Urban Water Management Plan
2015 Update

Adopted September 5, 2017

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<tr>
<td>AF</td>
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<td>Automatic Meter Reading</td>
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<td>Encoder Receiver Transmitter</td>
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<tr>
<td>GPCD</td>
<td>Gallons per capita per day</td>
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<tr>
<td>gpf</td>
<td>gallons per flush</td>
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<tr>
<td>HET/HEU</td>
<td>High-Efficiency Toilet/High-Efficiency Urinal</td>
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<tr>
<td>MG</td>
<td>Million gallons</td>
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<td>Million gallons per day</td>
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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*, prepared by MIG, Adopted May 2012


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


CHAPTER 1

INTRODUCTION AND OVERVIEW

1.1 Purpose of Urban Water Management Plan

This report has been prepared by the City of Napa Water Division to provide a framework for long-term water resources planning and specifically to meet the requirements of the Urban Water Management Planning Act (Act). The Act was adopted by the California State Legislature as Assembly Bill (AB) 797 in 1983. Originally signed into law by Governor Deukmejian in 1984 and amended numerous times since then, the Act is contained in California Water Code Division 6, Part 2.6, Sections 10610 through 10656 (Appendix A).

The Act requires all urban water suppliers of a certain minimum size to develop an Urban Water Management Plan (UWMP), and to update it every five years. The required contents of an UWMP are set forth in the Act. An UWMP describes and evaluates sources of water supply, projected population and future water demand over a 20-year planning horizon. Water conservation, water service reliability, contingencies for droughts, recycled water usage, and other related subjects are also addressed in an UWMP.

The Act recognizes that water is a limited and renewable resource subject to ever-increasing demands and that the efficient use of this resource is a statewide concern. A long-term reliable supply of water is necessary to protect the productivity of California’s businesses and economic climate. The Act also acknowledges that there is no substitute for planning at the local water supplier level. A local water supplier has the experience, knowledge, and ability to consider the unique circumstances of an individual agency in tailoring the planning to local conditions. The UWMP is the vehicle by which water agencies report their strategies to meet future water challenges to both State government and the communities they serve. The overarching goal is to ensure that adequate water supplies are available to meet existing and future demands.

1.2 Water Code Changes

The Act and its UWMP requirements have been modified frequently over the years in response to the State’s water shortages, droughts, and other factors. A recycled water component was added as a result of AB 2853, passed in 1994. AB 1845, passed in 1995, focused planning efforts to ensure the appropriate level of reliability in water service to meet the needs of customers during normal, dry, and multiple-dry water years.

Prior to the UWMP 2010 update, an emphasis on demand management measures culminated in two new water conservation requirements. First, California Urban Water Conservation Council (CUWCC) members were to show they were in full compliance with the Best Management Practice (BMP) coverage requirements in the Memorandum of Understanding Regarding Urban Water Conservation in California (MOU), rather than simply submitting their annual BMP reports. Second, and most significantly, the Water Conservation Act of 2009, Senate Bill (SB) X7-7 (Appendix B), arose from the 2007-2009 dry period and the Governor’s call for a statewide 20% reduction in daily per capita water use by 2020. SB X7-7 required urban water suppliers to establish water use targets for 2015 and 2020. Each urban water
supplier is required to determine its baseline daily per capita water use and to calculate future water use targets in accordance with technical methodologies developed by the California Department of Water Resources (DWR), and to include this information beginning in its 2010 UWMP. Progress towards decreasing daily per capita water use and achieving future water use targets is then to be documented in subsequent plans starting with this 2015 update.

Other changes to UWMP requirements prior to 2010 included 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.

Since 2010, several recent legislative amendments to the Act have been adopted which affect this current UWMP update:

AB 2067 requires water suppliers to provide narratives describing their water demand management measures implemented over the previous five years, as well as the demand management measures the supplier plans to use to achieve its water use targets. This amendment also established a July 1, 2016 deadline for submitting UWMP 2015 updates to DWR. Submittal of this City of Napa UWMP update was delayed for the reasons described in Section 1.4 below.

SB 1420 requires water suppliers to include in its UWMP 2015 update standardized forms, tables, or displays specified by DWR, and to submit the UWMP to DWR electronically. All numbered, blue-shaded tables in this document are the UWMP Standardized Tables required for electronic submittal to DWR. SB 1420 also requires the UWMP to quantify and report on distribution system water losses using a standardized water balance methodology developed by the American Water Works Association (AWWA), and authorizes, but does not require, accounting for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans.

SB 1036 authorizes, but does not require, the UWMP to include certain energy-related information, such as the the amount of energy used to extract or divert water supplies.

1.3 Relation to Other Planning Efforts

Urban Water Management Plans serve numerous purposes and are intended to be consistent with and support other local, regional, and statewide plans and processes. The purpose of the City’s UWMP update is not simply to comply with State law. The UWMP can benefit the City directly by supporting future updates to the City’s General Plan. As a long-range planning document, it can aid the preparation of environmental documents under the California Environmental Quality Act (CEQA). The UWMP helps facilitate implementation of two other State water planning laws, SB 610 and SB 221, that can require water supply assessments for new large development projects.

The City’s UWMP can also be used as an input for update of the Napa County General Plan. In late 2016, municipal reservoir demand data from a draft version of this UWMP were incorporated into Napa Valley Groundwater Sustainability: A Basin Analysis Report for the Napa Valley Subbasin, prepared for Napa County in response to the Sustainable Groundwater Management Act (SGMA).

On a more regional level, the City participates in the San Francisco Bay Area Integrated Regional Water Management Plan (IRWMP), a multi-stakeholder nine-county effort to
coordinate a strategic approach to regional water resources management. 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 IRWMP in December 2006 and the updated version in May 2014. Supply and demand data from the City’s UWMP are part of the IRWMP update.

While this UWMP provides information on water management specific to the City’s service area, it is clear that water management does not happen in isolation. Aside from those mentioned above, other planning processes that may integrate with the UWMP include the Napa Sanitation District (NSD) Recycled Water Plans, and Water Plans and UWMPs from neighboring cities. As warranted, these documents have been used in the development of this UWMP 2015 update to allow for consistency and integration of water management planning and to optimize the use of water resources within the City’s service area and the surrounding region.

### 1.4 City of Napa UWMP 2015 Update

Under the Act, urban water suppliers are required to update their UWMP and submit a complete plan to DWR every five years. The City of Napa has complied with the UWMP provisions since the Act’s inception, submitting its most recent UWMP update to DWR for 2010. The City has adapted its UWMP over the years to meet various amendments to the Act.

For this UWMP 2015 update, the City has delayed its adoption beyond the July 1, 2016 due date contained in the Act and has kept DWR staff informed during the process. There were three primary reasons for delaying completion so as to benefit the final plan. Firstly, to produce a reasonable and accurate AWWA Water Audit for calendar year 2015 as required under the new distribution system water loss provisions of the Act, in June 2016 the City enrolled in the Water Loss Technical Assistance Program (TAP) sponsored by the California-Nevada Section of the AWWA (CA-NV AWWA). Following Wave 2 of that program in February 2017, the City had a 2015 Water Audit that had been rigorously reviewed by industry experts. It has been incorporated into Chapter 4 of this UWMP.

Secondly, the UWMP was delayed in anticipation of updated requirements and common statewide standards for Water Shortage Contingency Plans emanating from the Governor’s issuance of Executive Order B-37-16 in May 2016. While an implementation framework for that order, *Making Water Conservation a California Way of Life*, was issued in April 2017, its Water Shortage Contingency Plan provisions still require new legislative action and might not take effect until the UWMP 2020 update. As a result, the City’s Water Shortage Contingency Plan described in Chapter 8 remains similar to UWMP 2010 with only slight modification made in 2014 during the recent statewide drought.

Thirdly, the implementation of Executive Order B-37-16 includes new water use efficiency targets for urban water suppliers that go beyond SB X7-7 2020 targets. As described in *Making Water Conservation a California Way of Life*, these targets will likely include indoor residential per capita water use plus outdoor water use based on local climate and landscape area. While these new targets also require new legislative action followed by the development of regulatory standards, the existing framework and draft legislation has been used to provide insight for the City’s long-term water demand projections in Chapter 4 and water conservation efforts in Chapter 9.

A review of historical UWMPs shows that future water demand projections are often too high. For example, the City’s UWMP 2005 projected that overall demand on the system would reach
17,489 acre-feet (AF) in 2015. In UWMP 2010, the demand projection for 2015 was scaled back to 14,895 AF based on known water use efficiency improvements and interim SB X7-7 per capita use targets. However, as shown in Chapter 4, actual demand in 2015 was significantly lower still. Of course the historic statewide drought and its accompanying emergency regulations are a major reason for that particular year, but with overall lower population projections and new statewide laws on water conservation and efficiency, the longer-term demand projections in this UWMP 2015 are appropriately scaled back to address this new reality.

1.5 Report Format

For this UWMP 2015 update, the City has elected to modify the basic structure and organization used in previous cycles so as to align the document and accompanying tables with the organization recommended in DWR's 2015 Urban Water Management Plans: Guidebook for Urban Water Suppliers. All numbered tables are those required for electronic submittal to DWR. Required content is grouped by topic as follows:

Chapter 1: Introduction and Overview - This section covers the background, purpose, and scope of an Urban Water Management Plan.

Chapter 2: Plan Preparation - This section covers the process used to develop UWMP 2015, including efforts in coordination and outreach.

Chapter 3: System Description - This section describes the City’s water service area including population, climate, and other factors affecting the City’s water management planning, including governance and the Water Division’s organizational structure.

Chapter 4: System Water Use - This section covers the past, current, and projected water uses within the City’s water service area. It also provides information on distribution system water losses.

Chapter 5: SB X7-7 Baselines and Targets - This section provides information about the City’s baseline per capita water use and urban water use targets, describes the methods for calculating baseline and target consumption, and success in achieving its 2015 interim target.

Chapter 6: System Supplies - This section describes and quantifies the current and projected sources of water available to the City, including surface water, recycled water, and potential new sources, transfers, or exchanges of water.

Chapter 7: Water Supply Reliability Assessment - This section characterizes the reliability of the City water supply system, provides an updated assessment of the system reliability out 20 years under differing hydrologic conditions, including normal, single-dry, and multiple-dry years.

Chapter 8: Water Shortage Contingency Planning - This section summarizes the City’s five-stage plan for addressing water shortages and describes actions that would be undertaken in response to a catastrophic interruption of water supplies, including a regional power outage, earthquake, or other emergency situation.

Chapter 9: Demand Management Measures - This section describes the measures implemented by the City to promote water conservation and includes the City’s 2013-2014 BMP Coverage Reports from the CUWCC.
Chapter 10: Plan Adoption, Submittal, and Implementation - This section describes the steps taken to adopt and submit the UWP 2015 update, and to make the plan available for public use and reference.

1.6 UWMPs and Grant or Loan Eligibility

In order for an urban water supplier to be eligible for any State water grants or loans administered by DWR, the agency must have a current Urban Water Management Plan on file that has been determined by DWR to address the requirements of the Water Code. Beginning in 2016, urban water suppliers must also comply with the requirements of the Water Conservation Act of 2009 in order to be eligible for State water grants and loans, meaning an agency must both meet its interim SB X7-7 water use target and report compliance in its UWMP 2015 update.

By submitting this complete UWMP 2015 update, the City intends to remain eligible for DWR-administered grants and loans as well as drought assistance if ever needed. For example, the City has benefitted from three rounds of Proposition 84 implementation grant funds awarded to the Bay Area IRWMP group since 2012, including more than $700,000 to subsidize local water conservation rebate incentives for our customers. These and other State financing programs will continue to benefit the City’s water system.
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CHAPTER 2

PLAN PREPARATION

2.1 Basis for Preparing the UWMP

In accordance with the California Water Code, every urban water supplier with 3,000 or more service connections or supplying more than 3,000 acre-feet (AF) of water per year are required to prepare an UWMP every five years. As shown in Table 2-1, with more than 25,000 active service connections, the City of Napa clearly meets the definition of “Urban Water Supplier” and therefore must prepare a plan.

