinance No. 4305	45
Attachment "E"	Resolution No. 91-10	57
Attachment "F"	Resolution No. 91-013	59

WTRCONTENT/WATER/TXTLIB3

Section 1 COORDINATED PLANNING

California Water Code Section 10620. (d) (2) Each urban water supplier shall coordinate the preparation of its urban water shortage contingency plan with other urban water suppliers and public agencies in the area, to the extent practicable.

General

The City of Napa receives its raw water from three sources; each source having its own treatment facility. Two of the sources are Lake Hennessey and Milliken Reservoir with a maximum capacity of 31,000 acre feet and 2000 acre feet respectively. Both sources are owned solely by the City. The third source is the Jameson Canyon Facility which receives its water through the North Bay Aqueduct (NBA), a State of California Water Project.

There are three Cities and one Water District that have entitlements to the NBA water, they are:

* The City of Napa
* The Town of Yountville
* The City of Calistoga, and
* The American Canyon Water District.

The City of Napa and American Canyon Water District receive their raw water from D.W.R's Terminal Reservoir located at the Jameson Canyon Facility. Yountville and Calistoga do not have the physical capabilities to receive raw water from NBA, they receive their entitlements from the City of Napa. Napa receives Yountville and Calistoga's raw water entitlements, treats it and then wheels the treated water through its distribution system to Yountville and Calistoga.

Although the City of Napa and the other water agencies do not have a current agreement to share or distribute water with each other during a water shortage, due to the systems developed to distribute NBA water, the physical capabilities exist so that Napa can provide to or receive water from American Canyon, Yountville, St. Helena and Calistoga. Additionally, the City is involved in two programs to increase its raw water storage capacity in the event of a disaster.

The first program is a study with American Canyon Water District and the City of Vallejo to build a raw water storage reservoir in Jameson Canyon. This reservoir would have the capacity to deliver at least 3 days of peak water demand to all agencies participating. The reservoir would be able to provide a continuous water supply in the event the delivery of NBA water were interrupted.

The second program is a study to develop a site to locate a 20,000 acre foot raw water storage reservoir. This study was the result of an engineering report provided by the County of Napa indicating that there would be a 20,000 acre feet shortfall in raw water supplies to the Napa Valley by the year 2020. The reservoir would be build in or will be adjacent to the Napa Valley and would provide water for the Cities of Napa, Yountville, St. Helena, Calistoga and the American Canyon Water District.

Napa has coordinated the development of an additional water source during the past three drought years. This has been the purchase of surplus water from the Yuba County Water Agency. This agreement provided entitlements for the Cities of Napa, Calistoga and St. Helena and has been distributed the same way the NBA water is distributed. Additionally, Napa is currently pursuing a long term agreement with Yuba County Water Agency to provide an emergency water supply in the event of drought or disaster.

Finally, the City in cooperation with the Napa Sanitation District has agreed to use reclaimed water at certain of the City facilities as well as agreeing to make the use of this water a requirement for other projects that will be coming on line within the City. Napa Sanitation District is currently at the planning and developing stage and will have the first level of reclaimed water available in Mid 1992 at which point the City will irrigate Swan-Kennedy Golf Course and generate an average annual savings of 70 million gallons. Napa Sanitation estimates that they will have their final level of reclaimed water available in Mid 1995.

Congress Valley Water District

The City of Napa Water Division is the sole supplier of water to the Congress Valley Water District (CVWD). CVWD is located immediately adjacent to our westerly border and serves a little less than 100 connections. Staff when developing the agreement between CVWD and the City added a paragraph to deal with water shortages, it states that "CVWD .... agrees to enact and enforce water conservation programs substantially equivalent in effect to such water conservation programs adopted by the City or which may be adopted by the City." Currently, the City has adopted a voluntary 20% rationing program and CVWD has adopted the very same program.

Disaster Planning

In the event of a disaster, the City has a Disaster Plan where the City Manager and the Department heads are called in to form a Disaster Management Team. This team normally will be chaired by the Fire Chief and will provide direction and coordination of all the aspects of the disaster to the various departments within the city.

The Water Division has developed a duplicate system in the event of a disaster. The main points of the duplicate system are:

1) The City has developed two major treatment plants, each plant being capable of producing more than 13.5 mgd. This is the City's highest average daily consumption on record experienced in 1987.

2) Each plant has its own auxiliary power plant.

3) Each plant has its own raw water source.

4) The two plants are separated by a distance of more than 20 miles in hopes that whatever disaster occurs will not affect both sites.

5) Within each plant is a duplicate system, for example every chemical has two separate storage containers, there are two separate pumps at every chemical pump station which work independently of each other and all controls can be operated either manually or automatically.

Section 2 PAST, CURRENT AND PROJECTED WATER USE

California Water Code Section 10631. (e) (1) Past, current and projected water use and, to the extent records are available, a breakdown of those uses on the basis of residential single family, residential multifamily, industrial, commercial, governmental, and agricultural use.

The City of Napa provides water to approximately 21,500 service connections representing some 68,000 people. The City's residential customers account for 91.5% of our service connections and 71.3% of the water consumed. Napa's commercial/industrial customers consumed approximately 18.3% of the water produced with the remainder of the water being consumed by governmental, irrigation and a very small amount going to agricultural accounts.

The highest current water demand is 12,983 AFY, the highest water demand ever was 14,412 AFY in 1987. New connections are increasing at a rate of one and a half to two percent a year but due to the newly installed offsite retrofit program the new water demand should not increase at all for the year '92, '93, and '94. There will be a minimal increase in 1991 due to the effective dates of the retrofit program. (See attachment "A" off-site retrofit program).

Unaccounted-for water averages 8.1% and is apportioned into all accounts. Connections average 2.7 people for single family unit and 2.3 people per multiple family units* with an averaged of 125 gpcd and 97 gpcd respectively. The City's total water use averages 170 gpcd. The total number of living units on the City's 738 multifamily accounts is 8905.

TABLE I CUSTOMER TYPES, NORMAL DEMAND AND DEMAND INCLUDING GROWTH

CUSTOMER TYPE	CURRENT NO OF ACTIVE CONNECTIONS	WATER USE IN ACRE FEET					
		HIGHEST EVER 1987	1990 USE	PROJECTED 1991	1992	1993	1994
SINGLE FAMILY	18664	7928	7037	7178	7322	7468	7617
MULTIFAMILY BLDGS	738**	2450	2220	2264	2309	2355	2402
COMMERCIAL	1323	2178	2363	2387	2411	2435	2459
INDUSTRIAL	1	0	13	13	13	13	14
GOVERNMENT	313	1422	974	979	984	989	994
IRRIGATION	153	317	285	286	288	289	291
AGRICULTURAL	13	117	91	91	91	91	91
TOTAL	21205	14412	12983	13198	13418	13640	13868

** Estimated average residences/unit based on data from California Department of Finance's "Population and Housing Estimates for California Cities and Counties" Summary report #E-5 dated 01/01/90.*

*** Estimate, no raw data available*

Single Family and Multi Family connections are projected to increase by two percent per year. However, the gpcd is projected to decrease as more and more high volume flush toilets in existing homes are replaced with ultra low flush toilets as a result of the City's retrofit program.

Commercial and Industrial demand is projected to increase at a rate of one percent per year.

Government and Irrigation demand is projected to increase only one half of one percent a year. Irrigation accounts are those accounts that are separately metered and provide water for landscape irrigation only.

Agricultural demand is projected to remain about the same on the average with no significant increase or decrease under normal water conditions. The City does not foresee any further agricultural development within the City limits, and it is the current City policy not to provide water for agricultural development outside the City limits.

Section 3 WORST CASE WATER SUPPLY AVAILABILITY FOR 12, 24 & 36 MONTHS

California Water Code Section 10631, (e)(2) An estimate of the maximum water supply available at this end of 12, 24 & 36 months assuming the worst case water supply shortages.

The City of Napa has the water sources listed below. Average water supply by source and projected worst case supply by source are provided in Table II.

TABLE II SUPPLY SOURCES AND WORST CASE SUPPLY PROJECTIONS

SOURCE	NORMAL WATER AVAILABILITY	FIVE YEAR 85 TO 89 AVG. USE	1991 ACTUAL	WORST CASE SUPPLY PROJECTIONS 1992	1993	1994
HENNESSY	8300	7703	1027	6440	4980	3320
MILLIKEN	1400	1321	674	1400	1400	1096
NBA	4300	3125	876	1350*	1000**	1080**
RECYCLED	----	0	0	210	210	210
YUBA	----	1251	6295	0	0	0
RECTOR	----	20	346	0	0	0
UNSCHEDULED	----	0	590	0	0	0
TOTAL	14000	13420	9808	9460	7590	5706
% SUPPLY SHORTAGE			30%	32.5%	46%	59%

Because the projected 1993 and 1994 worst case shortages could have serious economic impacts on the community, the City has established a policy to purchase additional water to limit the water shortage and attempt to keep any mandatory rationing program to less than 50%. The City is currently investigating different areas where it can develop a long term emergency water source.

LAKE HENNESSEY is owned and operated solely by the City of Napa. Lake Hennessey has a capacity of 31,000 acre feet with a firm yield (the yield that can be supplied every year without any shortage) of 5,000 acre feet and can provide a yield of 8,300 acre feet 90% of the time based on the period of record 1940-1989. Under normal operations the City feels they could draw up to 8,300 acre feet annually out of Lake Hennessey, however in the years 1985 thru 1989 the average draw was only 7,700 acre feet.

** Includes 10% carry-over of 1991's entitlement.*
*** Represents 20% of an annually increasing entitlement.*

The numbers above are a recent revisal of the firm yield of Lake Hennessey due to the current 5 year drought. The results are from a study conducted by James M. Montgomery Engineering, an independent Engineering firm. Based on a worst case recovery scenario plus the amount of water currently in storage in Lake Hennessey, the projected amount of water the City would use from Hennessey for the years '92, '93 and '94 is shown in Table II and is equivalent to a 20% reduction each year.

TABLE III — LAKE HENNESSEY STAGED REDUCTIONS

TOTAL RESERVOIR STORAGE ON APR.1	% OF REDUCTION	AVAILABLE SUPPLY IN AFY	LAKE LEVEL IN FEET OF ELEV.	% OF CAPACITY
31000-23000	0	8300	315-304.4	100-74.2
23000-19000	5	7885	304.4-297.8	74.2-61.3
19000-15000	20	6640	297.8-290.8	61.3-48.4
15000-11000	40	4980	290.8-283.2	48.4-35.8
11000-9000	60	3320	283.2-279	35.8-29
9000-7000	80	1660	279-274.7	29-22.6
<7000 A.F.	EMERGENCY USE ONLY		<274.7	<22.6

LAKE MILLIKEN is owned and operated solely by the City of Napa. Milliken's storage capacity is 1986 acre feet with a projected draw of 1,400 AFY. 1,400 AFY is substantially higher then its firm yield of 400 AFY, however, Milliken represents such a small portion of the overall supply requirement that the draw on Milliken could easily be reduced or a temporary supplemental supply secured.

Table IV shows the worst case recovery and resulting draw on Milliken and Hennessey lakes for the years 1992, '93, & '94.

TABLE IV — WORST CASE RESERVOIR WATER AVAILABILITY IN ACRE FEET

YEAR	CARRY OVER FROM PREVIOUS YEAR	WORST CASE RECOVERY	TOTAL WATER AVAILABLE	AMOUNT USED BASED ON STAGED REDUCTIONS
LAKE HENNESSEY				
1992	17118	1240	18358	6440
1993	11918	1240	13158	4980
1994	8178	1240	9418	3320
MILLIKEN RESERVOIR				
1992	1065	1055	FULL>1986	1400
1993	586	1055	1641	1400
1994	241	1055	1296	1096*

* Must maintain a capacity in the reservoir no less than 200 acre feet.