<table>
<thead>
<tr>
<th>Public Water System Number</th>
<th>Public Water System Name</th>
<th>Number of Municipal Connections 2015</th>
<th>Volume of Water Supplied 2015 (AF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA2810003</td>
<td>City of Napa</td>
<td>25,152</td>
<td>12,581</td>
</tr>
</tbody>
</table>

TOTAL 25,152 12,581

NOTES: Volume of Water Supplied in acre-feet (AF)

The City of Napa water system also qualifies under the California Health and Safety Code, Section 116275, as a “Public Water System” that provides drinking water for human consumption and is regulated by the State Water Resources Control Board, Division of Drinking Water. The City operates a retail drinking water system. It does treat and wheel water to some neighboring cities as described below; however, it is not considered a wholesale supplier for UWMP purposes.

2.2 Type of UWMP

Urban water suppliers may either prepare an Individual UWMP or opt for a Regional UWMP or Regional Alliance approach. In an Individual UWMP, an agency develops an UWMP that reports solely on its own service area. The Individual UWMP addresses all requirements of the Act. While the City notifies and coordinates with appropriate neighboring agencies and participates in broader regional efforts such as the Bay Area IRWMP, the City has prepared an Individual UWMP, as noted in Table 2-2.
Similarly, for the purpose of determining, reporting, and assessing compliance with its SB X7-7 urban water use baselines and targets, the City of Napa chooses to report as an individual water supplier.

Table 2-2: Plan Identification

<table>
<thead>
<tr>
<th>Select Only One</th>
<th>Type of Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑</td>
<td>Individual UWMP</td>
</tr>
<tr>
<td></td>
<td>Water Supplier is also a member of a RUWMP</td>
</tr>
<tr>
<td></td>
<td>Water Supplier is also a member of a Regional Alliance</td>
</tr>
<tr>
<td></td>
<td>Regional Urban Water Management Plan (RUWMP)</td>
</tr>
</tbody>
</table>

2.3 Reporting Year and Units of Measure

Except where otherwise noted, all information in this UWMP 2015 update is reported on a calendar year basis and volumes are reported in units of acre-feet (AF), as shown in Table 2-3. For volumes, one exception is the reporting of SB X7-7 compliance in Chapter 5 in “gallons per capita per day.”

Table 2-3: Agency Identification

<table>
<thead>
<tr>
<th>Type of Agency (select one or both)</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Agency is a wholesaler</td>
</tr>
<tr>
<td>☑ Agency is a retailer</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fiscal or Calendar Year (select one)</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑ UWMP Tables Are in Calendar Years</td>
</tr>
<tr>
<td>☐ UWMP Tables Are in Fiscal Years</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Units of Measure Used in UWMP (select from Drop down)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit</td>
</tr>
</tbody>
</table>

2.4 Coordination and Outreach

The Water Division of the Public Works Department took the lead in preparing this City of Napa UWMP 2015 update, but coordination with other internal City staff was necessary. Planning staff in the Community Development Department were consulted on sources for population projections and how to obtain useful reference data from the Association of Bay Area
Governments (ABAG). Timing for the next major update of the City’s General Plan was also provided by Planning staff. Staff from Housing and data from the most recent City of Napa Housing Element were consulted regarding the lower income residential data required in Chapter 4. The City Attorney and City Clerk’s offices were consulted regarding public hearing and 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 previous UWMP 2010 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 Napa County Flood Control & Water Conservation District (NCFCWCD). In the spring of 2016, WATRTAC members, along with the Napa Sanitation District (NSD) and the County of Napa, were made aware that the City of Napa was initiating preparation of its UWMP update via the required 60-day notice. Full details regarding local agency notices, public hearing, and UWMP 2015 adoption are included in Chapter 10.

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. City communication of its planned SWP usage is a routine component of the relationship with its “wholesaler” NCFCWCD, as confirmed in Table 2-4.

<table>
<thead>
<tr>
<th>Wholesale Water Supplier Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Napa County Flood Control and Water Conservation District (NCFCWCD)</td>
</tr>
</tbody>
</table>

NOTES: NCFCWCD is the direct local contractor with DWR for State Water Project supplies. In this way, it acts as a wholesaler to the City of Napa, a State Water Project subcontractor.

While not a wholesale agency itself, the City of Napa does treat and wheel the City of American Canyon’s and the City of Calistoga’s SWP contract water. As part of its own 2015 UWMP update process, the City of American Canyon provided its projected water demands through 2040 to the City of Napa in May 2016 as a courtesy as part of its wholesale-retail coordination efforts. Having 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, the local wastewater treatment agency, to receive reimbursement for the loss of revenue, according to an agreed-upon formula, for the first three years associated with the sale of its recycled water to customers in the City’s water service area. The City consulted with NSD recycled water planning documents and staff for the recycled water data contained in Chapter 6.

Earlier beneficial cooperation with local agencies occurred with the 2050 Napa Valley Water Resources Study (2050 Study) conducted from 2003 to 2005. While this updated the previous Napa Valley regional water study completed in 1991, 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 2015 update.

An urban water supplier is also to encourage the involvement of its diverse population in the UWMP process. For the UWMP 2015 update, this involvement centered primarily around the September 5, 2017 meeting of the City Council in which the UWMP 2015 update was summarized by staff and the public was invited to make comments. Prior to this official public hearing, the draft UWMP document was made available for public inspection starting August 22, 2017 at the Public Works Department Building, the Water Division Building, the City Clerk’s office, and the Napa City-County Library. It was also posted on the City web site, www.cityofnapa.org/water, for the most convenient public access. The public was invited to forward any comments in advance of the hearing date.

The public was made aware of the UWMP schedule in several creative ways. Beginning in May 2017, the Water Division web page alerted that the City was in the process of preparing its UWMP update and to look there for a draft document later that summer. Once the draft became available, reminders were included in two City of Napa Newsweekly emails sent to more than 1,500 subscribers, engaged and active members of the local community. Also, in both its monthly water conservation advertisement and its City of Napa News page in the September issue of Napa Valley Marketplace magazine, the City invited the public to the September 5 hearing. The UWMP hearing date was also included in the City of Napa News page in prior issues of the magazine. Napa Valley Marketplace goes out to 33,000 homes and businesses and the September issue arrived on September 2. In accordance with the Act, the City published both informal articles and official public hearing notices in the local newspaper, the Napa Valley Register. More information on public notice methods are included in Chapter 10.

As a routine part of its outreach before, during, and after the UWMP update process, Water Division staff members engage the public on water supply and conservation issues via workshops, treatment plant tours, and displays at numerous public events. These educational efforts are discussed as part of Chapter 9.
CHAPTER 3
SYSTEM DESCRIPTION

3.1 Service Area Description

The City of Napa is located at the northern end of San Francisco Bay (San Pablo Bay), approximately 40 miles northeast of San Francisco, as shown in Figure 3-1. Incorporated in 1872, the City is the County Seat for Napa County and the dynamic, vibrant hub of the idyllic Napa Valley. Famous for its wineries, Napa offers an incredible combination of suburban amenities, rural beauty, and the urban benefits of being only one hour from San Francisco and the Pacific Ocean. The City of Napa's historic character, natural beauty, and unique attractions have enabled it to become a quality residential community as well as one of the nation's premier tourist destinations.

Figure 3-1: City of Napa Vicinity

The City serves drinking water to 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 3-2, the City's water service area contains three boundaries of importance:

- Water Operational Boundary
- Rural Urban Limit (RUL) Line
- City Limits
Figure 3-2: City of Napa Water Service Area
The Water Operational Boundary encompasses the current area served by the system, including areas along transmission mains emanating from treatment plants north and southeast of the City. 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 to 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 was originally scheduled to be dissolved and its system infrastructure, wholly maintained by the City, transferred to the City in 2017; however, their current agreement was recently extended to 2022 in order to establish a water service transition plan. The City also serves the approximately 1,175 residents of Napa State Hospital located outside the City limits and RUL. Significant changes impacting the service area since the UWMP 2010 update include authorization for City water service to a County Jail site to be relocated outside the City limits and RUL, and the expansion of the RUL itself to encompass a large mixed-use development project at the former Napa Pipe property along the Napa River. These changes are approved by the Local Agency Formation Commission of Napa County (LAFCO) which has authority to extend the City’s Sphere of Influence to enable these outside water services.

The City also exports water to the Cities of American Canyon, St. Helena, and Calistoga, the Town of Yountville, and the California Veterans Home. 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 Water Treatment Plant (WTP) and wheels it to them. Because deliveries to Calistoga and American Canyon do not directly impact City demand, they are excluded from the water service reliability (supply vs. demand) analyses in Chapter 7. St. Helena and Yountville are also “wholesale” customers of the City, as any City water they purchase is then sold to their own retail customers who make end use of the water. St. Helena is 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.

### 3.2 Water Division

The Water Division of the Public Works Department is responsible for the operation, maintenance, and improvement of the municipal drinking water utility owned by the City of Napa. The Division is led by a General Manager who reports to the Deputy Director of Public Works, with the utility ultimately governed by a five-member City Council. The mission of the Division is to provide an uninterrupted supply of high-quality and reasonable priced water to the community for consumption and fire protection. Operating three treatment plants, the Division delivers upwards of 15,000 AF of water annually meeting State and Federal drinking water regulations, invests in needed capital improvements, plans for future water supply needs, responds to emergency repairs, and maintains a proactive water conservation program. The Division operates financially as an enterprise fund, with system costs paid by water rates, capacity fees, service charges, and related revenues.
As shown in Figure 3-3, the Water Division is organized into three sections - Water Treatment, Water Distribution, and Administration & Engineering. In 2015 there were the equivalent of 60 full-time employees working to meet the Division’s mission.

Figure 3-3: Water Division Organization
3.3 Service Area 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 22 million gallons per day (MGD) during a hot spell in July, while dropping below 7 MGD in January. Landscape irrigation represents nearly half of the annual water demand in some years.

Relevant climate data for Napa are listed below, including average temperatures, precipitation, and reference evapotranspiration (ETo). The monthly ET0 numbers roughly represent the irrigation needs of standard cool-season turfgrass in Napa. More than 65% of annual ET0 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 twenty, 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, a Water-Wise Gardening in the Napa Valley web site, a “Cash For Grass” Turf Replacement Rebate, and other programs described in Chapter 9.

Average Climate Data for Napa

<table>
<thead>
<tr>
<th>Month</th>
<th>Max. Temperature (°F)</th>
<th>Min. Temperature (°F)</th>
<th>Total Precipitation (inches per month)</th>
<th>ETo (inches per month)</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>57.0</td>
<td>38.3</td>
<td>5.14</td>
<td>1.03</td>
</tr>
<tr>
<td>February</td>
<td>61.5</td>
<td>40.8</td>
<td>4.38</td>
<td>1.53</td>
</tr>
<tr>
<td>March</td>
<td>65.0</td>
<td>42.0</td>
<td>3.35</td>
<td>2.93</td>
</tr>
<tr>
<td>April</td>
<td>69.6</td>
<td>43.7</td>
<td>1.65</td>
<td>4.71</td>
</tr>
<tr>
<td>May</td>
<td>74.6</td>
<td>47.6</td>
<td>0.68</td>
<td>5.82</td>
</tr>
<tr>
<td>June</td>
<td>79.8</td>
<td>51.3</td>
<td>0.21</td>
<td>6.85</td>
</tr>
<tr>
<td>July</td>
<td>81.9</td>
<td>53.4</td>
<td>0.02</td>
<td>7.21</td>
</tr>
<tr>
<td>August</td>
<td>81.7</td>
<td>53.2</td>
<td>0.06</td>
<td>6.44</td>
</tr>
<tr>
<td>September</td>
<td>82.1</td>
<td>51.5</td>
<td>0.31</td>
<td>4.87</td>
</tr>
<tr>
<td>October</td>
<td>76.5</td>
<td>47.9</td>
<td>1.36</td>
<td>3.53</td>
</tr>
<tr>
<td>November</td>
<td>65.9</td>
<td>42.6</td>
<td>2.98</td>
<td>1.64</td>
</tr>
<tr>
<td>December</td>
<td>57.6</td>
<td>38.8</td>
<td>4.50</td>
<td>1.17</td>
</tr>
<tr>
<td>Annual</td>
<td>71.1</td>
<td>45.9</td>
<td>24.66</td>
<td>47.73</td>
</tr>
</tbody>
</table>

Temperature and precipitation data (Napa State Hospital, 1893-2016) are from the Western Regional Climate Center, wrcc.dri.edu. 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 water demand seasonality discussed above.

3.4 Service Area Population and Demographics

As in most cities, residential development is the predominant land use in Napa. In 2015, 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 28 agricultural accounts outside City limits, primarily located along the Conn Transmission Main. By agreement, these are interruptible services that can be cut off during extreme water supply shortages.

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 Commons, a 240-acre office and light manufacturing complex in south Napa. A new 5-star resort has been approved for the Stanly Ranch area in the southwest corner of the City, with its water use impact minimized through the use of NSD recycled water and expansion of recycled water service to surrounding parcels. With a booming local economy, the number of proposed hotel developments has accelerated in recent years, putting the potential number of downtown hotel rooms far beyond the 303 envisioned in the Downtown Napa Specific Plan adopted in 2012. The City’s current General Plan, Envision Napa 2020, sunsets soon, and a comprehensive update beginning in 2018 will strive to address the hotel development issue for the coming years.

While residential development had slowed significantly during the economic downturn beginning in 2008, the improved economy has also generated an uptick in that building sector. From a low of just 19 new single-family residential building permits issued in 2009, the City has recently seen the building of many small infill subdivisions and has approved large multi-family projects such as the 282-unit Vista Tulocay Apartments to be built on Gasser Foundation land in south Napa. To help address its housing needs as laid out in the Housing Element of the General Plan, the City has even relaxed permitting rules for accessory dwelling units (formerly referred to as “granny units”) outside existing homes.

One large project that was not originally envisioned in the General Plan is the redevelopment of the former industrial Napa Pipe site into a mix of commercial, including a Costco store, and residential, including up to 945 units of high-density multi-story housing plus 150 senior housing units. While its housing component will not be built by 2020, the estimated residential population of the fully built-out Napa Pipe project is included in population projections for 2025 and beyond in Table 3-1 below.

As shown in Table 3-1, the 2015 population residing in the City of Napa water service area is estimated to be 87,615. To adhere to DWR methodology and match the SB X7-7 Service Area Population in Chapter 5, the City used California Department of Finance population and housing estimates updated with 2010 U.S. Census data to calculate this 2015 number. While the vast majority reside inside the City limits (79,814), service area residents outside the City number
nearly 8,000, including 1,175 institutional residents of the Napa State Hospital. UWMP 2010 had projected a 2015 service area population of 89,243, overshooting by nearly 2%.

<table>
<thead>
<tr>
<th>Population Served</th>
<th>2015</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040(opt)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>87,615</td>
<td>89,515</td>
<td>93,919</td>
<td>96,219</td>
<td>98,819</td>
<td>n/a</td>
</tr>
</tbody>
</table>

NOTES: 2015 from SB X7-7 Table 3, California Department of Finance; 2020-2035 adds in incremental 5-year increases from ABAG Projections 2013, with estimated residential population of fully-built Napa Pipe project also added in beginning 2025.

For the purposes of projecting service area population forward 2020 through 2035, Table 3-1 employs the incremental five-year inside City limits population increases obtained from ABAG Projections 2013, while assuming that population served outside the City limits remains steady. ABAG’S Projections 2013 forecasting document is the most current reliable source for local population growth. Because the Napa Pipe industrial site reuse project may not have been envisioned as part of ABAG projections, that project’s estimated residential population of 2,304 is added in separately for years 2025 and beyond (945 multi-story residential units at 2.2 people per unit, 150 senior units at 1.5 people per unit). The Napa Pipe project is to be annexed into the City limits as it is built. Being conservatively high with these outer year population projections adds confidence to the water service reliability analyses in Chapter 7. This 20-year projection still represents an average annual growth rate well under 1%, slow growth as expected with the constraints of the RUL.

Population is a key factor in determining water use; however, reductions in per capita water use over the last decade have more than offset gradual population increases. Although the City of Napa service area population has been slowly rising, total water use has declined. More information on per capita water use and SB X7-7 targets is covered in Chapter 5.
CHAPTER 4

SYSTEM WATER USE

4.1 Historical Water Use

As discussed in Chapter 3, 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. By 2015 there were nearly 23,000 residential accounts out of just over 25,000 total active service connections. Excluding standby fire sprinkler accounts, the City of Napa system is fully metered and customers are billed by volume of use.

Annual drinking water use by customer type in the years leading up to this UWMP 2015 update exhibits typical year-to-year variability, with an unmistakable decline from 2013 to 2014, when the Governor declared a Drought State of Emergency. With known unmetered uses estimated and unaccounted-for water (apparent and real losses) included, these data reflect the true total demand on the system for all retail customers inside and outside the City limits, including sales to St. Helena, Yountville, and the California Veterans Home. State Water Project (SWP) water treated and wheeled to American Canyon and Calistoga is not included, as those volumes are owned by these other agencies and do not impact City of Napa supplies. Sales to other agencies are discussed more fully in Section 4.7.

<table>
<thead>
<tr>
<th>Customer Type</th>
<th>Annual Water Use (AF)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2010</td>
</tr>
<tr>
<td>Single-Family Residential</td>
<td>6,626</td>
</tr>
<tr>
<td>Multi-Family Residential</td>
<td>1,961</td>
</tr>
<tr>
<td>Commercial</td>
<td>2,640</td>
</tr>
<tr>
<td>Institutional (City)</td>
<td>193</td>
</tr>
<tr>
<td>Landscape Irrigation</td>
<td>643</td>
</tr>
<tr>
<td>Agricultural Irrigation(1)</td>
<td>155</td>
</tr>
<tr>
<td>Other Agencies(2)</td>
<td>280</td>
</tr>
<tr>
<td>Known Unmetered Uses(3)</td>
<td>79</td>
</tr>
<tr>
<td>Losses(4)</td>
<td>1,300</td>
</tr>
<tr>
<td>Total</td>
<td>13,877</td>
</tr>
</tbody>
</table>

(1) Interruptible Surplus Agricultural Water Agreements with customers outside the City limits.
(2) Sales to the City of St. Helena, the Town of Yountville, and the California Veterans Home.
(3) Authorized unmetered uses from activities such as main flushing.
(4) Combination of Apparent and Real Losses.

With 2013 the driest year in the California historical record, increased turf and plant irrigation needs resulted in significant usage increases for commercial, landscape irrigation, and agricultural customers. The statewide drought declaration and resulting water waste prohibitions and outdoor irrigation restrictions in 2014 led to large decreases in usage for the single-family residential, commercial, and landscape irrigation sectors that year. While there are sometimes large demand fluctuations from one year to the next, mainly driven by weather and irrigation needs, the historical UWMP five-year increments have exhibited a consistent
downward trend in system water use, despite increases in the City’s population and commercial activity:

<table>
<thead>
<tr>
<th>Year</th>
<th>Water Use (AF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>15,370</td>
</tr>
<tr>
<td>2005</td>
<td>14,364</td>
</tr>
<tr>
<td>2010</td>
<td>13,877</td>
</tr>
</tbody>
</table>

4.2 2015 Water Use

The downward trend in City of Napa water use continued dramatically in 2015, dropping to **12,034 AF**. This represents the lowest annual demand on the system since the 1987-1992 drought, when population served was 15,000 fewer and extensive hotel development had yet to occur. Greater awareness of ongoing drought conditions in 2015 certainly had an impact, as did the first-ever statewide mandatory urban water use reductions. With the lowest Sierra Nevada snowpack on record, the Governor issued Executive Order B-29-15 on April 1, 2015, ordering a 25% statewide reduction in urban drinking water use compared to base year 2013. Under the implementing regulations adopted by the State Water Resources Control Board (SWRCB), the City of Napa eventually was required to reduce its total water consumption by 20% for the period of June 2015 through May 2016 compared to those same months in 2013. As shown in Chapter 8, the Napa community responded exceptionally well, with water usage going down 25%, beating the local target.

2015 water use by customer sector is presented in Table 4-1 below. While 92% of the City’s water accounts are Single-Family and Multi-Family residential customers, only 58% of the actual water demand came from the residential sector in 2015. Single-Family customers were especially responsive to the drought, minimizing outdoor watering, letting lawns get a little brown, and reducing overall use by 27% compared to 2013.

Commercial and Institutional/Governmental accounts of course represent a disproportionate share of demand, with facilities that serve the public at large. With just 7% of the City’s water accounts, those sectors represented 22% of the water demand. Due to data extraction limitations of the City’s older utility billing system, the Institutional/Governmental line in Table 4-1 represents 136 City of Napa municipal water accounts only, including City Hall, fire stations, parks, and other facilities. Other institutions such as hospitals, schools, churches, and County government are included on the Commercial line, along with restaurants, hotels/motels, retail stores, offices, mixed-use buildings, and industrial facilities. Overall, the combined Commercial/Institutional/Governmental sector reduced usage by 30% compared to 2013.

The Landscape sector in Table 4-1 represents dedicated irrigation-only accounts. Most of the City’s irrigation use is embedded in residential mixed-use accounts. However, the usage trend for these Landscape irrigation-only accounts clearly shows the impact of annual weather conditions and the drought regulations, with usage that spiked to 948 AF in the record dry year 2013 declining to 739 AF in 2015, a reduction of 22%. Landscape irrigation use is of course concentrated in the summer months when ETo is highest.

The Agricultural irrigation sector represents 28 vineyard owners outside the City limits who have signed Interruptible-Surplus Water Agreements with the City. Their annual use fluctuates based on weather conditions and the vineyards’ use of wells and other alternative sources. Service to these accounts may be curtailed when the City declares a municipal water shortage.
Sales/Transfers/Exchanges to other agencies is consistent year to year, as it is driven primarily by Agreement No. 9381 between the Cities of Napa and St. Helena requiring St. Helena to purchase a minimum of 600 AF from Napa each year at agreed-upon rates. Other sales to the Town of Yountville and the State-owned California Veterans Home are rare, limited to emergencies.

Table 4-1 Retail: Demands for Potable and Raw Water - Actual

<table>
<thead>
<tr>
<th>Use Type</th>
<th>2015 Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Use Type</strong> (Add additional rows as needed)</td>
<td><strong>Volume</strong></td>
</tr>
<tr>
<td><strong>Drop down list</strong> <strong>May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool</strong></td>
<td><strong>(AF)</strong></td>
</tr>
<tr>
<td>Single Family</td>
<td>Drinking Water</td>
</tr>
<tr>
<td>Multi-Family</td>
<td>Drinking Water</td>
</tr>
<tr>
<td>Commercial</td>
<td>Drinking Water</td>
</tr>
<tr>
<td>Commercial businesses, industrial, schools, non-City institutional</td>
<td>Drinking Water</td>
</tr>
<tr>
<td>Institutional/Governmental</td>
<td>Drinking Water</td>
</tr>
<tr>
<td>Landscape</td>
<td>Drinking Water</td>
</tr>
<tr>
<td>Agricultural irrigation</td>
<td>Drinking Water</td>
</tr>
<tr>
<td>Interruptible-Surplus Agreements outside City</td>
<td>Drinking Water</td>
</tr>
<tr>
<td>City of St. Helena, Town of Yountville, California Veterans Home</td>
<td>Drinking Water</td>
</tr>
<tr>
<td>Hydrant flushing, firefighting</td>
<td>Drinking Water</td>
</tr>
<tr>
<td>Real and Apparent Losses</td>
<td>Drinking Water</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>12,034</td>
</tr>
</tbody>
</table>

NOTES: The City is a drinking water provider only and does not distribute raw water to customers.

The “Other” category represents authorized unbilled unmetered usage for essential functions such as firefighting, main flushing, and street cleaning. As part of the Water Loss TAP offered by the CA-NV AWWA, the City was advised to modify its 2015 estimate for this category, as its previously used assumption in the AWWA Water Audit software was too high and has been scaled back to 0.25% of production, based on a California standard. With main flushing significantly curtailed during the drought, the lower estimate of 29 AF for 2015 is appropriate.

Losses are the combination of Apparent Losses and Real Losses from the City’s 2015 AWWA Water Audit, as explained in Section 4.4. Apparent losses are largely from customer metering inaccuracies. Real losses may be leakage from mains or service connections within the distribution system. The Losses category represented 6% of overall demand in 2015, historically on the low side for the City system.
4.3 Projected Water Use

As part of this UWMP 2015 update, the City is required to estimate the projected water use in its service area in five-year increments up to the year 2035, reflecting normal year conditions. To make these projections, the City is employing a per capita water use methodology and incremental population increases obtained from ABAG Projections 2013. However, to be conservatively high with these demand projections, the estimated usage for the Napa Pipe project is layered in separately, beginning in 2020 with its initial retail (Costco), then with the fully-built project for 2025 and beyond.