THE NORTH BAY AQUEDUCT (NBA) is a water delivery facility of California's State Water Project (SWP). The SWP retains water in the Feather River Basin, and uses facilities in the Sacramento - San Joaquin Delta to convey water to the NBA intake at Barker Slough in the northwestern delta.

NBA extends from the Barker Slough Pumping Plant 30.7 miles to the City of Napa's Jameson Canyon Treatment Plant just southeast of Napa.

It has been the intent of the City's water supply planners since the 1960's that all new demand water supply needed for Napa for the foreseeable future will come from the SWP. Our "member unit" contract with the Napa County Flood Control and Water Conservation District has a build-up schedule, See "Table V". This schedule gradually increases our annual entitlement from 3,000 acre feet in 1983 to 18,800 acre feet in 2021. This entitlement buildup was set to match the earlier growth projections for the City.

TABLE V CONTRACTUAL NBA ENTITLEMENT

YEAR	ENTITLEMENT	YEAR	ENTITLEMENT	YEAR	ENTITLEMENT
1983	3000	1998	7000	2013	14500
1984	3000	1999	7400	2014	15100
1985	3000	2000	7900	2015	15700
1986	3000	2001	8400	2016	16300
1987	3200	2002	8800	2017	16900
1988	3400	2003	9300	2018	17500
1989	3700	2004	9800	2019	18100
1990	4000	2005	10300	2020	18700
1991	4300	2006	10700	2021	18800 &
1992	4600	2007	11300	EACH SUCEEDING YEAR	
1993	5000	2008	11800	THEREAFTER FOR THE	
1994	5400	2009	12300	TERM OF THIS CONTRACT	
1995	5800	2010	12800	AS A MAXIMUM ENTITLEMENT	
1996	6200	2011	13400		
1997	6600	2012	13900		

RECYCLED WATER system is currently under construction in the City of Napa by Napa Sanitation District. The project is in two phases, phase one will construct a pipe line to provide Title 22 restricted water to the City of Napa and scheduled for completion sometime in Mid 1992. The City will make immediate use of approximately 210 acre feet of the restricted water applying it on the lawns at Swan-Kennedy Golf Course.

Phase two will be the completion of modifications to Napa Sanitation Treatment Plant so it can provide Title 22 unrestricted water to the City. The current projected completion date is sometime in 1995. Although we do not know how much reclaimed water will be used, Napa Sanitation District estimates that there will be approximately 5600 acre feet per year of reclaimed water available when the plant is at full production.

YUBA, RECTOR AND UNSCHEDULED waters are all sources not available to the City on a permanent and regular basis. They were developed primarily as supplemental sources.

UNSCHEDULED WATER is provided to the City on a "as available" basis only. The California State Water Project makes available to its contractors water from the Sacramento-San Joaquin Delta when the water flow through the Delta exceeds certain criteria. Since it is never know when or how much will be available we have projected a 0 in the worst case supply scenario.

RECTOR WATER was a pay back for water the City had provided Rector in years past. This source is not likely to be available again and therefore we have projected a 0 in it's column.

YUBA WATER has been a supplemental water source that the City has purchased on a yearly basis from the Yuba County Water Agency. The City purchased 3484, 6315 and 6305 acre feet for the years 1989, '90 and '91 respectively.

Yuba water was purchased to off set the severe effects of the 5-year drought. The purchase of this supplemental water has allowed the City to institute minimal reduction demands on its customers.

Section 4 STAGES OF ACTION

California Water Code Section 10631. (e) (3) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including to a 50 percent reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage.

The City has developed a five stage rationing plan. The plan is based on the projected amount of shortage in available water the City will experience in any one year. The City's plan includes no action, voluntary and mandatory stages.

TABLE VI RATIONING STAGES AND REDUCTION GOALS

SHORTAGE	STAGE	DEMAND REDUCTION GOAL	TYPE OF PROGRAM
0-10 %	STAGE 1	0 % REDUCTION	NO ACTION
10-20 %	STAGE 2	15 % REDUCTION	VOLUNTARY
20-35 %	STAGE 3	20 % REDUCTION	MANDATORY
35-50 %	STAGE 4	35 % REDUCTION	MANDATORY
>50 %	STAGE 5	50 % REDUCTION	MANDATORY

PRIORITIES for use of available water, based on California Water Code Chapter 3 (see Attachment "B") and staff input are:

* *HEALTH, SAFETY & SANITATION - interior residential and fire fighting.*
* *COMMERCIAL, INDUSTRIAL & GOVERNMENTAL - maintain jobs & economic base.*
* *EXISTING LANDSCAPING & LANDSCAPE IRRIGATION METERS - the primary* **consideration is to protect major trees and shrubs only.**
* **NEW DEMAND - projects without permits when a shortage is declared medigate to a zero demand through the toilet retrofit program.**
* **AGRICULTURAL - all agricultural water service is under special contracts, receiving water on a surplus water basis only. When there is a water shortage all water for agricultural use is terminated.**

SUPPLY SHORTAGE TRIGGERING LEVELS

The City of Napa has a legal responsibility to provide water for the health and safety needs of its customers. The City also feels an obligation to help minimize the social and economic impact of water shortage by managing the available water supplies prudentially. This water shortage contingency plan is designed to provide a minimum of 50 percent of normal supply during a severe or extended water shortage. The following rationing program triggering levels are established to ensure that these policy statements are implemented. The City retains the right to review and

change these triggering levels at any stage of any water shortage situation. It is the City's goal to provide the best possible use of its water resources while minimizing any negative effects a water shortage might have on its customers.

The City's three water sources are two local surface sources and one imported surface source. The rationing stages may be triggered by a shortage in one source or a combination of sources, or by insufficient carry-over storage and projected supplemental waters to provide a certain percentage of the normal supplies for the next 2 years.

The specific criteria for triggering the City's rationing stages are listed in Table VII.

TABLE VII

WATER SUPPLY TRIGGERING LEVELS
(NORMAL SUPPLY 14,000 AFY)

STAGE	PERCENT SHORTAGE	WATER SHORTAGE	CARRY-OVER SHORTAGE
STAGE 1	UP TO 10 PERCENT SUPPLY REDUCTION	COMBINED SUPPLY REDUCTIONS TOTALING UP TO 1400 AFY.	OR INSUFFICIENT CARRY-OVER STORAGE AND PROJECTED SUPPLEMENTAL WATER TO PROVIDE FOR 90 PERCENT OF NORMAL SUPPLIES FOR THE NEXT 2 YEARS.
STAGE 2	10 TO 20 PERCENT SUPPLY REDUCTION	COMBINED SUPPLY REDUCTIONS TOTALING BETWEEN 1400 & 2800 AFY.	OR INSUFFICIENT CARRY-OVER STORAGE AND PROJECTED SUPPLEMENTAL WATER TO PROVIDE FOR 75 PERCENT OF NORMAL SUPPLIES FOR THE NEXT 2 YEARS.
STAGE 3	20 TO 35 PERCENT SUPPLY REDUCTION	COMBINED SUPPLY REDUCTIONS TOTALING BETWEEN 2800 & 4900 AFY.	OR INSUFFICIENT CARRY-OVER STORAGE AND PROJECTED SUPPLEMENTAL WATER TO PROVIDE FOR 60 PERCENT OF NORMAL SUPPLIES FOR THE NEXT 2 YEARS.
STAGE 4	35 TO 50 PERCENT SUPPLY REDUCTION	COMBINED SUPPLY REDUCTIONS TOTALING BETWEEN 4900 & 7000 AFY.	OR INSUFFICIENT CARRY-OVER STORAGE AND PROJECTED SUPPLEMENTAL WATER TO PROVIDE FOR 50 PERCENT OF NORMAL SUPPLIES FOR THE NEXT 2 YEARS.
STAGE 5	> 50 PERCENT SUPPLY REDUCTION	COMBINED SUPPLY REDUCTIONS OF MORE THAN 7000 AFY. AFY.	

Table V, on page 8, indicates the graduating scale of allocations agreed to for SWP water, however, as demonstrated in 1991, the contracted amount may differ from the actual amount allocated. Given the prior situation the City, for worst case scenario purposes, will use the current allocation as the same allocation we will receive from SWP for the next 2 years. It is the City's intention to continue this policy until a more reliable system of calculating the SWP's allocation during droughts avails itself.

Section 5 MANDATORY PROHIBITIONS ON WATER USE

California Water Code Section 10631. (e) (4) mandatory provisions to reduce water use which include prohibitions against specific wasteful practices, such as gutter flooding.

The City adopted Ordinance #4277 in 1991 which prohibits specific acts of water waste, see attachment "C" section 29-104, "Prohibitions and Limitations".

Ordinance #4277 is an urgency ordinance addressing the current emergency water shortage situation. When the water supply situation returns to normal it is the intent of the City to replace the current ordinance with a permanent ordinance prohibiting certain acts of water waste no matter what the water supply situation, see attachment "D".

Section 6 CONSUMPTION LIMITS

California Water Code Section 10631. (e) (5) Consumption limits in the most restrictive stages. Each urban water supplier may use any type of consumption limit in its water shortage contingency plan that would reduce water use and is appropriate for its area. Examples of consumption limits that may be used include, but are not limited to, percentage reductions in water allocations per capita allocations, an increasing block rate schedule for high usage of water with incentives for conservation, or restrictions on specific uses.

The City has established the following allocation method for each customer type.

Single Family - Winter/Summer -- Percentage Reduction w/Maximum/Minimums
Multi Family - Winter/Summer -- Percentage Reduction
Commercial - Winter/Summer -- Percentage Reduction
Industrial - Winter/Summer -- Percentage Reduction
Governmental - Winter/Summer -- Percentage Reduction
Landscape Irrigation -- Percentage Reduction
Recreational -- Percentage Reduction
New Demand -- Assigned Rationed Allocation
Agricultural -- Termination of Water Service

The specific reductions at each stage and for each customer class are listed on Table VIII.

TABLE VIII PERCENT AND ACRE-FOOT REDUCTION BY STAGE

STAGE I	0 TO 10% REDUCTION IN SUPPLY. DOES NOT REQUIRE ANY REDUCTIONS OF CUSTOMERS. THE CITY WILL PUBLISIZE A WATER SHORTAGE AWARENESS PROGRAM					
STAGES II–V	SINGLE FAMILY MULTI–FAMILY	COMMERCIAL INDUSTRIAL GOVERNMENTAL	LAND IRRIGATION RECREATIONAL	AG. SURPLUS WATER CONTRACTS	TOTALS	TOTAL % REDUCTION
NORMAL CONSUMPT.	10,080	3,500	280	140	14000	0.0%
II –VOL	8568	2975	238	0	11781	15.8
III –20%	8064	2800	196	0	11060	21.0
IV –35%	6552	2275	154	0	8981	35.8
V –50%	5040	1750	112	0	6902	50.7

Winter/Summer Percentage Reduction with a Minimum/Maximum - A percentage reduction of the winter historical usage as a baseline allocation plus a greater percentage reduction of the summer historical usage that is in excess of the winter baseline. Additionally single family units are not rationed if their historical usage falls below a certain number and are not allowed more water on their allocation even if their historical usage exceeds a certain number. These numbers are determined by the various-stages of rationing.

Percentage Reduction - Is a straight percentage reduction of the customers historical consumption.

Assigned Rationed Allocation - When an account does not have any previous history of water usage an allocation is assigned to that account based on similar type usage or an area average of similar type accounts.

Termination of Water Service - Certain of the City's water accounts are on a special contract where the City only supplies water when we have surplus water. During droughts the water service to these accounts is terminated.