<table>
<thead>
<tr>
<th>Category</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Area Population (w/o Napa Pipe)</td>
<td>89,515</td>
<td>91,615</td>
<td>93,915</td>
<td>96,515</td>
</tr>
<tr>
<td>GPCD</td>
<td>132</td>
<td>132</td>
<td>132</td>
<td>132</td>
</tr>
<tr>
<td>Gross Water Use (AF)</td>
<td>13,272</td>
<td>13,546</td>
<td>13,886</td>
<td>14,271</td>
</tr>
<tr>
<td>Napa Pipe Project (AF)</td>
<td>17</td>
<td>270</td>
<td>270</td>
<td>270</td>
</tr>
<tr>
<td>Agricultural Irrigation(1) (AF)</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td>Other Agencies(2) (AF)</td>
<td>600</td>
<td>600</td>
<td>600</td>
<td>600</td>
</tr>
<tr>
<td>Projected City Demand (AF)</td>
<td>14,189</td>
<td>14,716</td>
<td>15,056</td>
<td>15,441</td>
</tr>
</tbody>
</table>

(1) Interruptible Surplus Agricultural Water Agreements with customers outside the City limits.
(2) Sales to the City of St. Helena, the Town of Yountville, and the California Veterans Home.

Demand projections for the outer years (2030, 2035) are higher than in the previous UWMP 2010 update, primarily due to increased ABAG population projections and the anticipated addition of the Napa Pipe project. The key assumption driving the overall demand projection is that the City will meet its SB X7-7 Urban Water Use Target of 132 gallons per capita per day (GPCD) for the year 2020 (see Chapter 5), and will maintain that level in the following years. With 2015 per capita use at just 115 GPCD, this means a post-drought rebound in usage over the next few years as customers increase irrigation. On April 7, 2017, the Governor officially terminated the Drought State of Emergency first declared in January 2014. As of mid-2017, the City had yet to see significant rebound in demand, with 2016 and the first half of 2017 still more than 20% below base year 2013.

While a post-drought increase in lawn and landscape watering is expected to boost per capita water use, the City is confident that usage will not return to historical GPCD levels of 140, 150, and higher. As shown in Chapter 9, the City’s GPCD trend was downward even before the recent drought, and water conservation policies and programs at the State and local level are designed to effectively manage urban water demand going forward. To help maintain or even beat the 132 GPCD target, the City will benefit from some “passive savings” associated with an enhanced building code, the State Model Water Efficient Landscape Ordinance (MWELO), a local water offset program for new development, and recycled water policies.

To ensure that new construction is extremely water-efficient, the City has adopted local High Performance Building Regulations that are more stringent than the California Green Building
Standards Code (CALGreen). In Napa Municipal Code (NMC) Chapter 15.04, the City makes several of CALGreen's voluntary provisions mandatory locally, including lower kitchen faucet flow rates, Energy Star appliance requirements, and lower maximum water pressure for residential projects. For non-residential projects, the City requires an additional 12% indoor savings, tighter specifications for clothes washers, dishwashers, ice makers, and food steamers, and the same lower maximum water pressure as residential. To minimize outdoor water use for new development, the City will continue to enforce the State MWLMO as it evolves over time. Prior to the most recent revision of the State MWLMO which tightened water budgets (December 2015), the City enforced a local WELO more stringent than the State's.

To further mitigate the impact of new development on water system demands, the City also has a longstanding Water Offset Program (NMC Section 13.09.010). Developers are to offset the projected water demand of their new projects (e.g., hotels, housing subdivisions) by reducing demand elsewhere in the City. Historically, these offsets were achieved through replacement of older high-water-use toilets in existing buildings. More recently, some offsets have been achieved through recycled water conversions for existing irrigation systems. An offset in-lieu fee option is also available, which funds an array of City programs to help existing customers conserve water. The City looks to retain some form of offset program into the future, so that acceleration of new development does not inhibit the City's ability to meet urban water use targets.

While the City does not itself distribute recycled water, a 1998 agreement permits NSD to solicit and provide recycled water within the southern portion of the City's water service area. As of 2015, 18 customers who would otherwise be irrigating with City drinking water were using recycled instead. This reduces City demands by hundreds of AF each year, contributing to the GPCD reductions achieved. Going forward, the City will continue to fulfill the agreement with NSD as they expand their recycled water service. Upcoming conversions in the eastern portion of the service area include Tulocay Cemetery and Silverado Middle School. Combined, these two accounts will reduce City demands by 50 AF per year when they switch their turf irrigation to recycled. A full discussion of local recycled water is contained in Chapter 6.

The above "passive" savings opportunities, combined with educational and financial incentives described in Chapter 9, will keep water efficiency and conservation at the forefront in Napa, as it will be throughout California. Public awareness of water supply and conservation issues increased dramatically during the recent drought. The implementation of the Governor's Executive Order B-37-16, Making Water Conservation a California Way of Life, will impact urban water suppliers beyond 2020, likely replacing SB X7-7 overall GPCD targets with more specific indoor residential per capita water use and outdoor water use budgets based on local climate and landscape area. Commercial sector requirements and system leakage provisions will also likely be included. Addressing these State regulations as they are developed and implemented may create further downward pressure on overall per capita water use in Napa, perhaps making the constant 132 GPCD assumption in these demand projections conservatively high for the outer years.

Another reason that these future demand projections may be conservatively high is the separate accounting for the Napa Pipe project. This redevelopment of the former industrial site was not originally envisioned in the General Plan, and its residential population (estimated at 2,304) may not have been included as part of the inside City population in ABAG projections. By adding in Napa Pipe's estimated demand separately, the total projected water demands are certain not to undercount this project. The project's Water Supply Assessment was vetted and verified by the City. Common area landscaping will be using recycled water. If built as proposed, Napa Pipe's
annual drinking water demands include 194 AF from high-density residential housing (945 multi-story units, 150 senior units) and 8 AF for limited private backyard irrigation. The commercial component would use 68 AF annually, based on its mix of retail, restaurant, hotel, office, R&D/light industrial, and community facilities. The Napa Pipe Water Supply Assessment also assumed 30 AF per year of unaccounted-for water. This volume is absorbed into the overall Losses projection for the City as discussed below.

With recent agreements among the County, LAFCO, and City, the Napa Pipe project is to be annexed into the City limits as its components are built. Based on current progress, the projected water demands for 2020 include only 17 AF for the proposed Costco store on the Napa Pipe property. For 2025 and beyond the full Napa Pipe project demands of 270 AF are included in the projections, although it may not be fully completed that soon.

2020-2035 demand projections are broken down by customer sector in Table 4-2, incorporating the same use types as in Table 4-1 for 2015 actual demands.

![Table 4-2](image)

NOTES: The City is a drinking water provider and has no future plans to distribute raw water to customers.

Future demands for the Residential sectors are projected from 2015 based on a gradual 15% post-drought rise in per capita use (from 115 to 132 GPCD) and the population percentage increases. Napa Pipe’s 202 AF of residential demand is added to the Multi-Family sector beginning in 2025. Multi-Family demands are expected grow more substantially than Single-Family, as high-density infill and affordable housing projects remain priorities over the coming decades.
Commercial sector demands are also projected to track with the percentage increases in post-drought GPCD and the population. For 2020, the Napa Pipe Costco demand of 17 AF is added, and Napa Pipe’s fully-built commercial demand of 68 AF is included for 2025, 2030, and 2035. The recent uptick in hotel and resort development proposals in Napa suggests that water demand in this sector could accelerate; however, these UWMP projections factor in the extreme efficiency of newer buildings based on the locally modified CALGreen and MWELO provisions discussed above. Mitigation of new commercial demands also occurs as a result of recycled water conversions. A new five-star resort in the Stanly Ranch area will rely on NSD recycled water for its grounds, and the associated extension of the recycled water line to the west has allowed nearby vineyards to begin switching to recycled, saving about 45 AF per year in drinking water so far. Once the Napa State Hospital irrigation system fully converts to recycled water, more than 100 AF in additional institutional water savings is possible. Overall, water use in the Commercial sector is expected to remain at about 21-22% of total system demand. Should the next update of the City’s General Plan indicate a significant shift in development skewed to commercial, then a land-use-based water demand projection methodology may be considered for the next UWMP update.

City municipal demand is projected to rise slowly over the decades, remaining at just over 1% of the total. Post-drought rebound in parks irrigation may be mitigated by the efficiency gained through consolidation of currently scattered downtown City facilities into one building complex. City demand is not expected to return to the higher levels seen in 2012 and 2013 (>200 AF).

Improved irrigation efficiency and turf conversions to water-wise plants are expected to mitigate increases in Landscape sector demands. Slight growth in water use is projected to 2035 primarily due to increasing numbers of these dedicated irrigation-only account installations. MWELO provisions promote separate irrigation accounts at commercial sites to allow for better water management. As discussed earlier, Napa’s overall urban outdoor water use budget that may result from Executive Order B-37-16 implementing regulations is likely to keep downward pressure on this demand sector beyond 2020.

Interruptible-Surplus Agricultural irrigation deliveries are projected at 300 AF per year. This is an increase over historical levels due to new customers expected adjacent to the Conn Transmission Main and new use among existing customers. Based on recent trends, it may be a conservatively high projection for that sector.

Sales/Transfers/Exchanges to other agencies are projected at 600 AF per year based on the provisions of the St. Helena Water Supply Agreement. No regular demands are assumed for Yountville or the California Veterans Home.

Other demands for firefighting, main flushing which was converted to uni-directional flushing (lower volume usage) in 2009, and street cleaning are assumed to remain at 0.25% of total demand through 2035.

After a historically low result in 2015, Losses are expected to return to a more typical level in the near term, but decline over the long term as the City reduces real and apparent losses to meet targets arising from SB 555, the State law discussed below in Section 4.4. The 30 AF of unaccounted-for water estimated by the Napa Pipe project developers is in these projections.

The City’s total potable water use for 2015 and its 2020-2035 projected demands are summarized together in Table 4-3. Recycled water use by customers who would otherwise be
using City drinking water is also included (from Chapter 6). These recycled water demands within the City’s service area are met by NSD via their Soscol Water Recycling Facility (WRF).

<table>
<thead>
<tr>
<th>Table 4-3 Retail: Total Water Demands</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Potable and Raw Water (AF)</td>
</tr>
<tr>
<td>From Tables 4-1 and 4-2</td>
</tr>
<tr>
<td>Recycled Water Demand (AF)*</td>
</tr>
<tr>
<td>From Table 6-4</td>
</tr>
<tr>
<td>TOTAL WATER DEMAND</td>
</tr>
</tbody>
</table>

*Recycled water demand fields will be blank until Table 6-4 is complete.

NOTES: Recycled water demands are met by the Napa Sanitation District.

4.4 Distribution System Water Losses

The difference between the amount of water produced at the City’s water treatment plants entering the distribution system and the amount of water consumed, including both metered and authorized unmetered uses, is referred to as system Water Losses. This category is made up of both Real Losses, physical losses from leaking service lines and water mains, and Apparent Losses in which actual consumption is underreported due to sales meter inaccuracies and other factors.

Beginning in 2010, the City has completed an annual Standard Water Audit and Balance using AWWA Free Water Audit Software which summarizes Water Losses and other system performance indicators. Through 2014, these annual audit results were reported to the CUWCC to comply with BMP 1.2, as shown in Chapter 9. Because this current UWMP update must include Water Losses from a 2015 AWWA Water Audit, and the State will require validated AWWA Water Audits for 2016 and beyond under SB 555, the City chose to join the CA-NV AWWA Water Loss TAP in June 2016. California SB 555, passed in October 2015, requires urban water suppliers to submit a completed and validated water loss audit annually to DWR, and by 2020 rules will be added to require that urban water suppliers meet specific performance standards for the volume of Water Losses.

To prepare drinking water suppliers for this new era, the Water Loss TAP provided free technical assistance from national water loss experts beginning in summer 2016. As a result, by February 2017 the City had a rigorously reviewed 2015 Water Audit along with detailed recommendations for improving data validity for the upcoming 2016 Water Audit. The Water Loss volume from this vetted 2015 Water Audit is shown in Table 4-4. Key worksheets from the 2015 AWWA Water Audit are attached in Appendix C, and the full electronic copy is submitted to DWR using DWR’s online UWMP submittal tool.
The 2015 Water Loss volume of 758 AF is a significant decrease from the prior year 2014 (1,132 AF). The higher 2014 Water Loss was likely affected by Real Losses resulting from the 6.0 magnitude South Napa Earthquake which hit the City of Napa directly on August 24, 2014, causing hundreds of main breaks that took weeks and in some cases months to fully repair. Over the coming decades, Water Losses are expected to decline as the City takes actions to meet evolving SB 555 performance standards.

### Table 4-4 Retail: 12 Month Water Loss Audit Reporting

<table>
<thead>
<tr>
<th>Reporting Period Start Date</th>
<th>Volume of Water Loss*</th>
</tr>
</thead>
<tbody>
<tr>
<td>01/2015</td>
<td>758</td>
</tr>
</tbody>
</table>

* Taken from the field “Water Losses” (a combination of apparent losses and real losses) from the AWWA worksheet.

### 4.5 Estimating Future Water Savings

In the UWMP 2015 update, agencies are required to indicate the extent to which future water savings from codes, standards, ordinances, or transportation and land use plans (known as “passive savings”) are considered in the agency’s water use projections. Some “passive savings” will help to limit overall City per capita water use to 132 GPCD or lower, and are therefore a factor in the projected water demands for 2020 and beyond. Specific ordinances and policies considered to generate future savings are described above in Section 4.3, including local High Performance Building Regulations that are more stringent than CALGreen, MWELO, a local water offset program for new development, and a recycled water agreement with NSD.

### Table 4-5 Retail Only: Inclusion in Water Use Projections

<table>
<thead>
<tr>
<th>Are Future Water Savings Included in Projections? (Refer to Appendix K of UWMP Guidebook)</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drop down list (y/n)</td>
<td></td>
</tr>
<tr>
<td>If “Yes” to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, etc... utilized in demand projections are found.</td>
<td>Section 4.3</td>
</tr>
<tr>
<td>Are Lower Income Residential Demands Included In Projections? Drop down list (y/n)</td>
<td>Yes</td>
</tr>
</tbody>
</table>

NOTES:
4.6 Water Use for Lower Income Households

Water agencies are required to include the projected water use for Lower Income households in projected water demands. Lower Income is defined by California Housing Element law as households earning less than 80% of the area median income. According to the City’s General Plan Housing Element updated in 2015, of the number of housing units allocated to the City by ABAG’s Regional Housing Needs Allocation for the 2015-2023 period, 35% are in the Lower Income households category. Based on this, the City projects water demands for that sector as 35% of the overall combined Single-Family and Multi-Family demands.

<table>
<thead>
<tr>
<th>Projected Demands for Lower Income Households</th>
<th>Annual Water Use (AF)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2020</td>
</tr>
<tr>
<td>2,898</td>
<td>3,037</td>
</tr>
</tbody>
</table>

As confirmed in Table 4-5 above, these Lower Income household demands are embedded within the water use projections presented in Section 4.3, Table 4-2.

4.7 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 for this treat-and-wheel service only. Because water supplied to American Canyon and Calistoga counts against those agencies’ own SWP entitlements, it does not impact City of Napa supplies and those volumes are excluded from the demand totals in this chapter and the water supply reliability analyses in Chapter 7.

Sales to St. Helena, Yountville, and the Veterans Home are included in the City’s demands as the Sales/Transfers/Exchanges category. Only St. Helena represents significant demand in the future however. St. Helena usage of Napa water since 2007 has been governed by the 2006 SWP entitlement transfer agreement between the two cities. As amended, that agreement currently requires that St. Helena purchase a minimum of 600 AF from Napa each year at agreed-upon rates. This 600 AF annual use is projected for Sales/Transfers/Exchanges for 2020-2035, as shown earlier in Table 4-2.

Since a 2009 SWP water transfer agreement with the Town of Yountville, their usage is for emergency and fire flow needs only. There is no minimum sales requirement as there is for the St. Helena agreement. 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 for 2020-2035, although some very limited deliveries could occur in non-drought emergency situations.
CHAPTER 5

SB X7-7 BASELINES AND TARGETS

5.1 Water Conservation Act of 2009 (SB X7-7)

The Water Conservation Act of 2009 (SB X7-7) was passed in November 2009 as part of a comprehensive package of laws addressing the Sacramento-San Joaquin Delta and overall State water supply reliability issues. The law seeks to achieve a 20% reduction in urban per capita water use statewide by 2020, and an interim 10% reduction by 2015. Each retail urban water supplier must determine its baseline water use and establish per capita water use targets for the years 2015 and 2020 to help the State achieve the reduction. Per capita water use is measured in units of gallons per capita per day (GPCD).

In addressing SB X7-7, water agencies are offered flexibility in determining their 2020 water use target and 2015 interim target, providing them with an ability to receive some credit for water conservation already achieved. DWR offers four Methods for determining an agency’s 2020 target:

**Method 1:** 80% of Base Daily Per Capita Water Use. This 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 used for compliance with CUWCC BMP Reports (Chapter 9), 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 (CII) 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 CII 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 years.

**Method 3:** 95% of Regional Target. Under this method, the 2020 target is 95% of the applicable State hydrologic region target as set forth in the State’s April 2009 draft 20x2020 Water Conservation Plan. 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 selected Method 1 with its UWMP 2010 adoption. For this UWMP 2015 update, the City continues to use Method 1. The
City also continues to use the same baseline periods (10-year 1995-2004 and 5-year 2004-2008). With revised population data now available from the California Department of Finance based on the 2010 U.S. Census, the City has recalculated its historical baseline populations however. While this has an effect on individual years, it does not significantly affect the overall calculation and the City’s 2020 target remains the same at 132 GPCD.

The sections below describe the City’s methods for calculating the baseline and target water use in accordance with DWR’s Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use, and also demonstrate the City’s successful compliance with the interim target for 2015. The highly detailed SB X7-7 Verification Form, which must be submitted to DWR to demonstrate compliance, is presented as a set of tables in Appendix D.

5.2 Baseline Periods

SB X7-7 defines two baseline water use periods. The first is a continuous 10-year baseline (or 15-year period if more than 10% of system water demand is met through recycled water) ending no earlier than 2004 and no later than 2010. Because the City does not itself distribute recycled water, the 15-year baseline option does not apply. Of the seven possible 10-year periods evaluated, the one ending in 2004 shows the largest Base Daily Per Capita Water Use, at 166 GPCD. Therefore the 10-year baseline period selected by the City of Napa is 1995-2004.

The second is a continuous 5-year baseline period ending no earlier than 2007 and no later than 2010. This second baseline is used to confirm that each agency’s 2020 target meets the minimum water use reduction requirement in SB X7-7 (below 95% of its 5-year base per capita water use). Of the four possible 5-year periods evaluated, the one ending in 2008 shows the largest Baseline Daily Per Capita Water Use, at 161 GPCD. Therefore the 5-year baseline period selected by the City of Napa is 2004-2008. Both the 10-year and the 5-year baseline periods presented in this UWMP are the same ones selected in UWMP 2010.

5.3 Service Area Population

The next step in the baseline water use calculation is to determine service area population for the years involved. 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 previous reporting from the Hospital’s Executive Director’s office.

For example, for 2015, the estimated Service Area Population is:

\[
79,814 \text{ City} + (2,640 \text{ outside City households} \times 2.510 \text{ persons per household}) + 1,175 = 87,615 \text{ Service Area Population}
\]

Population data for all baseline years are shown in SB X7-7 Table 3 in Appendix D. Compared to UWMP 2010, these population numbers benefit from the 2010 U.S. Census, with years prior
to 2010 updated using Department of Finance E-8 estimates published in November 2012 and the more recent years updated with E-5 estimates that came out in May 2017.

5.4 Gross Water Use

The next step in the baseline water use calculation is to determine Gross Water Use within the City’s service area. 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 the City does not itself produce recycled water and NSD recycled water does not enter the City’s distribution system, and the City also does not have any water placed into long-term storage, the Gross Water Use calculation for Napa simplifies to:

Metered production from the Hennessey, Milliken, and Barwick Jamieson Canyon WTPs
- minus deliveries to American Canyon, Yountville, Veterans Home, St. Helena, Calistoga
- minus Interruptible-Surplus Agricultural Water deliveries

For example, a calculation for 2015 is therefore:

12,581 AF – 1,128 AF – 195 AF = 11,258 AF Gross Water Use

Gross Water Use data for all baseline years are shown in SB X7-7 Table 4 in Appendix D. All baseline years show higher use than 2015, which occurred during the height of the State’s historic drought and also benefits from water efficiency advancements over the past two decades.

It is important to note that Gross Water Use is not just residential consumption but all the other uses of water in a community, including schools, parks, and commercial buildings such as restaurants, hotels, and office buildings. It also captures water used for public purposes, such as firefighting and water main flushing, and losses that arise from leaks in the water system.

5.5 Base Daily Per Capita Water Use

Base Daily Per Capita Water Use for the purposes of the City’s SB X7-7 target setting is the average gallons per capita per day (GPCD) of water use over the continuous 10-year baseline period, 1995-2004. 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.

For example, a calculation for 2015 would therefore be:

\[(11,258 \text{ AF} \times 325,851 \text{ gallons per AF}) ÷ 87,615 ÷ 365 \text{ days} = 115 \text{ GPCD}\]

GPCD data for all baseline years are shown in SB X7-7 Table 5 in Appendix D, which is reprinted below:
In the historical baseline years, the City’s GPCD fluctuates and ranges from a high of 177 (1997) to a low of 154 (2005). The average for the City’s 10-year baseline period of 1995-2004 is **166 GPCD**, establishing that as the official Base Daily Per Capita Water Use for SB X7-7. As discussed earlier, this is the highest available Base for establishing the 2020 Urban Water Use Target, allowing the City to benefit from conservation occurring since 2004, as seen culminating in the very low GPCD in 2015.
5.6 2015 and 2020 Targets

The objective of SB X7-7 is to reduce statewide urban per capita water use by 20% by the year 2020. Each individual urban water supplier must develop a water use target for the year 2020 as well as an interim water use target for the year 2015. As discussed in Section 5.1, the City is using DWR Method 1 to calculate its 2020 target. Therefore, its Base Daily Per Capita Water Use of 166 GPCD is simply multiplied by 0.80, which results in a 2020 Urban Water Use Target of 132 GPCD.

As discussed in Section 5.2, each agency must confirm that their calculated 2020 target meets the minimum reduction required in SB X7-7. For the City, this minimum reduction amount is defined as 5% of the 5-year 2004-2008 baseline per capita water use. Therefore, the 2020 target cannot be higher than 95% of the 2004-2008 GPCD average of 161 (Appendix D SB X7-7 Table 5). The 2020 target cannot be higher than 95% of 161, which is 153 GPCD. With the 2020 target just 132 GPCD, it does not exceed the maximum of 153 GPCD. Therefore, the 2020 target meets the minimum required reduction and does not need to be adjusted.

The Interim Urban Water Use Target for the year 2015 is meant to ensure progress toward the ultimate 2020 target. By 2015, 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 149 GPCD for 2015.

To summarize, the City of Napa’s baseline periods, baseline GPCDs, and its 2015 and 2020 GPCD targets are presented in Table 5-1.

<table>
<thead>
<tr>
<th>Baseline Period</th>
<th>Start Year</th>
<th>End Year</th>
<th>Average Baseline GPCD*</th>
<th>2015 Interim Target *</th>
<th>Confirmed 2020 Target*</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-15 year</td>
<td>1995</td>
<td>2004</td>
<td>166</td>
<td>149</td>
<td>132</td>
</tr>
<tr>
<td>5 Year</td>
<td>2004</td>
<td>2008</td>
<td>161</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*All values are in Gallons per Capita per Day (GPCD)

NOTES:

In the UWMP 2015 update, all water suppliers are required to calculate their actual 2015 water use to determine whether or not they have met the interim 2015 target and to assess progress toward meeting their 2020 target. Effective 2016, water suppliers who do not comply with the SB X7-7 water conservation requirements are not eligible for State water grants or loans. As shown in Section 5.5 above and in Table 5-2 below, the City of Napa’s 2015 per capita water use was just 115 GPCD, not only meeting but far surpassing its 2015 interim target of 149 GPCD. The City is therefore in compliance with the requirements in SB X7-7.
### Table 5-2: 2015 Compliance

<table>
<thead>
<tr>
<th>Retail Agency or Regional Alliance Only</th>
<th>Optional Adjustments to 2015 GPCD</th>
<th>2015 GPCD*</th>
<th>Did Supplier Achieve Targeted Reduction for 2015? Y/N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual 2015 GPCD*</td>
<td>2015 Interim Target GPCD*</td>
<td>Extraordinary Events*</td>
<td>Economic Adjustment*</td>
</tr>
<tr>
<td>115</td>
<td>149</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*All values are in Gallons per Capita per Day (GPCD)

**NOTES:**

Chapter 9 includes discussion of ongoing and future demand management programs that will help ensure that the City meets its 2020 SB X7-7 target, along with future urban water use requirements from *Making Water Conservation a California Way of Life*, pending State legislation emanating from the Governor’s Executive Order B-37-16.
CHAPTER 6
SYSTEM SUPPLIES

6.1 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 6-1 shows the locations of these treatment facilities and the major components of the water distribution system.