The individual customer allocations will be based on a four year base period excluding any consumption history under mandatory rationing. This will give the City a more accurate view of the usual water needs of each account and provides additional flexibility in determining allocations and reviewing appeals.

The Water Division Manager shall classify each customer and provide the formula for calculating each customer's allocation according to the methods described in the attachments. The allocations shall reflect seasonal usages. Each customer shall be notified of their allocation in their water bill and the effective date of the water shortage emergency. New customers will be notified by mail after they have signed up for water service and will receive their water allocation with their first water bill. In the event of a disaster prior notification may not be possible; notification will be provided by other means. Any customer may appeal their classification on the basis of use or their allocation on the basis of incorrect calculations or use of non-current information. All appeals will be subject to a review and verification process before a change in an allocation is granted.

Section 7 PENALTIES OR CHARGES FOR EXCESSIVE USE

California Water Code Section 10631 (e) (6) Penalties or charges for excessive use.

The City of Napa's water rates, connection and other service charges are separately determined and adopted by the Council. Current rates and charges are stipulated in Resolution No. 91-071 adopted 5/7/91 and took effect for water used after 3/15/91.

A. BLOCK THRESHOLDS BY METER SIZE - Showing 1,000 gallon limits per billing period. Rate block one (1) is only applicable to non-commercial property.

(1) Single-Family Residential

	Rate Blocks					
Meter Size	1	2	3	4	5	6
5/8 & 3/4	1-8	9-20	21-30	31-40	41-75	76 & above
1	1-8	9-20	21-30	31-40	41-75	76 & above
1 1/2	1-8	9-20	61-90	91-120	121-225	226 & above
2+	1-8	9-20	91-135	136-180	181-340	341 & above

(2) Multiple-Family Residential

	Rate Blocks					
Meter Size	1	2	3	4	5	6
5/8 & 3/4	1-8	9-20	21-30	31-40	41-75	76 & above
1	1-8	9-20	21-30	31-40	41-75	76 & above
1 1/2	1-24	25-60	61-90	91-120	121-225	226 & above
2	1-36	37-90	91-134	135-180	181-340	341 & above
3	1-64	65-160	161-240	241-320	321-600	601 & above
4	1-100	101-250	251-375	376-500	501-938	939 & above
6	1-187	188-467	468-700	701-934	935-1750	1751 & above
8 & 10	1-277	278-693	694-1040	1041-1387	1388-2600	2601 & above

(3) Commercial

	Rate Blocks					
Meter Size	1	2	3	4	5	6
5/8 & 3/4	N/A	1-20	21-30	31-40	41-75	76 & above
1	N/A	1-20	21-30	31-40	41-75	76 & above
1 1/2	N/A	1-60	61-90	91-120	121-225	226 & above
2	N/A	1-90	91-134	135-180	181-340	341 & above
3	N/A	1-160	161-240	241-320	321-600	601 & above
4	N/A	1-250	251-375	376-500	501-938	939 & above
6	N/A	1-467	468-700	701-934	935-1750	1751 & above
8 & 10	N/A	1-693	694-1040	1041-1387	1388-2600	2601 & above

B. METERED WATER RATES - For all consumers within the City, quantities will be billed at the following rates per 1,000 gallons usage per bimonthly billing period:

BLOCK	BASE RATE	20% CONSERVATION RATE	35% CONSERVATION RATE	50% CONSERVATION RATE
1	$1.08	$1.08	$1.08	$1.08
2	1.54	1.93	2.39	2.93
3	1.60	2.16	2.64	3.22
4	1.66	2.49	2.99	3.71
5	1.73	2.94	3.46	4.45
6	1.90	3.70	4.28	5.56

C. SERVICE CHARGE - For all consumers within the City, the bimonthly service charge applicable to all metered and measured services will be as follows:

Meter Size	Bimonthly Service Charge
5/8 & 3/4 inch	$ 14.89
1 inch	29.77
1 1/2 inch	53.59
2 inch	82.17
3 inch	142.91
4 inch	208.41
6 inch	357.28
8 inch	506.15
10 inch	819.97

D. LIVING UNITS INSIDE CITY - Each additional living unit served by a common meter shall be subject to an additional bimonthly charge of $6.32, except that the additional bimonthly charge for hotels and motels shall be $3.16.

E. METERED WATER RATES OUTSIDE CITY - For all consumers outside the corporate limits of the City, quantities and service charges will be billed at twice the inside City limits billing rates.

F. AGRICULTURAL WATER SERVICE - (Sales Automatically suspended upon the implementation of conservation programs exceeding 15% reduction in consumption.)

1. Application fee (NMC 29-5 (c)) $1,000
2. Rates shall be as in "B" - Outside Rates.
3. All water used during off season will be charged at regular outside City rates plus bimonthly service charges and be subject to residential allocation restriction, if any. No off season water is allowed without specific written authority of the Public Works Director. Meters

not turned off and locked shall pay a minimum of the bimonthly service charge. Excess or unauthorized use of water will cause removal of the metered access.

G. PENALTIES FOR EXCESSIVE USE - There will be two (2) times the highest applicable inside City block rate for the first offense, three (3) times said rate for the second consecutive offense, and four (4) times said rate for the third and subsequent consecutive violations. Upon the second offense or where the customer's historical average is exceeded by five percent or more, the City shall have the right to install flow restrictors in the water meter, or terminate water service.

The City has also established penalties and civil fines for specific acts of water wasting see section 29-104 and 29-110 of attachment "C". Additionally for the customers which continues to violate a specific prohibition after being notified of their prohibited activity is subject to section 29-111 of attachment "C" which includes a misdemeanor violation.

Section 8 ANALYSIS OF PLAN IMPLEMENTATION ON REVENUES

California Water Code Section 10631. (e) (7) An analysis of the impacts of the plan 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.

The City in 1990 established a 4 tier ascending block rate structure for billing water consumption, the first 8,000 gallons being billed at what is considered a life line rate. In 1991 when the City adopted a mandatory 20% rationing program, (See attachment "C") we changed the billing structure to a 6 tier ascending block rate (see attachment "F" Resolution #91-013). We retained the 8,000 gallons life line rate but reduced the allocation of water in each of the 5 remaining blocks providing a financial incentive to conserve water.

Resolution #91-013 also established four different fee schedules; base line, 20%, 35% and 50%. The corresponding fee schedule to be implemented with each level of water shortage rationing program adopted in order to offset the loss in revenue.

The City was hoping to achieve a 20% reduction of consumption for the year 1991 and adjusted the fees accordingly for the projected loss in revenue. The actual reduction in consumption for 1991 was just over 31%. This resulted in a shortfall of revenue greater than projected and was compensated for by the deferment of some capitol improvement projects and using some reserves.

It does not appear that the 1992 water supply currently available will be sufficient to offset the previous five years of drought. The City's water division is projecting that consumption will again be down and is working with the Finance Department to provide the City Council with a rate and fee package which will be more in line with the fiscal budget. These revisions will be part of the normal annual water rate review process.

Section 9 IMPLEMENTATION OF THE PLAN

California Water Code Section 10631. (e) (8) A draft water shortage contingency resolution or ordinance to carry out the urban water shortage contingency plan.

The City has adopted a Resolution to declare a Water Shortage Emergency which has implemented the water conservation plan the City is currently using, please see Attachment "E".

Section 10 WATER USE MONITORING PROCEDURES

California Water Code Section 10631. (e) (9) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency plan.

Normal Monitoring Procedure

In normal water supply conditions, production figures are recorded daily. Totals are reported daily to the Water Treatment Facility Supervisor. Totals are reported weekly to the Water Division Manager and incorporated into the water supply report.

Stage 1, 2 and 3 Water Shortages

During a Stage 1, 2, or 3 water shortage, daily production figures are reported to the Supervisor. The Supervisor compares the weekly production to the target weekly production to verify that the reduction goal is being met. Weekly reports are forwarded to the Water Division Manager. Monthly reports are sent to the City Council. As required, if reduction goals are not met, the Manager will notify the City Council so that corrective action can be taken.

Stage 4 and 5 Water Shortages

During a Stage 4 or 5 water shortage, the procedure listed above will be followed, with the addition of a daily production report to the Manager.

Disaster Shortage

During a disaster shortage, production figures will be reported to the Supervisor hourly, and to the Manager as frequently as may be required. Reports will also be provided to the Napa City Council and the Disaster Management Team.

Section 11 PLAN ADOPTION STANDARDS

California Water Code Section 10621 (a) Each urban water supplier shall, not later than January 31, 1992, prepare, adopt, and submit to the department an amendment to its urban water management plan which meets the requirements of subdivision (e) of Section 10631.

The City of Napa prepared this Water Shortage Contingency Plan during _____ and _____. The Plan was adopted on _____ and submitted to the Department of Water Resources on _____. The Plan includes all the information necessary to meet the requirements of subdivision (e) of California Water Code Section 10631.

California Water Code Section 10642 Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to California Water Code Section 6066 of the Government Code. 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.

Public meetings and the availability of copies of the draft water shortage contingency plan were properly noticed in the City's newspapers. Copies of the draft plan were available for public review at City offices. The City held ____ public meetings on the Water Shortage Contingency Plan:

- **one meeting focused on residential water rationing programs.**
- **one focused on commercial, industrial and governmental rationing options.**
- **one focused on agricultural water rationing options.**
- **a final meeting was held to present the completed Plan, which was supported unanimously by the City Council.**

The 1992 Water Shortage Contingency Plan for the City of Napa was formally adopted at a duly noticed City Council Meeting on _____.

California Water Code Section 10656 An urban water supplier that does not submit an amendment to its urban water management plan pursuant to subdivision (a) of Section 10621 to the department by January 31, 1992 is ineligible to receive drought assistance from the state until the urban water management plan is submitted pursuant to Article 3 (commencing with Section 10640) of Chapter 3.

The City of Napa submitted a Water Shortage Contingency Plan to the Department of Water Resources on _____.

CITY OF NAPA

OFFSITE RETROFIT PROGRAM

FOR NEW DEVELOPMENT

PURPOSE

This program is intended to allow development to continue throughout the duration of the 20% mandatory rationing plan without causing an increase in City water use, and to create long-term water savings which otherwise would not occur. The City of Napa Water Division will allow a developer to build a project if he makes changes to existing development that will permanently reduce water use equal to the water needs of the new development. For example, if a developer wanted to build a single-family residence, he would have to retrofit 4 existing homes with ultra-low flush toilets and other low water use fixtures to offset the water needs of the new home.

PROCEDURES

Anyone issued a building permit for new development must retrofit a sufficient number of existing single-family residences prior to receiving a Certificate of Occupancy. The City Water Division will determine the number of retrofits required for each project. Other non-commercial uses, such as schools or government buildings, may be retrofitted upon approval of the Water General Manager.

One retrofit is defined as replacing all the toilets in an existing single-family residence that are 3.5 gallons or more with toilets that use no more than 1.6 gallons per flush, plus the installation of showerheads and faucet aerators that emit no more than 3 gallons and 2 gallons per minute, respectively, where they do not already exist within the home. The home must be served by the City of Napa's water distribution system.

A list of water customers interested in participating in the retrofit program is available to developers and licensed contractors upon request. The developer or contractor is responsible for making all necessary arrangements with the water customer for replacement of toilets and other plumbing fixtures. Once the required retrofits are complete, the developer or contractor must deliver the toilets that have been removed to the City of Napa's corporation yard, and must then submit a Certificate of Completion (Exhibit A) for each retrofit to the Public Works Department. Any falsification of the Certificate by the developer or plumbing contractor is subject to a $10,000 fine. The City Water Division will conduct random inspections to verify retrofit completions.