This chapter describes these three existing sources and the normal (average) year quantities available from them through 2035. Recycled water usage and supply availability is also discussed, as are other potential long-term opportunities for additional water sources. The future reliability of Napa supplies is covered in Chapter 7.

6.2 Local Surface Water: 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 permit with the SWRCB Division of Water Rights. The permit 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 below. Discussed in more detail in Chapter 7, 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. Water supply assumptions
for both local reservoirs are derived from the *2050 Napa Valley Water Resources Study* (2050 Study), which was completed in the mid-2000’s.

### Lake Hennessey Statistics

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tributary Watershed Area</td>
<td>35,000 acres</td>
</tr>
<tr>
<td>Average Annual Inflow</td>
<td>19,692 AF</td>
</tr>
<tr>
<td>Total Storage Capacity (Maximum Yield)</td>
<td>31,000 AF</td>
</tr>
<tr>
<td>Average Yield</td>
<td>17,500 AF</td>
</tr>
<tr>
<td>Reliable Yield</td>
<td>10,417 AF</td>
</tr>
<tr>
<td>Firm Yield</td>
<td>5,000 AF</td>
</tr>
</tbody>
</table>

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.

### 6.3 Local Surface Water: 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 five miles northeast of the City, Milliken Reservoir is now a seasonal source of supply used 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. 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 that necessitated the boring of five holes which have lowered the reservoir storage elevation by 16 feet. Like the 2050 Study, this UWMP 2015 update assumes a maximum yield for Milliken of only 700 AF in all but critical single-dry years. Key Milliken Reservoir statistics are summarized below.

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 aboveground 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 in winter to meet water quality regulations and therefore currently cannot be served to meet customer demands.

<table>
<thead>
<tr>
<th>Milliken Reservoir Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tributary Watershed Area</td>
</tr>
<tr>
<td>Average Annual Inflow</td>
</tr>
<tr>
<td>Total Storage Capacity</td>
</tr>
<tr>
<td>Maximum Yield</td>
</tr>
<tr>
<td>Average Yield</td>
</tr>
<tr>
<td>Reliable Yield</td>
</tr>
<tr>
<td>Firm Yield</td>
</tr>
</tbody>
</table>

**6.4 Imported Water: 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 Vacaville 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. Most 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, 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. As discussed in Chapter 4, this SWP entitlement transfer agreement between the two cities requires that St. Helena purchase a minimum of 600 AF from Napa each year.

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 non-drought emergency and fire flow needs only. There is no minimum sales requirement as there is for the St. Helena agreement. These more recent 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 had been recommended back in the UWMP 2005 update.

The City’s complete current Table A entitlements are shown below. 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 Table A entitlement (21,900 AF) would typically be available only during very wet years. In The State Water Project Final Delivery Capability Report 2015, DWR estimates that 62% of SWP contractors’ entitlements would be available for delivery in a normal (average) year. For Napa, this means normal year Table A delivery of 13,578 AF. Reliability of the City’s SWP supply in normal, multiple-dry, and critical single-dry year scenarios is discussed in detail in Chapter 7. The current SWP contract is due to expire in 2035 with extension to 2085 anticipated.

### SWP Table A Entitlements

<table>
<thead>
<tr>
<th>Source</th>
<th>Table A Entitlement (AF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Napa</td>
<td>18,800</td>
</tr>
<tr>
<td>2000 KCWA Purchase</td>
<td>1,000</td>
</tr>
<tr>
<td>2006 St. Helena Purchase</td>
<td>1,000</td>
</tr>
<tr>
<td>2009 Yountville Purchase</td>
<td>1,100</td>
</tr>
<tr>
<td><strong>Total City of Napa</strong></td>
<td><strong>21,900</strong></td>
</tr>
</tbody>
</table>

Additional SWP Categories:

“**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.
Since the UWMP 2010 update, actual Table A deliveries in any given year have been bolstered by a 2013 legal settlement with DWR. Resolution of Solano County Water Agency et. al. v. Department of Water Resources, known as the “Area of Origin” settlement, entitles the City of Napa to the following additional allocations:

- **North of Delta Allocation**: Each year, DWR calculates a separate SWP Table A allocation for North of Delta (NOD) contractors in Solano, Napa, and Butte Counties and Yuba City. The NOD Allocation is expected to be 5% to 25% higher than the standard Table A allocation each year, depending on hydrologic conditions and regulatory and operational constraints applicable to only the North Delta. It will not be impacted by restrictions that affect South of Delta exports. Starting in 2015, the NOD Allocation has ranged from 5% to 15% higher than standard Table A in its first three years of implementation.

- **Advanced Table A Program**: Additional SWP water becomes available from a credit account once all available Table A supplies are exhausted, including any carried over from previous years. Known as Advanced Table A, this credit account can provide the City of Napa an additional 3,772 AF in a year when the standard (South of Delta) allocation is less than or equal to 20%. When the standard allocation is greater than 20%, the City may borrow 5,659 AF. An additional amount may be requested if Solano County Water Agency and Yuba City do not use their maximum Advanced Table A. The cumulative balance in the Advanced Table A account must not exceed 21,900 AF and it resets to zero whenever Lake Oroville spills.

“Article 21 Water” is an interruptible surplus SWP supply the City uses. Article 21 of the SWP contract allows for the purchase of surplus water beyond Table A quantities, provided that the contractor can take delivery during the wet season when excess water is available in the Delta without affecting Table A deliveries to other contractors. NCFCWCD uses an annual delivery schedule that maximizes the City’s use of Article 21 prior to consumption of carryover water.

In dry years, DWR decides whether to operate a Dry Year Water Purchase Program based on Article 56 of the SWP contract. Also, a “Turn-Back Pool” may be established, with water from agencies not using their full Table A 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. Back 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.

Regardless of category, all SWP raw water delivered to the City is processed at the Edward I. Barwick Jamieson Canyon WTP. Originally constructed in 1968, the plant was then upgraded in 1988 to provide a rated treatment capacity of 12 MGD. In 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.
6.5 Groundwater

As confirmed in Table 6-1, the City of Napa does not pump groundwater for municipal supply. The City currently relies on local surface water and imported SWP supplies exclusively and has no projects 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. While these are options for consideration, groundwater is not considered to be part of the supply portfolio for the UWMP planning period. An update to the 2050 Study is planned in 2018 to assess current reliability and potential future water supply options.

<table>
<thead>
<tr>
<th>Groundwater Type</th>
<th>Location or Basin Name</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplier does not pump groundwater. The supplier will not complete the table below.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.6 Wastewater and Recycled Water

Recycled water is municipal wastewater that has been treated to a specified quality to enable it to be used again for a beneficial purpose. When highly treated and disinfected to meet stringent water quality guidelines set by the State (Title 22), this safe, non-potable water supply is typically distributed to large irrigation users such as golf courses, vineyards, parks, and commercial businesses. The City of Napa is a drinking water supplier only, and does not itself produce or distribute recycled water. In the City’s water service area, recycled water treatment and distribution is managed by a separate special district, the Napa Sanitation District (NSD). Wastewater from the City and surrounding unincorporated areas is treated by NSD at their Soscol Water Recycling Facility (WRF), and recycled water produced there is sold to customers both inside and outside the City’s drinking water service area.

Recycled Water Coordination

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 E. The agreement originally defined the recycled service area as lands east of the Napa River, south of Imola Avenue, west of Highway 221, and north of American Canyon, along with other specified areas. Generally, this means NSD recycled water can be made available to Napa State Hospital, Stanly Ranch, Napa Valley Commons, 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 also agreed to furnish up to 50 AF per year to Kennedy Park and Napa Valley College at no cost.

The first City customer to switch to NSD recycled water for irrigation was the Napa Municipal Golf Course in 2003. As of 2015, an additional 17 customers have followed, saving hundreds of AF in City potable water annually. The City continues to work with NSD to further expand the use of 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, which helps the City meet its SB X7-7 Urban Water Use Target.

Wastewater Collection, Treatment, and Disposal

NSD wastewater (sewer) and City drinking water customer populations have nearly complete overlap. NSD’s Soscol WRF is located at the most southern part of the Napa Valley. Three pumping stations feed wastewater into the major collection lines: Stonecrest, Riverpark, and West Napa. As shown in Table 6-2, 7,392 AF of wastewater was received at Soscol WRF in 2015. This volume was below the long-term average of 9,600 AF, perhaps due to customer indoor water use reductions associated with the drought.

Soscol WRF is a secondary/tertiary treatment facility that treats a mixture of domestic and industrial wastewater. The facility has a dry weather design capacity of 15.4 MGD. From November through April (wet season), treated wastewater is discharged to the Napa River. From May through October (dry season), wastewater is treated and used as recycled water.
Currently, the facility produces about 1,800 AF annually of recycled water that meets the Title 22 standards for disinfected tertiary water.

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 dissolved air flotation clarifier. 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 step conditions the remaining solids so they can then be readily removed through filtration. In the filters, water passes through about six 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 dichlorination during discharge to the Napa River.

- **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 portions of Napa Valley. The pump station uses three 600-hp pumps to distribute the water at pressure of up to 150 psi.

As shown in Table 6-3 below, 437 AF of tertiary recycled water produced at NSD’s Soscol WRF was delivered within the City service area in 2015. This volume was purchased by 18 customers that would otherwise be using City drinking water for irrigation of their landscapes and vineyards. Along with the Napa Golf Course at Kennedy Park, other prominent recycled water users include Napa Valley Memorial Park Cemetery, Napa Valley College, Meritage Resort, and the Napa Valley Commons (corporate park). Since the UWMP 2010 update, extension of NSD pipeline to the Milliken-Sarco-Tulocay (MST) area east of Napa has allowed the City’s largest potable water customer, Napa State Hospital, to begin using recycled water. The Hospital must still complete a major internal irrigation system renovation before taking full advantage of available recycled volumes however. Recent extension of NSD pipeline to the
west into the Carneros enabled some Stanly Ranch Vineyard parcels to become the first agricultural recycled water users within the City service area in 2015.

To provide perspective on overall 2015 NSD operations, Table 6-3 also presents the recycled volumes delivered outside of the City service area (1,379 AF), which went to vineyards, ranchlands, golf courses, and commercial sites primarily south and east of Napa. Most of the wastewater in 2015 was discharged to the Napa River following secondary treatment.

### Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2015

<table>
<thead>
<tr>
<th>Wastewater Treatment Plant Name</th>
<th>Discharge Location Name or Identifier</th>
<th>Discharge Location Description</th>
<th>Wastewater Discharge ID Number (optional)</th>
<th>Method of Disposal</th>
<th>Does This Plant Treat Wastewater Generated Outside the Service Area?</th>
<th>Treatment Level</th>
<th>2015 volumes (AF)</th>
<th>Wastewater Treated</th>
<th>Discharged Treated Wastewater</th>
<th>Recycled Within Service Area</th>
<th>Recycled Outside of Service Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soscol Water Recycling Facility</td>
<td>Napa River</td>
<td>38° 14'09&quot; N 122° 17'10&quot; W</td>
<td>River or creek outfall</td>
<td>Yes</td>
<td>Secondary, Disinfected - 23</td>
<td></td>
<td>5,576</td>
<td>5,576</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Soscol Water Recycling Facility</td>
<td>N/A</td>
<td>Other</td>
<td>Yes</td>
<td>Tertiary</td>
<td></td>
<td></td>
<td>1,816</td>
<td>0</td>
<td>437</td>
<td>1,379</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7,392</td>
<td>5,576</td>
<td>437</td>
<td>1,379</td>
<td></td>
</tr>
</tbody>
</table>

NOTES: Total wastewater treated and recycled water breakdown for 2015 received from NSD staff, October 2016. Table does include discharged and recycled volumes that were outside of the City drinking water service area. As shown, 437 AF was recycled within the City service area in 2015. Future projections for that category are shown in Table 6-4.