RETROFIT REQUIREMENT FOR NEW DEVELOPMENT

The number of homes a residential developer will be required to retrofit is as follows:

Single-family detached	4.0 per unit
Condominium/townhouse/duplex	3.6 per unit
Apartment (3 units or more)	3.1 per unit
Mobile home	3.0 per unit

The annual water savings from on retrofitted home is calculated to be .07 acre-feet. Refer to Exhibit B.

The water use factor for single-family residences is equivalent to the amount of water allocated to new single-family residences under the City of Napa's 20% mandatory rationing program. The allocated amount is based on 90% of the average indoor use of a new home plus an additional amount sufficient to support 2,000 square feet of xeriscape landscaping without turf. Refer to Exhibit B.

Non-residential projects will have their water demand evaluated during the project review stage. If they are identified as a major water user, they will be required to mitigate their water demand through off-site retrofitting or some other method determined to be appropriate.

RETROFIT REQUIREMENT FOR REMODELS

Anyone requesting a building permit for an addition to, or remodel of, an existing home must replace the home's existing toilets with ultra-low flush toilets if the value of the addition or remodel exceeds 25% of the total valuation of the home. Valuations shall be determined by the City of Napa's Building Department.

Any floor area additions to existing non-residential structures is considered new development, and must retrofit in accordance with the retrofit requirements for new development.

EFFECTIVE DATES

Anyone issued a building permit after January 15, 1991 is required to retrofit in accordance with these provisions. If a project was issued a building permit before January 16, 1991, it will be exempt from the retrofit requirements if its foundations have been constructed before May 7, 1991, the effective date of the rationing ordinance. If a project is ready for occupancy prior to June 1, 1991, the Water General Manager may allow the payment of a fee in lieu of actually retrofitting the existing single-family dwellings. The fee is $600 per retrofit. The City will use the fees collected for administering its own retrofit program.

In the event the Water General Manager determines that actual retrofitting of existing homes is impractical or constitutes an unusual hardship on an applicant, he may authorize the payment to the City of the in-lieu fee of $600 per retrofit.

LANDSCAPE PROVISIONS

In accordance with the City's mandatory rationing program, new development will be allowed to install low water using plants and trees in accordance with the City's Xeriscape Standards established in May 1990. However, the retrofit requirement of a project will reflect the additional water demand of the limited landscaping. The retrofit requirement for landscaping is based on the water demand of 2,000 square feet of low water using plants and trees with a drip irrigation system. Refer to Exhibit B.

In the interest of promoting water conserving landscapes, the following is recommended:

1. The Green Industry will conduct programs to educate its customers in the efficiency, versatility and beauty of xeriscape landscaping.

2. Model homes will be landscaped using xeriscape techniques and signs will be erected on the property advising the public of the water efficient nature of the landscaping.

3. Fines for acts of water waste collected by the City will be used to provide rebates on toilet retrofits for low-income homeowners and those who need handicapped fixtures, and to develop a xeriscape demonstration garden at the Pelusi Building.

RETROFIT REQUIREMENTS

IF YOU ARE BUILDING A . . .	YOUR RETROFIT REQUIREMENTS WILL BE BASED ON THESE RATIOS			
	Single Family		Condominium	Apartment*
Single family (Detached home)	4.0	or	4.5	5.4
Condominium	3.6	or	4.0	5.0
Apartment	3.1	or	3.7	4.0

NOTE: All multiples resulting from taking the number of units you are building times the retrofit factors are rounded up. For example, if you are building 7 Condo units and retrofitting single family homes to satisfy your requirement it would be 3.6 x 7 = 25.2 or rounded up to 26 single family homes retrofitted.

* The only apartment complexes that can be retrofitted under this program are those that are operated as non-profit or not for profit enterprises. Their eligibility must be approved by the Water General Manager before retrofitting occurs. All other apartment complexes are part of the commercial/business community and therefore cannot be used to offset the retrofit requirements of a new project. These owners have 3 incentives to retrofit their apartment complex.

1. There are tax benefits for the cost of the improvements.

2. The water saved by ultra low flush toilets equates to dollars saved on the water bill which the owner pays.

3. The owner can apply for the $125.00 rebates offered by Napa Sanitation District for each toilet retrofitted.

RETROFIT PROGRAM (CALCULATIONS)

Water Use Factor For New Single-Family Residence

Assumptions:

1. Wintertime use is indoor use.

2. 40 gallons a day will support 2,000 s.f. of bushes and trees with a drip irrigation system during the peak summer months. 30 gallons a day is sufficient for fall; 20 gallons a day for spring.

   Average wintertime use of a new single-family residence = 14,000 gallons bimonthly
   14,000 (.90) = 13,000 gallons bimonthly (indoor allocation)

   Xeriscape allocation for a peak summer period
   = 40 gallons/day x 61 days
   = 2,440 gallons (or 3,000 gallons bimonthly)

   Xeriscape allocation for the spring period
   = 20 gallons/day x 61 days
   = 1,220 gallons (or 2,000 gallons bimonthly)

   Xeriscape allocation for the fall period
   = 30 gallons/day x 61 days
   = 1,830 gallons (or 2,000 gallons bimonthly)

Winter Allocation	- 13,000 (2 periods)	= 26,000
Spring Allocation	- 13,000 + 2,000	= 15,000
Summer Allocation	- 13,000 + 3,000 (2 periods)	= 32,000
Fall Allocation	- 13,000 + 2,000	= 15,000
		88,000

Converted to Acre-Feet - $\frac{88,000}{325,851}$ = .27 Acre-Feet Per Year

Water Savings From One Retrofitted Home

Assumptions:

1. 3 people per household.

2. 5 toilet flushes per person per day.

   The gallons saved per flush is based on the calculation below entitled "Average Water Savings Per Flush." The average savings is 4 gallons per flush.

3 (people per household)
x5 (flushes per person per day)
x4 (gallons saved per flush)
x 365 (days per year)
21,900 gallons saved per year

Converted to acre-feet $\frac{21,900}{325,851}$ = .07 acre-feet per year

Average Water Savings Per Flush

Assumptions:

1. 60% of existing toilets are 7 gallons.

2. 40% of existing toilets are 3.5 gallons.

7 - 1.6 = 5.4 (gallons saved per flush by replacing 7-gallon toilet)

3.5 - 1.6 = 1.9 (gallons saved per flush by replacing 3.5-gallon toilet)

5.4 x .60 = 3.24
1.9 x .40 = .76
4.00 (average gallons saved per flush)

Retrofit Requirement for a Single-Family Residence

.27 acre-feet per year (use of a new home)
.07 acre-feet per year (water savings of one retrofit)
= 3.85 homes to be retrofitted per new home

Use 4 retrofits per new single-family home

CERTIFICATE OF COMPLETION ATTACHMENT "A"

This Certificate of Completion is to be credited to the retrofit requirements for the following project:

Project Name _____
Building Permit Number _____
Developer _____
Address _____
_____
License Number _____

Project Number _____
Site Address _____
Plumbing Contractor _____
Address _____
_____
License Number _____

Please complete the following for the home being retrofitted:

IS THIS UNIT A SINGLE FAMILY DETACHED ____ CONDO ____ APARTMENT ____

1. Site Address _____
2. Water Account Number _____
3. Owner's Name _____
4. Mailing Address _____
5. Number of Existing Toilets _____
6. Gallonage of Each _____
7. No. Replaced w/Ultra-low Flush (1.6 gal) ____
8. Number of Existing Showerheads _____
9. Number Replaced _____
10. No. of Existing Interior Sink Faucets _____
11. Number of Aerators Installed _____

If all existing showerheads were not replaced, or if aerators were not installed in each existing interior si faucet, please explain:

_____
_____
_____
_____

I, _____ (print name), do hereby certify that I am the owner of the property abov and that the work described on this Certificate has been completed to my satisfaction, and that all toilets ha been replaced.

_____ _____
Signature Date

I declare under penalty or perjury that the information stated above is true and complete to the best of knowledge. I realize that I am subject to a $10,000 fine as stated in Section 11d of City Ordinance #4249

_____ _____
Signature of Developer/Authorized Agent/Representative Date

_____ _____
Signature of Contractor (or person doing work) Date

_____ (#) Toilets Received at the City of Napa Corporation Yard on _____
Date

_____
Received by

This Certificate is hereby accepted and may be applied to the project identified herein.

By: _____
Water Division

c:\WP51\WATERCER

RELEVANT SECTIONS OF THE CALIFORNIA GOVERNMENT & CALIFORNIA WATER CODES

Sections of the California Government Code

Section 6061. Publication of notice pursuant to this section shall be for one time.

Section 6066. Publication of notice pursuant to this section shall be once a week for two successive weeks. Two public notices in a newspaper published once a week or oftener with at least five days intervening between respective publication dates, not counting such publication dates, are sufficient. The period of notification commences upon the first day of publication and terminates at the end of the fourteenth day including therein the first day.

Sections of the California Water Code
Chapter 3 - Water Shortage Emergencies

Section 350. The governing body of a distributor of a public water supply, whether publicly or privately owned and including a mutual water company, may declare a water shortage emergency condition to prevail within the area served by such distributor whenever it finds and determines that the ordinary demands and requirements of water consumers cannot be satisfied without depleting the water supply of the distributor to the extent that there would be insufficient water for human consumption, sanitation, and fire protection.

Section 351. Excepting in event of a breakage or failure of a dam, pump, pipe line or conduit causing an immediate emergency, the declaration shall be made only after a public hearing at which consumers of such water supply shall have an opportunity to be heard to protest against the declaration and to present their respective needs to said governing board.

Section 252. Notice of the time and place of hearing shall be published pursuant to Section 6061 of the Government Code at least seven days prior to the date of hearing in a newspaper printed, published, and circulated within the area in which the water supply is distributed, or if there is no such newspaper, in any newspaper printed, published, and circulated in the county in which the area is located.

Section 353. When the governing body has so determined and declared the existence of an emergency condition of water shortage within its service area, it shall thereupon adopt such regulations and restrictions on the delivery of water and the consumption within said area of water supplied for public use as will in the sound discretion of such governing body conserve the water supply for the greatest public benefit with particular regard to domestic use, sanitation, and fire protection.

Section 354. After allocating and setting aside the amount of water which in the opinion of the governing body will be necessary to supply water

needed for domestic use, sanitation, and fire protection, the regulations may establish priorities in the use of water for other purposes and provide for the allocation, distribution, and delivery of water for such other purposes, without discrimination between consumers using water for the same purpose or purposes.

Section 355. The regulations and restrictions shall thereafter be and remain in full force and effect during the period of the emergency and until the supply of water available for distribution within such area has been replenished or augmented.

Section 356. The regulations and restrictions may include the right to deny such applications for new or additional service connections, and provision for their enforcement by discontinuing service to consumers willfully violating the regulations and restrictions.

Section 357. if the regulations and restrictions on delivery and consumption of water adopted pursuant to this chapter conflicts with any law establishing the rights of individual consumers to receive either specific or proportionate amounts of the water supply available for distribution within such service area, the regulations and restrictions adopter pursuant to this chapter shall prevail over the provisions of such laws relating to water rights for the duration of the period of emergency; provided, however, that any distributor of water which is subject to regulation by the State Public Utilities Commission shall before making such regulations and restrictions effective secure the approval thereof of the Public Utilities Commission.

Section 358. Nothing in this chapter shall be construed to prohibit or prevent review by any court of competent jurisdiction of any finding or determination by a governing board of the existence of an emergency or of regulations or restrictions adopted by such board, pursuant to this chapter, on the ground that any such action is fraudulent, arbitrary, or capricious.

RELEVANTSE/WATER/TXTLIB3

ORDINANCE NO. 4277

AN URGENCY ORDINANCE OF THE CITY COUNCIL OF THE CITY OF NAPA AMENDING ORDINANCE NO. 4249 AS AMENDED AND CODIFYING SAID PROVISIONS AS ARTICLE IV OF CHAPTER 29 OF THE NAPA MUNICIPAL CODE REGARDING WATER SHORTAGE EMERGENCY REGULATIONS

WHEREAS, emergency water restrictions were enacted by Ordinance Nos. 4249, 4261 and 4263; and

WHEREAS, it would be convenient to add said ordinances to the Napa Municipal Code as a new Article IV to Chapter 29; and

WHEREAS, Council has received testimony that lawns planted in the late fall can become established with moderate watering; and

WHEREAS, Council desires to amend or add Section 5b, 5f, 6e, 7a, and 7h to Ordinance 4249, as amended; and

WHEREAS, the window of fall planting would unnecessarily be cut short unless this ordinance is enacted as an urgency ordinance.

NOW, THEREFORE, BE IT ORDAINED by the City Council of the City of Napa as follows:

Section 1. Article IV is hereby added to Chapter 29 of the Napa Municipal Code to read as follows:

ARTICLE IV

WATER SHORTAGE EMERGENCY REGULATIONS

Sec. 29-100. Purpose and Scope.

This Ordinance adopts regulations to deal with the water shortage emergency which the City Council has found to exist. These regulations are effective immediately and shall be effective until the City Council finds that the drought-induced water shortage no longer exists.

Sec. 29-101. Findings.

The City Council finds, determines and declares that the following facts are true:

(a) The City Council has conducted public meetings or duly noticed public hearings on February 5 and 19, 1991, March 5, 1991, and April 16,

1991 to determine whether a drought induced water shortage emergency exists, and, if so, what regulations should be adopted in response to the shortage.

(b) The City Council, on March 5, 1991, adopted Ordinance 4240 establishing water shortage emergency regulations that include a required thirty-five percent (35%) water use reduction system wide.

(c) The City Council adopted Resolution No. 91-10 which found that a drought-induced water shortage emergency exists, the shortage continues to exist, and it is probable that the shortage will continue to exist. However, due to March rains, the reduction can be reduced to a twenty percent (20%) water use reduction system wide.

(d) The City Council has adopted and filed a notice of exemption confirming that this Ordinance is an emergency project and, therefore, exempt from the requirements of the California Environmental Quality Act and, alternatively, adopted a negative declaration.

(e) The regulations set forth herein are necessary and proper to protect the water supply for human consumption, sanitation and fire protection during the duration of the shortage.

(f) This Ordinance shall apply to customers receiving water from the City of Napa and expressly applies to customers outside the City limits pursuant to the City's charter powers and Water Code Section 355 et seq. and 375 et seq.

(g) Due to said water emergency, the City finds it reasonable and necessary for the temporary period of the drought to partially suspend and modify that certain agreement (as amended) between the City of Napa and the State of California to supply water to the Napa State Hospital and the Veteran's Home of California. Special circumstances with respect to said customer includes: the findings set forth in the resolution finding a drought induced water shortage emergency exists; State is the City's largest water user having used 133 million gallons of water during 1990; the State has large amounts of outside landscaping, and the State has access to alternative sources of water, such as Rector Dam. Therefore, notwithstanding said agreement, the State of California shall be given a water allocation as allowed for other water customers as per Section 29-103(b)(1). Said allocation may be increased pursuant to agreement between the City and the State if the agreement for the use of Rector Dam water can be reached.

Sec. 29-102. Definitions.

The following terms are defined for the purpose of this Article:

(a) "Customer" means the person responsible for paying for each water service account on the City of Napa or Congress Valley Water District's water distribution system, both inside city limits and outside city limits.

(b) "Historical" means the available water consumption data from 1987 to the present.

(c) "Irrigation customer" means any customer that is using water for the sole purpose of landscape irrigation.

(d) "New Development" means any of the following construction projects that have not received a Certificate of Occupancy from either the City or County Building Department prior to March 6, 1991 or that was issued a building permit after January 15, 1991:

(1) Any free-standing building that contains water-using fixtures.

(2) Any floor area additions to existing non-residential structures.

(3) Any residential additions or remodeling that increases the number of independent living units.

(e) "Person" means any individual, firm, partnership, association, corporation, company, organization or governmental agency.

(f) "Retrofit an existing house" means to replace all the toilets, shower heads, and faucet aerators in the house not complying with the flow requirements as stated in this Article.

(g) "Ultra low flush toilet" means any toilet which uses no more than 1.6 gallons per flush and meets performance standards established by the American National Standards Institute Standard A112.19.2.

(h) "Water" means any water that is supplied by the City of Napa's water distribution system.

Sec. 29-103. Water Allocation Regulations for 20% Reduction.

(a) A water use allocation will be given to each new and existing water customer of the City of Napa. The goal of the allocation program is to reduce water use throughout the service area by an overall amount of twenty percent (20%) from the pre-drought consumption levels.

(b) No customer shall use water in excess of allocations determined as follows:

(1) Each existing customer shall receive a bimonthly allocation equal to ninety percent (90%) of his/her average historical winter consumption plus seventy percent (70%) of historical water usage in excess of the average historical winter consumption for each non-winter billing period. These percentages may be adjusted by five percent (5%) higher or lower as needed to achieve the 20% system-wide goal. If adjustments are made, they will be applied in a similar way for all customers.

(2) Each irrigation customer shall receive a bimonthly allocation equal to seventy percent (70%) of his/her historical consumption. These percentages may be adjusted by five percent (5%) higher or

lower as needed to achieve the 20% system-wide goal. If adjustments are made, they will be applied in a similar way for all customers.

(3) City Parks and Recreation Department and Napa Valley College shall receive an annual allocation equal to seventy-five (75%) of their 1987 usage.

(4) The Napa Valley Unified School District (NVUSD) shall receive an annual allocation equal to seventy-five percent (75%) of its 1986 usage.

(5) The Town & Country Fairgrounds shall receive an annual allocation of eighty percent (80%) of its 1987 usage. City water shall not be used for dust control.

(6) Customers with incomplete historical consumption records shall receive bimonthly allocations based upon the records available and/or computations using similar customer's historical consumption records.

(7) New development shall receive an allocation as determined by Section 29-106.

(8) Allocations will not be reduced below the historical water usage so long as the historical water usage is below 10,000 gallons bimonthly.

(9) No single family residence shall receive an allocation more than 50,000 gallons bimonthly.

(c) Water used for the public swimming pools operated by NVUSD will be excluded from their annual allocation if they are kept open during the summer months for public use.

(d) The Congress Valley Water District must enact and enforce a water conservation program identical to those water conservation programs adopted by the City.

(e) The City's fifty (50) largest water users shall submit a water conservation plan to implement all reasonably feasible water conservation measures. Any such user shall reduce all landscape irrigation to no greater than seventy percent (70%) of historical irrigation usage.

(f) Interruptible surplus agricultural water contracts are suspended during this water shortage period as no surplus water is available.

(g) A special drought block rate structure will be established by resolution to meet the budgetary obligations of the Water Division caused by the need to purchase supplemental water supplies and to administer and enforce this Article. Additional blocks will be established. Rate changes will be smallest for the lower usage blocks and greatest in the highest usage blocks to encourage conservation efforts.

(h) The drought rates will be applied to all water used. In addition, a penalty will be charged for the use of water quantities that exceeds 25,000 gallons bimonthly and exceeds the customer's allocation. The penalty charge will be two (2) times the highest applicable inside City block rate for the first offense, three (3) times said rate for the second consecutive offense, and four (4) times said rate for the third and subsequent consecutive violations. Upon the second offense or where the customer's historical average is exceeded by five percent (5%) or more, the City shall have the right to install a flow restrictor in the water meter, which reduces water flow and pressure, or may terminate service. At the end of the calendar year, any public entity given an annual allocation, such as NVUSD and the Town & Country Fairgrounds, will be billed a penalty equal to four (4) times the applicable rate for water quantities that exceed their allocation.

Sec. 29-104. Prohibitions and Limitations.

(a) No customer or person shall waste water. As used herein, the term "waste" means:

(1) Use of water for decorative fountains or the filling of decorative lakes or ponds.

(2) Washing cars, boats, trailers, aircraft or other vehicles by hose without a shutoff nozzle except commercial or fleet vehicle washing facilities operated at fixed locations.

(3) Washing streets, sidewalks, walkways, driveways, patios, parking lots or other hard-surfaced areas with water.

(4) Watering lawns or gardens in a manner which results in runoff in gutter or other waterway, or excessive overspray of patio, driveway, walk or street.

(5) Filling or refilling swimming pools with City of Napa water or water from any public agency within Napa County which prohibits the use of their water for filling or refilling of swimming pools including the Congress Valley Water District public water system. Water source arrangements shall be made and verified prior to issuance of building permit or draining of existing pools. Verification following delivery will also be required. This does not prohibit adding water to pools to maintain proper pool water levels resulting from normal use of the pool.

(6) Serving water to restaurant patrons unless specifically requested.

(7) Withdrawing water from fire hydrants, except for fire fighting and water system maintenance purposes.

(8) Use of water for cleaning streets during or following construction activities; flushing sewers, hydrants, storm drains; flow testing for fire sprinkler design and training of fire fighting personnel.

(9) Use of water for grading, dust control, street, pipeline or similar heavy construction. Hydrant meters shall not be issued for construction purposes.

(b) The installation of lawn, sod or turf will be permitted, but any customer installing said lawn, sod or turf shall become ineligible for a water allocation increase through the appeal process, except as provided in Section 29-106(a). Customers installing lawn, sod or turf are expected to remain within their allocation. If they cannot do so, they will be subject to the penalties and more restrictive measures described in Section 29-103(h).

(c) No person or customer shall irrigate landscaping between the hours of 10:00 a.m. and 6:00 p.m.

(d) Water shall not be used for the irrigation of any commercial crops, including vineyards. Violation of this provision shall be penalized by the installation of a flow restrictor or termination of service.

(e) Water for hauling shall be limited to indoor domestic uses within Napa County and shall be supplied at the City Corporation Yard only. Prior approval from the Water Division is required. Tanker trucks must be certified to carry potable water. Verification of delivery to approved address is required.

(f) All projects for which the Planning Department requires approved landscape plans must adhere to the City's Xeriscape Standards in order to obtain plan approval. Any project with a City-approved landscape plan that does not comply with the City's Xeriscape Standards may not install the landscaping while this Article is in effect, unless the plan is revised to comply with the Xeriscape Standards.

Sec. 29-105. Water Use Guidelines.

All persons are encouraged to use the following water conservation guidelines:

(a) Establish procedures in the home and business to recycle water where possible.

(b) Use water in a manner which minimizes waste and repair leaks as soon as possible.

(c) Install low flow shower heads and ultra low flush toilets.

(d) Refrain from additional irrigation and unnecessary use of water, such as car washing, on days when the temperature exceeds 85 F. Customers with manual systems should irrigate only on odd numbered days if the

property address is an odd number and on even numbered days if the property address is an even number. There is a limit to the amount of water that can be imported daily from outside of Napa County due to the capacity of the City's treatment plant. When the daily peak demand exceeds that capacity, water must be drawn out of Lake Hennessey to meet the demand. This guideline helps to keep the daily demand down so that Lake Hennessey water can be saved for next year.

(e) All new or replacement landscaping should be designed and installed in accordance with the City's Xeriscape Standards in order to be water efficient. Lawns should comprise no more than twenty-five percent (25%) of the area landscaped, and the remaining areas should be planted with low water-using trees and plants and irrigated with a drip system. Those projects for which the Planning Department requires an approved landscape plan must follow the Xeriscape Standards in order to receive approval.

Sec. 29-106. New Development and Remodels.