Projected Recycled Water Beneficial Uses

Projected recycled water uses exclusively within the City service area are shown in Table 6-4 below. They are based on NSD Recycled Water Policy adopted in 2011 and subsequent extensions of NSD pipelines. The 2015 recycled usage of 437 AF may increase to more than 1,000 AF by 2030 as commercial and institutional landscaping projects gradually fill in the southern and eastern part of the service area while vineyard irrigation expands in the southwest portion. More details for these future recycled water uses are included later in this section.

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. In the previous UWMP 2010 update, projections were made for overall NSD recycled water deliveries by use type. For example, potential volume of 3,338 AF was listed for 2015. While actual 2015 volume was 1,816 AF, recent NSD pipeline extensions and plant upgrades by 2016 now allow NSD to provide up to 3,700 AF of recycled water annually.

Of more direct importance for the City is the comparison shown in Table 6-5. In the UWMP 2010 update, about 550 AF of recycled water deliveries were anticipated for the City service area by 2015. This projection had assumed infill conversions in the Napa Valley Commons, which did occur, but it also anticipated up to 200 AF of new usage at Napa State Hospital, which has not yet developed due to barriers in funding their irrigation system conversion.
### Table 6-4 Retail: Current and Projected Recycled Water Direct Beneficial Uses Within Service Area

<table>
<thead>
<tr>
<th>Beneficial Use Type</th>
<th>General Description of 2015 Uses</th>
<th>Level of Treatment</th>
<th>2015</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040 (opt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural irrigation</td>
<td>Vineyard Irrigation</td>
<td>Tertiary</td>
<td>31</td>
<td>100</td>
<td>140</td>
<td>140</td>
<td>140</td>
<td>n/a</td>
</tr>
<tr>
<td>Landscape irrigation (excludes golf courses)</td>
<td>Commercial/Institutional Landscaping</td>
<td>Tertiary</td>
<td>195</td>
<td>350</td>
<td>515</td>
<td>755</td>
<td>755</td>
<td>n/a</td>
</tr>
<tr>
<td>Golf course irrigation</td>
<td>Napa Golf Course at Kennedy Park</td>
<td>Tertiary</td>
<td>211</td>
<td>200</td>
<td>200</td>
<td>200</td>
<td>200</td>
<td>n/a</td>
</tr>
<tr>
<td>Commercial use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geothermal and other energy production</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seawater intrusion barrier</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recreational impoundment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wetlands or wildlife habitat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Groundwater recharge (IPR)*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surface water augmentation (IPR)*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct potable reuse</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 6-5 Retail: 2010 UWMP Recycled Water Use Projection Compared to 2015 Actual

<table>
<thead>
<tr>
<th>Use Type</th>
<th>2010 Projection for 2015 (AF)</th>
<th>2015 Actual Use (AF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural irrigation</td>
<td>0</td>
<td>31</td>
</tr>
<tr>
<td>Landscape irrigation (excludes golf courses)</td>
<td>350</td>
<td>195</td>
</tr>
<tr>
<td>Golf course irrigation</td>
<td>200</td>
<td>211</td>
</tr>
<tr>
<td>Commercial use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geothermal and other energy production</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seawater intrusion barrier</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recreational impoundment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wetlands or wildlife habitat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Groundwater recharge (IPR)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surface water augmentation (IPR)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct potable reuse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Notes:
- While no additional golf courses lie in the City service area and that recycled use type will remain steady, vineyard irrigation and commercial/institutional landscaping uses are projected to expand based on the NSD Recycled Water Policy adopted in 2011 and the subsequent pipeline extensions affecting customers in the east and southwest portions of the City service area.
- Volumes of Water are in acre-feet (AF).

- Recycled water was not used in 2010 nor projected for use in 2015. The supplier will not complete the table below.
For future recycled water 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 F. 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 was made available. Seven strategies for future recycled water optimization were proposed and Strategy 3 was selected. NSD has continued working with water users throughout Napa County to identify areas where recycled water could replace the use of potable, surface, or groundwater, and in 2011 the NSD Board adopted a Recycled Water Policy, establishing allocation priorities for users. This Board Resolution No. 11-004, also attached in Appendix F, recognized 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. Recent upgrades at Soscol WRF include the addition of a new sand filter and an equalization water storage basin. All relevant NSD planning documents related to recycled water are available at www.napasan.com.

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 some areas falling under the 1998 Agreement, including Napa State Hospital, Infill-Kennedy Park/Corporate Park, and Stanly Ranch.

NSD completion of two major pipeline extensions since the UWMP 2010 update have helped fulfill goals of their strategic plan and have also helped meet commitments to users within the City service area. The northernmost NSD recycled water pipe used to end near Napa State Hospital, but the new five-mile MST pipeline extension now sends recycled water past the Hospital into the groundwater-deficient Milliken-Sarco-Tulocay area. Along with eventually supplying the Hospital’s full landscape irrigation, a spur off that MST pipeline will supply Tulocay Cemetery and Silverado Middle School beginning as soon as 2017. Those two sites will each use about 25 AF annually.

The other new NSD pipeline crosses under the Napa River to the west of the Soscol WRF. Extending nine miles into the Carneros region, it can serve several customers in the City service area along the way. One parcel in the Stanly Ranch Vineyards switched from City drinking water to recycled in 2015. Other vineyard parcels in that section are expected to switch in the coming years, providing more than 100 AF in additional City water savings each year. A new 5-star resort planned for Stanly Ranch will also use NSD recycled water for its landscaping and small vineyard area, using about 60 AF per year.

Based on overall expansion plans for the NSD recycled water system, the expected new users within the City of Napa service area are projected in Table 6-6 below. Along with the connections via the MST and Carneros pipelines, infill connections for recycled-ready commercial and residential developments on Gasser Foundation land north of Imola Avenue are anticipated. The mixed-use Napa Pipe project is expected to demand 130 AF per year of
recycled water for landscaping in its common areas, and this is expected to be annexed within the City as it is completed over the next decade. While full beneficial use at Napa State Hospital is assumed, delays in funding its irrigation system conversion may mean several years before an additional 110 AF will be used there.

### Table 6-6 Retail: Methods to Expand Future Recycled Water Use

<table>
<thead>
<tr>
<th>Name of Action</th>
<th>Description</th>
<th>Planned Implementation Year</th>
<th>Expected Increase in Recycled Water Use (AF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tulocay Cemetery</td>
<td>Connect cemetery lawn irrigation to Coombsville extension of MST pipeline</td>
<td>2017</td>
<td>25</td>
</tr>
<tr>
<td>Silverado Middle School</td>
<td>Connect campus irrigation to Coombsville extension of MST pipeline</td>
<td>2017</td>
<td>25</td>
</tr>
<tr>
<td>Stanly Ranch Vineyards Phase 2</td>
<td>Connect additional existing vineyard parcels to Carneros pipeline</td>
<td>2018</td>
<td>70</td>
</tr>
<tr>
<td>South Napa Infill</td>
<td>Connect commercial landscapes in Imola Ave development</td>
<td>2020</td>
<td>105</td>
</tr>
<tr>
<td>Stanly Ranch Vineyards Phase 3</td>
<td>Connect all remaining unconnected vineyards in southwest Napa</td>
<td>2021</td>
<td>40</td>
</tr>
<tr>
<td>Stanly Ranch Resort</td>
<td>Connect landscape and vineyard irrigation at new 5-star resort</td>
<td>2021</td>
<td>60</td>
</tr>
<tr>
<td>Gasser Infill</td>
<td>Connect landscape irrigation for Gasser Foundation land development projects</td>
<td>2024</td>
<td>105</td>
</tr>
<tr>
<td>Napa Pipe</td>
<td>Full connection of all common area landscaping at Napa Pipe project</td>
<td>2026</td>
<td>130</td>
</tr>
<tr>
<td>Napa State Hospital</td>
<td>Full connection for entire facility landscape irrigation</td>
<td>2027</td>
<td>110</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>670</strong></td>
</tr>
</tbody>
</table>

NOTES: Table represents actions within City of Napa service area only.

Combined with current annual recycled water use of about 400 AF, this additional 670 AF will play a significant part in keeping the City’s GPCD at or under the SB X7-7 target discussed in Chapter 5, and will help meet future State urban water use requirements. The City will continue to work closely with NSD to expand recycled water deliveries within the City service area. In addition, the City will monitor regulations currently under study to define requirements for direct potable reuse (DPR). The regulations are likely to be finalized within one or two study periods.
The proximity of the Soscol WRF to the Barwick Jamieson treatment plant shows great potential for DPR, subject to capital improvements including a pump station and added treatment trains.

### 6.7 Other Potential Sources

The City is either involved in or considering several opportunities to enhance its water supply for the future. Additional SWP and dry year options were discussed in Section 6.4. Groundwater considerations were summarized in Section 6.5. Recycled water supplied by NSD was thoroughly reviewed in Section 6.6. Other potential water supply enhancements are discussed below. Due to the “potential” nature of these efforts, their supplies are not quantified here nor are they included in DWR Table 6-7. They are not included in projected future water supplies in this UWMP. As future water supply projects are finalized or agreements made, their supply contributions may be quantified in future UWMP updates.

#### Treatment Plant Projects

The Edward I. Barwick Jamieson Canyon WTP Improvements Project was completed in 2011, increasing 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 select years, the City has more reliability and can 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 the SWP. 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 this added increment of water supply.

#### Exchanges or Transfers

The City has considered and will continue to consider opportunities for water exchanges or transfers with water right holders if opportunities arise with acceptable terms and conditions. These potential opportunities could include, but would not be limited to, onetime transfers from farmers who choose to fallow fields and auction off their water. 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 late 2016, with extra SWP Carryover Water available, the City was fortunately able to act on the seller side of an exchange. The City provided 7,000 AF to Santa Clara Valley Water District, receiving funds for a Water Rate Stabilization Reserve Account and favorable terms including the eventual return of 3,500 AF from the District.

#### 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; however, as of 2017 the project has been put on hold.

Stormwater

The City does not use stormwater as a source and does not have any specific plans to use stormwater to bolster its supplies. While using stormwater for groundwater recharge has been an approach taken by some water agencies, it would not significantly contribute to increasing the City’s water supply since the City currently does not use groundwater as a municipal source. The 2018 update to the 2050 Study will review all potential water supplies with a focus on local resources and consideration of long-term policies such as the California Water Action Plan.

Desalinated Water

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

<table>
<thead>
<tr>
<th>Name of Future Projects or Programs</th>
<th>Joint Project with other agencies?</th>
<th>Description (if needed)</th>
<th>Planned Implementation Year</th>
<th>Planned for Use in Year Type Drop Down List</th>
<th>Expected Increase in Water Supply to Agency Drop Down List</th>
</tr>
</thead>
<tbody>
<tr>
<td>No expected future water supply projects or programs that provide a quantifiable increase to the agency’s water supply. Supplier will not complete the table below.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some or all of the supplier’s future water supply projects or programs are not compatible with this table and are described in a narrative format.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide page location of narrative in the UWMP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.8 Summary of Existing and Planned Sources of Water

Table 6-8 shows the actual sources and volumes that were used to meet City of Napa demands in 2015. Recycled water supplied within the City service area is included, although that is of course directly supplied to customers by NSD, not the City. Most City water in 2015 came from the State Water Project, with its Carryover Water, Article 21 Water, and Table A Entitlement categories all employed. Local surface water reservoirs, Lake Hennessey and Milliken Reservoir, made up the remaining supplies during this drought year. Raw water supplies were converted to drinking water at the three City treatment plants described earlier in this chapter.