(a) New development shall receive a water allocation based on the indoor water requirements of similar uses. Additional water allocations for landscaping purposes shall be given to development that has not been landscaped. New landscaping shall comply with all applicable sections of this Article. The water allocation given for landscaping shall be limited to the lower water needs of a Xeriscape plan without sod, regardless of the type of landscaping installed.

(b) New development shall completely offset its water requirements by installing ultra low flush toilets in a sufficient number of existing homes having toilets that use three and one-half (3 1/2) gallons or more per flush. Other non-commercial facilities may be retrofitted upon approval of the Water General Manager. Any new development which obtained a building permit prior to January 16, 1991 and whose foundation was constructed prior to May 8, 1991 shall be exempted from this requirement.

(1) New dwelling units offered for sale shall be exempt from this retrofit requirement if the monthly housing costs are not greater than thirty percent (30%) of one hundred percent (100%) of the median family income for Napa County. "Monthly housing costs" shall include the payment of principal and interest on the mortgage loan, utility cost, taxes and insurance.

(2) New rental units shall be exempted from this retrofit requirement if the monthly housing costs (rent and utilities) are not greater than thirty percent (30%) of eighty percent (80%) of the median family income for Napa County.

(3) The maximum income limits and monthly housing costs allowable for this retrofit exemption are as set forth in "Exhibit A" to Resolution 89-480. The Housing Authority of the City of Napa shall revise these figures on an annual basis.

(4) The Housing Authority of the City of Napa shall certify on initial sale or renting that each affording dwelling unit qualifies for the retrofit exemption.

(c) In the event the Water General Manager determines that actual retrofitting of existing homes is impractical or constitutes an unusual hardship on an applicant, he may authorize the payment to the City of an in-lieu retrofit fee equivalent to the cost of retrofitting a sufficient number of existing homes with ultra low flush toilets and other required water saving devices as described in Paragraph d. The fee shall also include the cost of staff time to accomplish the required retrofitting using the fees collected. The in-lieu fee may be established by resolution. The Water Department is authorized to require retrofitting and not accept in-lieu retrofit fee, regardless of hardship, if it appears unlikely the City can complete retrofitting prior to the expected occupancy.

(d) All houses that are retrofitted with toilets shall also be retrofitted with the following water saving devices: shower heads emitting no more than three (3) gallons per minute, interior faucet aerators that emit no more than two (2) gallons per minute.

(e) The City Water Department will determine the number of existing homes that will offset the water use of each new development and must verify that the retrofits have been completed prior to issuance of a Certificate of Occupancy. The City is authorized to charge the developer a fee for the staff time spent on any retrofit requirements. In the event that an in-lieu fee has been paid, the City Water Department will administer a program to retrofit existing homes using the fees collected. In-lieu fees must be paid upon issuance of a building permit so that sufficient time exists for the retrofits to be made prior to occupancy of the new development.

(f) All new development that has not installed water closets and urinals as of the effective date of this Article shall use water closets and associated flush/o/meter valves, if any, which use no more than 1.6 gallons per flush and which meet performance standards established by the American National Standards Institute Standard A112.19.2 and urinals and associated flush/o/meter valves, if any, which use no more than one gallon per flush and which also meet the above performance standards. All remodeling work on existing structures where the remodeling valuation exceeds twenty-five percent (25%) of the value of the entire structure shall include retrofitting of all water closets and urinals within the structure to this same standard.

(g) In the City of Napa, Building Permits, Certificates of Occupancy and/or water connections can be withheld pending compliance with these regulations. In the County of Napa, water service will be withheld pending compliance.

(h) All development shall be allowed to defer any turf installations required by other City regulations until after the declared water emergen-

cy is over. The City Planning Department shall process amendments to existing agreements reflecting the deferral of any turf installations requirements and may require that an acceptable form of security be provided.

Sec. 29-107. Appeals.

Exceptions to the above allocations and prohibitions may be made for the protection of public health or safety or undue hardship including adverse economic impacts, such as loss of production or jobs. Any exceptions are subject to the following requirements and procedures:

(a) Any person who wishes to make an appeal shall do so in writing by using the form provided by the Water Department.

(b) The appeal shall be reviewed by the General Manager of the Water Division or his designee or designees.

(c) It must be shown that there are no alternatives to the use of City water and that all appropriate conservation measures are being used.

(d) Verification may be required of any condition/situation listed on application for exception.

(e) The decision of the General Manager of the Water Division (or his designee) will be final.

Sec. 29-108. Responsibility of Owners, Landlords, Employers, Property Managers, and Contractors.

(a) Every customer who has requested City water service is responsible for civil penalties for water waste whether or not the acts of water waste are committed by that person or third parties. The civil penalty may be reduced or discharged if the water waste was beyond the control of the customer and if all reasonable means had been previously taken to prevent water waste. All reasonable means includes, but is not limited to, securing hose bibbs, written warnings to tenants or other water users, and amendments to rental agreements where permitted by the lease.

(b) Every employer is responsible for civil penalties for acts of water waste committed by employees.

(c) Every property manager is responsible for civil penalties for acts of water waste resulting from irrigation prohibited by this Article.

(d) Every licensed contractor or development owner is liable for acts of water waste committed on the job site.

Sec. 29-109. Civil Fines Authorized.

(a) Acts of water waste and other acts prohibited by this Article are subject to civil fines as herein prescribed. Any person receiving an administrative citation may appeal it within ten (10) <u>business</u> days from

the date the citation was issued. The Notice of Appeal for administrative citations must be made in writing and filed in the Public Works Department.

(b) Civil fines are payable at the City Collections Office. Fines must be paid within ten (10) business days. If an appeal is filed, the bail for the fine must be paid within said ten (10) days.

(c) The Finance Department is authorized to collect all unpaid civil fines.

Sec. 29-110. Civil Fines Established.

(a) All violations of this Article are subject to a civil fine of fifty Dollars ($50.00) for a first offense, One Hundred Fifty Dollars ($150.00) for a second offense, and Three Hundred Dollars ($300.00) for a third offense.

(b) Violations of Sections 29-104 a(5), a(8), a(9), or d are subject to a civil fine of five hundred dollars ($500) for a first offense and one thousand dollars ($1,000) for a second offense.

(c) Violations of Section 29-104a(7) are subject to a civil fine of two thousand five hundred dollars ($2,500) per occurrence.

(d) Filing a false certificate of compliance for any requirement contained in this Article shall be subject to a civil fine of ten thousand dollars ($10,000) for each offense.

Sec. 29-111. Penalties.

Any person, firm or corporation violating any of the provisions of this Article shall be deemed guilty of a misdemeanor and upon conviction thereof shall be fined in an amount not exceeding one thousand dollars ($1,000) or be imprisoned in the County jail for a period not exceeding six (6) months or be both so fined and imprisoned. Each day such violation is committed or permitted to continue shall constitute a separate offense and shall be punishable as such hereunder.

Section 2. Severable. If any section, sub-section, subdivision, paragraph, clause or phrase in this Article, or any part thereof, is for any reason held to be invalid or unconstitutional, such decision shall not affect the validity of the remaining sections or portions of this ordinance or any part thereof. The City Council hereby declares that it would have passed each section, sub-section, subdivision, paragraph, sentence, clause or phrase of this ordinance irrespective of the fact that any one or more section, sub-sections, subdivisions, paragraphs, sentences, clauses or phrases may be declared invalid or unconstitutional.

Section 3. Urgency. This Ordinance is an urgency ordinance. By Resolution No. 91-10, the City Council has declared a water shortage emergency. It is necessary that the regulations set forth in this Ordinance be adopted as set forth herein in order to increase the water allocations to the City's customers as soon as possible.

Section 4. Effective and Operational Dates. Section 1 of This Ordinance shall become effective immediately upon passage as provided in City of Napa Charter Section 62. Section 5 of this Ordinance shall become operative on January 1, 1992.

Section 5. Sections 29-104(b), 29-106(a), 29-106(h) and 29-110(b) are amended to read as follows:

Sec. 29-104. Prohibitions and Limitations.

(b) The installation of new or replacement lawn, sod, or turf by any customer or person is prohibited unless irrigation is provided from a well. New or replacement landscaping shall be limited to low water using plants watered with drip irrigation systems. The Water Division is authorized to adopt standards for and definitions of low water using shrubs, bushes and trees.

Sec. 29-106. New Development and Remodels.

(a) New development shall receive a water allocation based on the indoor water requirements of similar uses. Additional water allocations shall be given for landscaping purposes. Landscaping installed by new development shall be limited to low water using plant material watered by drip irrigation systems. The installation of lawn, sod, turf, is prohibited unless irrigation is provided from a well. The water allocation given for landscaping shall be limited to the lower water needs of the type of landscaping allowed for a typical lot.

(h) All development shall be required to defer any turf installations required by other city regulations until after the declared water emergency is over. The City Planning Department shall process amendments to existing agreements reflecting the deferral of any turf installations requirements and may require that an acceptable form of security be provided.

Sec. 29-110. Civil Fines Established.

(b) Violations of Sections 29-104 a(5), a(8), a(9), b or d are subject to a civil fine of five hundred dollars ($500) for a first offense and one thousand dollars ($1,000) for a second offense.

MAYOR

_____

ATTEST:

_____
CITY CLERK

STATE OF CALIFORNIA)
COUNTY OF NAPA) SS:
CITY OF NAPA)

I, Pamyla C. Means, CMC, City Clerk of the City of Napa, do hereby certify that the foregoing Ordinance was adopted as an Urgency Ordinance on the 17th day of September 1991 by the following roll call vote:

AYES: Barwick, Luce, Huber, Paulson and Solomon

NOES: None

ABSENT: None

_____
CITY CLERK OF THE CITY OF NAPA

ORDINANCE NO. 4305

AN URGENCY ORDINANCE OF THE CITY COUNCIL OF THE CITY OF NAPA AMENDING SECTIONS 29-100, 19-101, 29-102, 29-104 AND 29-106 OF THE NAPA MUNICIPAL CODE AND ADDING ARTICLE V (COMMENCING WITH SECTION 29-140) TO THE NAPA MUNICIPAL CODE REGARDING WATER SHORTAGE REGULATIONS

Section 1. Article V is hereby added to Chapter 29 of the Napa Municipal Code to read as follows:

ARTICLE V

MODERATE WATER SHORTAGE REGULATIONS

Sec. 29-140. Purpose and Scope.

This Ordinance adopts regulations to deal with a moderate water shortage emergency. These regulations shall become effective immediately upon approval by the City Council of a resolution declaring the existence of a moderate water shortage and shall remain in effect until the City Council finds that the moderate water shortage no longer exists.

Sec. 29-141. Findings.

The City Council finds, determines and declares that the following facts are true:

a. The regulations set forth herein are necessary and proper to protect the water supply for human consumption, sanitation and fire protection during the duration of the shortage.

b. This Ordinance shall apply to customers receiving water from the City of Napa and expressly applies to customers outside the City limits pursuant to the City's charter powers and Water Code Section 355 et seq. and 375 et seq.

Sec. 29-142. Definitions.

The following terms are defined for the purpose of this Article:

a. "Customer" means the person responsible for paying for each water service account on the City of Napa or Congress Valley Water District's water distribution system, both inside city limits and outside city limits.

b. "Irrigation customer" means any customer that is using water for the sole purpose of landscape irrigation.

c. "New Development" means any of the following construction projects that have not received a Certificate of Occupancy from either the City or County Building Department prior to March 6, 1991 or that was issued a building permit after January 15, 1991:

(1) Any free-standing building that contains water-using fixtures.

(2) Any floor area additions to existing non-residential structures.

(3) Any residential additions or remodeling that increases the number of independent living units.

d. "Person" means any individual, firm, partnership, association, corporation, company, organization or governmental agency.

e. "Retrofit an existing house" means to replace all the toilets, shower heads, and faucet aerators in the house not complying with the flow requirements as stated in this Article.

f. "Ultra low flush toilet" means any toilet which uses no more than 1.6 gallons per flush and meets performance standards established by the American Society of Mechanical Engineers Standard A112.19.2.M.

g. "Water" means any water that is supplied by the City of Napa's water distribution system.

h. "Domestic use" means any water used by a person for cooking, cleaning, bathing, washing clothes, drinking, and sanitation.

Sec. 29-143. Water Use Regulations.

a. Each customer shall make every attempt possible to reduce water usage by the amount specified in the City Council resolution declaring the moderate water shortage.

b. The Congress Valley Water District must enact and enforce water use regulations identical to those water use regulations included in this Article.

c. Interruptible surplus agricultural water contracts are suspended during the water shortage period as no surplus water is available.

d. No single family residence shall use more than 50,000 gallons of water bimonthly unless a specific allocation is approved by the Water General Manager based on criteria established by the Public Works Department.

e. A special drought block rate structure will be established by resolution to meet the budgetary obligations of the Water Division caused by the need to reduce water consumption, the possible need to purchase supplemental water, and the need to administer and enforce this Article. Additional blocks will be established. Rate changes will be smallest for the lower usage blocks and greatest in the highest usage blocks to encourage conservation efforts.

f. The drought rates will be applied to all water used. In addition, a penalty will be charged for the use of water quantities that exceeds 50,000 gallons bimonthly for single family residences. Where additional allocations have been approved for specific single family residential customers, penalties will be charged for the use of water quantities that exceed the higher allocation. The penalty charge will be two (2) times the highest applicable inside City block rates.

Sec. 29-144. Prohibitions and Limitations.

a. No customer or person shall waste water. As used herein, the term "waste" means:

(1) Use of water for decorative fountains where the water is not recirculated.

(2) Washing cars, boats, trailers, aircraft or other vehicles by hose without a shutoff nozzle except commercial or fleet vehicle washing facilities operated at fixed locations.

(3) Washing streets, sidewalks, walkways, driveways, patios, parking lots or other hard-surfaced areas with water, except as required for health and safety.

(4) Watering lawns or gardens in a manner which results in runoff in gutter or other waterway, or excessive overspray of patio, driveway, walk or street.

(5) Serving water to restaurant patrons unless specifically requested.

(6) Withdrawing water from fire hydrants, except for fire fighting, fire fighting training, and water system maintenance purposes.

(7) Use of water for cleaning streets during or following construction activities; flushing sewers and storm drains; and flow testing for fire sprinkler design.

(8) Use of water for grading, dust control, street, pipeline or similar heavy construction. Hydrant meters shall not be issued for construction purposes.

b. No person or customer shall irrigate landscaping between the hours of 10:00 a.m. and 5:00 p.m, except for the initial watering of newly planted landscaping and germination requirements of newly seeded lawns.

c. Water for hauling shall be supplied at the City Corporation Yard only. Prior approval from the Water Division is required. Water shall not be supplied for construction purposes. Tanker trucks hauling for domestic use must be certified to carry potable water.

d. All projects for which the Planning Department requires approved landscape plans must adhere to the City's Xeriscape Standards in order to obtain plan approval.

e. Draining and refilling of swimming pools shall be permitted only as needed for the purpose of pool repair or to correct a severe chemical imbalance. Draining and refilling of decorative ponds and lakes shall be permitted only as needed for the purpose of lining the bottom to prevent absorption.

Sec. 29-145. Water Use Guidelines.

All persons are encouraged to use the following water conservation guidelines:

a. Establish procedures in the home and business to recycle water where possible.

b. Use water in a manner which minimizes waste and repair leaks as soon as possible.

c. Install low flow shower heads and ultra low flush toilets.

d. Refrain from additional irrigation and unnecessary use of water, such as car washing, on days when the temperature exceeds 85 F. Customers with manual systems should irrigate only on odd numbered days if the property address is an odd number and on even numbered days if the property address is an even number.

e. All new or replacement landscaping should be designed and installed in accordance with the City's Xeriscape Standards in order to be water efficient. Lawns should comprise no more than twenty-five percent (25%) of the area landscaped, and the remaining areas should be planted with low water-using trees and plants and irrigated with a drip system. Those projects for which the Planning Department requires an approved landscape plan must follow the Xeriscape Standards in order to receive approval.

Sec. 29-146. New Development and Remodels.

a. New development shall completely offset its water requirements by installing ultra low flush toilets in a sufficient number of existing homes having toilets that use three and one-half (3 1/2) gallons or more per flush. Other non-commercial facilities may be retrofitted upon approval of the Water General Manager. Any new development which obtained a building permit prior to January 16, 1991 and whose foundation was constructed prior to May 8, 1991 shall be exempted from this requirement.

(1) New dwelling units offered for sale shall be exempt from this retrofit requirement if the monthly housing costs are not greater than thirty percent (30%) of one hundred percent (100%) of the median family income for Napa County. "Monthly housing costs" shall include the payment of principal and interest on the mortgage loan, utility cost, taxes and insurance.

(2) New rental units shall be exempted from this retrofit requirement if the monthly housing costs (rent and utilities) are not greater than thirty percent (30%) of eighty percent (80%) of the median family income for Napa County.

(3) The maximum income limits and monthly housing costs allowable for this retrofit exemption are as set forth in "Exhibit A" to Resolution 89-480. The Housing Authority of the City of Napa shall revise these figures on an annual basis.

(4) The Housing Authority of the City of Napa shall certify on initial sale or renting that each affording dwelling unit qualifies for the retrofit exemption.

b. In the event the Water General Manager determines that actual retrofitting of existing homes is impractical or constitutes an unusual hardship on an applicant, he may authorize the payment to the City of an in-lieu retrofit fee equivalent to the cost of retrofitting a sufficient number of existing homes with ultra low flush toilets and other required water saving devices as described in Paragraph d. The fee shall also include the cost of staff time to accomplish the required retrofitting using the fees collected. The in-lieu fee may be established by resolution. The Water Department is authorized to require retrofitting and not accept in-lieu retrofit fee, regardless of hardship, if it appears unlikely the City can complete retrofitting prior to the expected occupancy.

c. All houses that are retrofitted with toilets shall also be retrofitted with the following water saving devices: shower heads emitting no more than 2.5 gallons per minute, interior faucet aerators that emit no more than 2.2 gallons per minute.

d. The City Water Department will determine the number of existing homes that will offset the water use of each new development and must verify that the retrofits have been completed prior to issuance of a Certificate of Occupancy. The City is authorized to charge the developer a fee for the staff time spent on any retrofit requirements. In the event that an in-lieu fee has been paid, the City Water Department will administer a program to retrofit existing homes using the fees collected. In-lieu fees must be paid upon issuance of a building permit so that sufficient time exists for the retrofits to be made prior to occupancy of the new development.

e. All new development shall use water closets and associated flush/o/meter valves, if any, which use no more than 1.6 gallons per flush and which meet performance standards established by the American Society of Mechanical Engineers Standard A112.19.2.M. and urinals and associated flush/o/meter valves, if any, which use no more than one gallon per flush and which also meet the above performance standards.

f. In the City of Napa, Building Permits, Certificates of Occupancy and/or water connections can be withheld pending compliance with these regulations. In the County of Napa, water service will be withheld pending compliance.

g. Residential remodeling would trigger a retrofit if the remodeling involved work that would increase water use, such as adding or remodeling a bathroom, adding a bedroom, granny unit, hot tub, spa, pool, or laundry. Remodeling that does not increase water use, such as re-roofing, adding a family room or increasing the size of a room would not trigger a retrofit.

Sec. 29-147. Appeals.

Exceptions to the above allocations and prohibitions may be made for the protection of public health or safety or undue hardship including adverse economic impacts, such as loss of production or jobs. Any exceptions are subject to the following requirements and procedures:

a. Any person who wishes to make an appeal shall do so in writing by using the form provided by the Water Department.

b. The appeal shall be reviewed by the General Manager of the Water Division or his designee or designees.

c. It must be shown that there are no alternatives to the use of City water and that all appropriate conservation measures are being used.

d. Verification may be required of any condition/situation listed on application for exception.

e. The decision of the General Manager of the Water Division (or his designee) will be final.

Sec. 29-148. Responsibility of Owners, Landlords, Employers, Property Managers, and Contractors.

a. Every customer who has requested City water service is responsible for civil penalties for water waste whether or not the acts of water waste are committed by that person or third parties. The civil penalty may be reduced or discharged if the water waste was beyond the control of the customer and if all reasonable means had been previously taken to prevent water waste. All reasonable means includes, but is not limited to, securing hose bibbs, written warnings to tenants or other water users, and amendments to rental agreements where permitted by the lease.

b. Every employer is responsible for civil penalties for acts of water waste committed by employees.

c. Every property manager is responsible for civil penalties for acts of water waste resulting from irrigation prohibited by this Article.

d. Every licensed contractor or development owner is liable for acts of water waste committed on the job site.

Sec. 29-149. Civil Fines Authorized.

a. Acts of water waste and other acts prohibited by this Article are subject to civil fines as herein prescribed. Any person receiving an administrative citation may appeal it within ten (10) business days from the date the citation was issued. The Notice of Appeal for administrative citations must be made in writing and filed in the Public Works Department.

b. Civil fines are payable at the City Collections Office. Fines must be paid within ten (10) business days. If an appeal is filed, the bail for the fine must be paid within said ten (10) days.

c. The Finance Department is authorized to collect all unpaid civil fines.

Sec. 29-150. Civil Fines Established.

a. All violations of this Article are subject to a civil fine of fifty Dollars ($50.00) for a first offense, One Hundred Fifty Dollars ($150.00) for a second offense, and Three Hundred Dollars ($300.00) for a third offense.

b. Violations of Sections 29-144 a(7), a(8) are subject to a civil

fine of five hundred dollars ($500) for a first offense and one thousand dollars ($1,000) for a second offense.

c. Violations of Section 29-144a(6) are subject to a civil fine of two thousand five hundred dollars ($2,500) per occurrence.

d. Filing a false certificate of compliance for any requirement contained in this Article shall be subject to a civil fine of ten thousand dollars ($10,000) for each offense.

Sec. 29-151. Penalties.

Any person, firm or corporation violating any of the provisions of this Article shall be deemed guilty of a misdemeanor and upon conviction thereof shall be fined in an amount not exceeding one thousand dollars ($1,000) or be imprisoned in the County jail for a period not exceeding six (6) months or be both so fined and imprisoned. Each day such violation is committed or permitted to continue shall constitute a separate offense and shall be punishable as such hereunder.

Section 2. The title to Article IV of Chapter 29 is amended to read as follows:

ARTICLE IV

SEVERE WATER SHORTAGE REGULATIONS

Section 3. Sections 29-100, 29-101, 29-102b, 29-104c, 29-106 d and f are amended to read as follows:

Sec. 29-100. Purpose and Scope.

This Ordinance adopts regulations to deal with a severe water shortage where a reduction in consumption of 20% must be mandated. These regulations become effective immediately upon approval by the City Council of a resolution declaring the existence of a severe water shortage and shall remain in effect until the City Council finds that the severe water shortage no longer exists.

Sec. 29-101. Findings.

The City Council finds, determines and declares that the following facts are true:

a. The regulations set forth herein are necessary and proper to protect the water supply for human consumption, sanitation and fire protection during the duration of the shortage.

b. This Ordinance shall apply to customers receiving water from the City of Napa and expressly applies to customers outside the City

limits pursuant to the City's charter powers and Water Code Section 355 et seq. and 375 et seq.

c. Due to said severe water shortage, the City finds it reasonable and necessary for the temporary period of the drought to partially suspend and modify that certain agreement (as amended) between the City of Napa and the State of California to supply water to the Napa State Hospital and the Veteran's Home of California. Special circumstances with respect to said customer includes: the findings set forth in the resolution finding a drought induced water shortage emergency exists; State is the City's largest water user having used 133 million gallons of water during 1990; the State has large amounts of outside landscaping, and the State has access to alternative sources of water, such as Rector Dam. Therefore, notwithstanding said agreement, the State of California shall be given a water allocation as allowed for other water customers as per Section 29-103(b)(1). Said allocation may be increased pursuant to agreement between the City and the State if the agreement for the use of Rector Dam water can be reached.

Sec. 29-102. Definitions.

b. "Historical" means the available water consumption data from mid-1987 to the end of 1990.

Sec. 29-104. Prohibitions and Limitations.

c. No person or customer shall irrigate landscaping between the hours of 10:00 a.m. and 5:00 p.m.

Sec. 29-106. New Development and Remodels.

d. All houses that are retrofitted with toilets shall also be retrofitted with the following water saving devices: shower heads emitting no more than 2.5 gallons per minute and interior faucet aerators that emit no more than 2.2 gallons per minute.

f. All new development shall use water closets and associated flush/o/meter valves, if any, which use no more than 1.6 gallons per flush and which meet performance standards established by the American Society of Mechanical Engineers Standard A112.19.2.M. and urinals and associated flush/o/meter valves, if any, which use no more than one gallon per flush and which also meet the above performance standards. All remodeling work on existing structures where the remodeling valuation exceeds twenty-five percent (25%) of the value of the entire structure shall include retrofitting of all water closets and urinals within the structure to this same standard.

Section 4. Subsection i is added to Section 29-102 to read as follows:

i. "Domestic use" means any water used by a person for cooking, cleaning, bathing, washing clothes, drinking, and sanitation.

Section 5. Subsection i is added to Section 29-106 to read as follows:

Sec. 29-106. New Development and Remodels.

i. Residential remodeling would trigger a retrofit if the remodeling involved work that would increase water use, such as adding or remodeling a bathroom, adding a bedroom, granny unit, hot tub, spa, pool, or laundry. Remodeling that does not increase water use, such as re-roofing, adding a family room or increasing the size of a room would not trigger a retrofit.

Section 6. Severable. If any section, sub-section, subdivision, paragraph, clause or phrase in this Article, or any part thereof, is for any reason held to be invalid or unconstitutional, such decision shall not affect the validity of the remaining sections or portions of this ordinance or any part thereof. The City Council hereby declares that it would have passed each section, sub-section, subdivision, paragraph, sentence, clause or phrase of this ordinance irrespective of the fact that any one or more section, sub-sections, subdivisions, paragraphs, sentences, clauses or phrases may be declared invalid or unconstitutional.

Section 7. Declaration of Urgency. This ordinance is an urgency ordinance. By Resolution No. 91-10 and Ordinance No. 4277, the City Council has declared that a severe water shortage emergency shortage exists. During the winter of 1991 and 1992, sufficient rainfall was received to partially restore the Lake Hennessey reservoir to allow the City Council to partially relax the water shortage emergency regulations. It is necessary that this ordinance take effect immediately as set forth herein in order to give proper credit to the City's water customers for their water conservation in excess of the City's target and to permit spring planting of landscaping that will now be possible.

ATTACHMENT "D"

MAYOR

ATTEST:

CITY CLERK

STATE OF CALIFORNIA)
COUNTY OF NAPA) SS:
CITY OF NAPA)

I, Pamyla C. Means, CMC, City Clerk of the City of Napa, do hereby certify that the foregoing Ordinance was adopted as an Urgency Ordinance on the 21st day of April 1992 by the following roll call vote:

AYES: Barwick, Luce, Paulson and Solomon

NOES: Huber

ABSENT: None

CITY CLERK OF THE CITY OF NAPA

ORD4305/ORDINANCE/TXTLIB20

RESOLUTION No. 91-10

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF NAPA DECLARING A WATER SHORTAGE EMERGENCY

WHEREAS, the City relies on Lake Hennessey and Milliken Reservoir to supply 70% of the water used by its customers; and

WHEREAS, below normal rainfall in each of the last five years has produced insufficient runoff to replenish the water supplies in each of these reservoirs; and

WHEREAS, Lake Hennessey is now at 30% of capacity and Milliken is at 21% of capacity as the end of winter approaches; and

WHEREAS, the supplies remaining in these two reservoirs are less than the City's annual customer needs; and

WHEREAS, the City's source for the remaining 30% of its normal water supply is the State Water Project, which has notified the City that it can provide only 10% of the City's entitlement due to a similar lack of runoff affecting State reservoirs; and

WHEREAS, the City has been attempting to purchase supplemental water supplies from other water agencies; and

WHEREAS, these other agencies are unwilling to commit to a sale of their water due to the possibility of water shortages of their own; and

WHEREAS, the City Council has conducted public meetings or duly noticed Public Hearings on February 5 and 19, 1991 and on March 5, 1991 to determine whether a water shortage for Napa water customers will occur as a result of the above events.

NOW THEREFORE, IT IS HEREBY RESOLVED BY THE CITY COUNCIL OF THE CITY OF NAPA AS FOLLOWS:

1. The City Council hereby declares that a water shortage emergency condition exists based on the findings presented above and information presented at the Public Hearings.

2. Water use restrictions and regulations must be adopted to safeguard the adequacy of water supply for human consumption, sanitation and fire protection requirements.

3. Sufficient water supplies in City-owned reservoirs must be carried over into 1992 to provide similar safeguards in the event of inadequate runoff again next winter.

4. City will continue to seek and develop short-term supplemental water supplies to ease the water shortage emergency.

I HEREBY CERTIFY that the foregoing policy resolution was duly and regularly adopted by the City Council of the City of Napa at a regular meeting of said City Council held on the 5th day of March, 1991, by the following roll call vote:

AYES: Barwick, Luce, Huber, Paulson and Solomon

NOES: None

ABSENT: None

ATTEST: Pamela Meer
CITY CLERK OF THE CITY OF NAPA

RES9110/RESOLUTION/TXTLIB1

RESOLUTION NO. 91-013

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF NAPA RESCINDING RESOLUTIONS 89-256 AND 90-211, AMENDING WATER RATES, FEES AND CHARGES

WHEREAS, the City Council of the City of Napa has determined that services provided by the water utility shall be subject to various charges.

WHEREAS, on March 5, 1991, following a public hearing, the City Council authorized the implementation of a thirty-five percent (35%) reduction water usage program.

NOW, THEREFORE, BE IT RESOLVED as follows:

Section 1. Resolution 89-256, adopted April 18, 1989, is hereby rescinded.

Section 2. Resolution 90-211, adopted June 19, 1990, is hereby rescinded.

Section 3. The City Council hereby implements a thirty-five percent (35%) Conservation Program, and that the following rates, fees and charges are hereby amended for all water usage after March 15, 1991.

A. Drought Quantity Charge

For the Consumption period of August 1, 1990, through July 31, 1991, applicable to all consumers inside and outside the corporate limits of the City, all quantities shall be charged fourteen cents ($0.14) per one thousand (1,000) gallons in addition to all other charges set by this Resolution.

B. Metered Water Use Blocks

For all metered rates set by this Resolution, six separate usage blocks shall apply with different meter rates for each block. The block limits for each bimonthly billing period are set for each meter size as follows:

BLOCK THRESHOLDS BY METER SIZE
(showing 1,000 gallon limits per billing period)
Rate block one (1) is only applicable to non-commercial property)

	RATE BLOCKS					
Meter Size	1*	2	3	4	5	6
5/8 & 3/4	1-8	9-20	21-30	31-40	41-75	76 & above
1	1-8	9-20	21-30	31-40	41-75	76 & above
1 1/2	1-8	9-60	61-90	91-120	121-225	226 & above
2	1-8	9-90	91-135	136-180	181-340	341 & above
3	1-8	9-160	161-240	241-320	321-600	601 & above
4	1-8	9-250	251-375	376-500	501-938	939 & above
6	1-8	9-468	469-701	702-934	935-1,750	1,751 & above
8 & 10	1-8	9-693	694-1,039	1,040-1,387	1,388-2,600	2,601 & above

*Rate Block One (1) thresholds may adjust for additional living units, if applicable.

C. Metered Water Rates - Inside City

(1) For all consumers within the City, quantities will be billed at the following rates per one thousand (1,000) gallons usage per bimonthly billing period:

Block	Base Rate	20% Conservation Rate	35% Conservation Rate	50% Conservation Rate
1	$1.08	$1.08	$1.08	$1.08
2	1.54	1.93	2.39	2.93
3	1.60	2.16	2.64	3.22
4	1.66	2.49	2.99	3.71
5	1.73	2.94	3.46	4.45
6	1.90	3.70	4.28	5.56

(2) For all consumers within the City, the bimonthly service charge applicable to all metered and measured services will be as follows:

Meter Size	Bimonthly Service Charge
5/8 & 3/4 inch	$14.89
1 inch	29.77
1 1/2 inch	53.59
2 inch	82.17
3 inch	142.91
4 inch	208.41
6 inch	357.28
8 inch	506.15
10 inch	819.97

Inside City - Each additional living unit served by a common meter shall be subject to an additional bimonthly charge of six dollars and thirty-two cents ($6.320, except that the additional bimonthly charge for hotels and motels shall be three dollars and sixteen cents ($3.16).

D. Metered Water Rates - Outside City

(1) For all consumers outside the corporate limits of the City, quantities will be billed at the following rates per one thousand (1,000) gallons usage per bimonthly billing period:

Block	Base Rate	20% Conservation Rate	35% Conservation Rate	50% Conservation Rate
1	$2.16	$2.16	$2.16	$2.16
2	3.08	3.85	4.77	5.96
3	3.20	4.32	5.28	6.44
4	3.33	5.00	5.99	7.42
5	3.46	5.88	6.92	8.95
6	3.81	7.43	8.57	11.12

(2) For all consumers outside the corporate limits of the City, the bimonthly service charge applicable to all metered and measured services will be as follows:

Meter Size	Bimonthly Service Charge
5/8 & 3/4 inch	$ 29.78
1 inch	59.54
1 1/2 inch	107.18
2 inch	164.34
3 inch	285.82
4 inch	416.82
6 inch	714.56
8 inch	1,012.30
10 inch	1,639.94

Outside City - Each additional living unit served by a common meter shall be subject to an additional bimonthly charge of twelve dollars and sixty-four cents ($12.64), except that the additional bimonthly charge for hotels and motels shall be six dollars and thirty-two cents ($6.32).

E. Agricultural Water Service

(1) Agricultural water sales contracts are automatically suspended upon the implementation of conservation programs exceeding fifteen percent (15%) reduction in consumption.

(2) The application fee for Interruptible Surplus Agricultural Water Service (NMC 29-5(c)) shall be one thousand dollars ($1,000.00).

(3) The meter rates for service provided during the authorized agricultural water contract period shall be the rates set in Section D(1) (Outside City Rates).

(4) The bimonthly service charge shall be as indicated in Section D(2).

(5) All water used during off season will be charged at regular outside City rates plus bimonthly service charges and be subject to residential allocation restriction, if any. No off season water use is allowed without specific written authority of the Public Works Director. Meters not turned off and locked shall pay a minimum of the Outside City bimonthly service charges. Excess or unauthorized use of water will cause removal of the metered access.

I HEREBY CERTIFY that the foregoing resolution was duly and regularly adopted by the City Council of the City of Napa at a regular meeting of said City Council held on the 12th of March of 1991, by the following roll call vote:

AYES: Barwick, Luce, Paulson, Huber and Solomon

NOES: None

ABSENT: None

ATTEST: _____
CITY CLERK OF THE CITY OF NAPA