In a normal water year, available supplies from the City’s surface and imported water sources well exceed demands. As shown in Section 6.2, average yield from Lake Hennessey is estimated at 17,500 AF. Milliken Reservoir is assumed to have a maximum yield of 700 AF, as discussed in Section 6.3. For the State Water Project, DWR estimates that normal year deliveries of Table A would meet 62% of contractors’ maximum entitlements. This would mean 13,578 AF in SWP supplies for the City, without even taking into account Carryover, Article 21, and the extra NOD Allocation that would also likely be available, as discussed in Section 6.4.
### Table 6-8 Retail: Water Supplies — Actual

<table>
<thead>
<tr>
<th>Water Supply</th>
<th>Additional Detail on Water Supply</th>
<th>2015</th>
<th>Water Quality Drop Down List</th>
<th>Total Right or Safe Yield (optional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drop down list</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>May use each category multiple times.</td>
<td>These are the only water supply categories that will be recognized by the WUEdata online submittal tool.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply from Storage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lake Hennessey</td>
<td></td>
<td>3,444</td>
<td>Raw Water</td>
<td></td>
</tr>
<tr>
<td>Supply from Storage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Milliken Reservoir</td>
<td></td>
<td>734</td>
<td>Raw Water</td>
<td></td>
</tr>
<tr>
<td>Purchased or Imported Water</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State Water Project</td>
<td></td>
<td>7,856</td>
<td>Raw Water</td>
<td></td>
</tr>
<tr>
<td>Recycled Water</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Napa Sanitation District</td>
<td></td>
<td>437</td>
<td>Recycled Water</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>12,471</td>
<td></td>
<td>n/a</td>
</tr>
</tbody>
</table>

**NOTES:** Raw water supplies converted to drinking water at three City treatment plants. State Water Project supplies in 2015 came from combination of Carryover, Article 21, and Table A. Recycled water is supplied by Napa Sanitation District directly to end users within City of Napa drinking water service area.

Projected supplies reasonably available in normal years through 2035 are shown in Table 6-9. The City’s raw water sources are projected to have a combined 31,778 AF available, with NSD recycled water supplies/demands increasing over the period. The reliability of the City’s supply portfolio in Average Year, Single-Dry Year, and Multiple-Dry Years are examined in Chapter 7.

### Table 6-9 Retail: Water Supplies — Projected

<table>
<thead>
<tr>
<th>Water Supply</th>
<th>Additional Detail on Water Supply</th>
<th>Projected Water Supply Report To the Extent Practicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drop down list</td>
<td></td>
<td>2020</td>
</tr>
<tr>
<td>May use each category multiple times.</td>
<td>These are the only water supply categories that will be recognized by the WUEdata online submittal tool.</td>
<td>Reasonably Available Volume</td>
</tr>
<tr>
<td>Add additional rows as needed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply from Storage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lake Hennessey</td>
<td></td>
<td>17,500</td>
</tr>
<tr>
<td>Supply from Storage</td>
<td></td>
<td>700</td>
</tr>
<tr>
<td>Milliken Reservoir</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchased or Imported Water</td>
<td></td>
<td></td>
</tr>
<tr>
<td>State Water Project</td>
<td></td>
<td>13,578</td>
</tr>
<tr>
<td>Recycled Water</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Napa Sanitation District</td>
<td></td>
<td>650</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>32,428</td>
</tr>
</tbody>
</table>

**NOTES:** All supply volumes are for normal (average) water year in AF. Local surface water supplies are average yields derived from 2050 Study. State Water Project supplies are 62% of Table A, with no Carryover, Article 21, or North of Delta allocation assumed. Recycled water volumes are from Table 6-4.
7.1 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. This UWMP 2015 update must show the estimated supplies available during an Average (Normal) Year, a critical Single-Dry Year, and a Multiple-Dry Year Period. Before addressing this requirement, some definitions are in order:

**Average (Normal) Year** – A year, or an averaged range of years, that most closely represents the average water supply available to the agency. A year in the historical sequence that most closely represents median runoff levels and patterns. It is also referred to as a Normal Year.

**Single-Dry Year** – The year that represents the lowest water supply available to the agency. A critical year generally considered to have the lowest average runoff for a watershed since 1903.

**Multiple-Dry Year Period** – The period that represents the lowest average water supply availability to the agency for a consecutive multiple year period of three years or more. 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.

**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 Exceedance** – 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 exceedance of 100%, while the maximum yield would have a probability of exceedance of 0%.

**Depletion** – Annual drawdown from reservoir storage during drought conditions.

7.2 Local Surface Water Reliability

Water year types do not necessarily coincide between local reservoirs and the State Water Project (SWP). For example, a normal rainfall year in the Lake Hennessey watershed may occur the same year as a dry year for the SWP watershed. For this UWMP 2015 update, the
City assumes 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 derived from the 2050 Study, as discussed in Chapter 6. These assumptions were also used in the UWMP 2010 update.

### Estimated Local Reservoir Yields

<table>
<thead>
<tr>
<th>Source</th>
<th>Average Year</th>
<th>Single-Dry Year</th>
<th>Multiple-Dry Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lake Hennessey</td>
<td>17,500</td>
<td>5,000</td>
<td>10,417</td>
</tr>
<tr>
<td>Milliken Reservoir</td>
<td>700</td>
<td>400</td>
<td>700</td>
</tr>
<tr>
<td>Total Local Reservoirs</td>
<td>18,200</td>
<td>5,400</td>
<td>11,117</td>
</tr>
</tbody>
</table>

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 2015 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 Reservoir, 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. These storage depletion estimates were also used in the UWMP 2010 update.

### Estimated Local Reservoir Depletion

<table>
<thead>
<tr>
<th>Source</th>
<th>Single-Dry Year</th>
<th>Multiple-Dry Years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Year 1</td>
<td>Year 2</td>
</tr>
<tr>
<td>Lake Hennessey(1)</td>
<td>6,500</td>
<td>6,500</td>
</tr>
<tr>
<td>Milliken Reservoir(2)</td>
<td>100</td>
<td>33</td>
</tr>
<tr>
<td>Total Local Reservoir Depletion</td>
<td>6,600</td>
<td>6,533</td>
</tr>
</tbody>
</table>

(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.

### 7.3 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. Endangered fish species and Delta water quality are also 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 average, single-dry, and multiple-dry years. The City’s full Table A entitlement is 21,900 AF, as shown in Chapter 6.
UWMP 2015 employs data from The State Water Project Final Delivery Capability Report 2015, issued by DWR in July 2015. This is the most recently published DWR report assessing SWP reliability, and its projected long-term average delivery amounts of contractual SWP Table A supplies are similar to previous estimates, including those in the 2009 SWP Delivery Reliability Report used for UWMP 2010. The projections are based on very conservative assumptions, which make them useful from a long-range urban water supply planning perspective. Along with climatic/hydrologic constraints, the SWP projections take into account Biological Opinions issued in 2008 and 2009 regarding threatened and endangered species in the Delta. They factor in requirements to meet salinity and other water quality objectives which also limit SWP exports from the Delta.

Based on these recent water supply modeling results, DWR estimates the SWP’s water delivery capability as percentages of the Maximum SWP Table A Amount:

- Average Year: 62% (1921-2003 average)
- Single-Dry Year: 11% (based on 1977)
- Multiple-Dry Year Period: 29% (based on 1987-1992)

As with the local reservoirs, the average, single-dry, and multiple-dry year delivery percentages can be looked upon as the average, firm, and reliable yields of the SWP source. The DWR model indicates a firm yield of 11% based on the 1977 critically dry year. However, given that the actual SWP allocation for 2014 was just 5%, the City chooses to use that lower 2014 amount as a “worst-case” single-dry year scenario. To further emphasize a conservative approach for its SWP reliability, the City will not assume Carryover Water, Article 21 Water, or a bonus North of Delta Allocation for any of the scenarios. As discussed in Chapter 6, these additional SWP categories are typically available. In fact, in 2014 despite the dire drought outlook and the historically low 5% Table A allocation, the City was able to rely on more than 13,000 AF of accumulated Carryover to bolster its SWP supply portfolio. For this UWMP 2015 evaluation, the City assumes for the single-dry year case that Carryover would be exhausted and the City can therefore receive an additional 3,772 AF in Advanced Table A after its 5% allocation is used. This SWP credit account program became available as a result of the “Area of Origin” case settlement, as described in Chapter 6.

### State Water Project Reliability Assumptions

#### City of Napa

<table>
<thead>
<tr>
<th>Water Year Type</th>
<th>Projected SWP Delivery (percent of Table A) (1)</th>
<th>Advanced Table A (AF)</th>
<th>Total SWP Deliveries (AF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Year</td>
<td>62%</td>
<td>-</td>
<td>13,578</td>
</tr>
<tr>
<td>Single-Dry Year</td>
<td>5%</td>
<td>3,772</td>
<td>4,867</td>
</tr>
<tr>
<td>Multiple-Dry Years</td>
<td>29%</td>
<td>-</td>
<td>6,351</td>
</tr>
</tbody>
</table>

(1) 100% Table A is 21,900 AF.

For normal years through 2035, the City can therefore expect about 13,578 AF from the SWP. It can expect 6,351 AF annually during multiple-dry year periods like the six-year 1987-1992 drought. For a worst-case single-dry year like 2014, the City could see total deliveries as low as 4,867 AF, even tapping into the Advanced Table A Program. Again, these SWP delivery estimates are conservatively low in that they assume no Carryover, Article 21, North of Delta Allocation bonus, or any of the other supplemental SWP categories that were described in Section 6.4. Also of note, SWP yield curves from the DWR model show that the water year data
are not normally distributed (i.e., the median is not equal to the average). Consequently, the average year SWP delivery is not exceeded 50% of the time. It is exceeded about 60% of the time.

### 7.4 Total Supply Reliability

Table 7-1 adds the SWP yields, the local reservoir yields, and the assumed local reservoir depletion amounts to estimate the City of Napa’s reliable raw water supplies for Average Year, Single-Dry Year, and a six-year Multiple-Dry Year Period. The Single-Dry Year case is clearly the most critical, with just 53% of Average Year supplies available. The latter stages of a Multiple-Dry Year Period are expected to still have about 59% of Average Year supplies available.

<table>
<thead>
<tr>
<th>Year Type</th>
<th>Base Year</th>
<th>Available Supplies if Year Type Repeats</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location __________________________</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Quantification of available supplies is provided in this table as either volume only, percent only, or both.</td>
</tr>
<tr>
<td>Average Year</td>
<td>1921-2003</td>
<td>31778</td>
</tr>
<tr>
<td>Single-Dry Year</td>
<td>2014</td>
<td>16867</td>
</tr>
<tr>
<td>Multiple-Dry Years 1st Year</td>
<td>1987</td>
<td>24001</td>
</tr>
<tr>
<td>Multiple-Dry Years 2nd Year</td>
<td>1988</td>
<td>18801</td>
</tr>
<tr>
<td>Multiple-Dry Years 3rd Year</td>
<td>1989</td>
<td>18801</td>
</tr>
<tr>
<td>Multiple-Dry Years 4th Year Optional</td>
<td>1990</td>
<td>18801</td>
</tr>
<tr>
<td>Multiple-Dry Years 5th Year Optional</td>
<td>1991</td>
<td>18801</td>
</tr>
<tr>
<td>Multiple-Dry Years 6th Year Optional</td>
<td>1992</td>
<td>18801</td>
</tr>
</tbody>
</table>

Agency may use multiple versions of Table 7-1 if different water sources have different base years and the supplier chooses to report the base years for each water source separately. If an agency uses multiple versions of Table 7-1, in the "Note" section of each table, state that multiple versions of Table 7-1 are being used and identify the particular water source that is being reported in each table.

**NOTES:** Local Surface Water and Imported State Water supplies only.

Recycled water was not included in this supply reliability section or Table 7-1 because it is not subject to curtailments due to hydrologic/climatic, environmental, or legal factors. The NSD
recycled water volumes in Chapter 6 (Table 6-4) are considered to be available to end users within the City service area 100% of the time regardless of hydrologic conditions. In Sections 7.6, 7.7, and 7.8, supply and demand comparisons for the three different water year scenarios show the impacts of dry year conditions on the City’s overall water service reliability through 2035. Recycled water provided by NSD is included in that analysis. Recycled water supply volume for users in the City service area is equivalent to demand.

7.5 Constraints on Water Sources

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

Climatic

Weather patterns that affect hydrologic conditions help to determine SWP deliveries. In a critically dry year like 2014, SWP contractors have received as little as 5% of their annual entitlement. By using SWP as a source, the City is somewhat dependent on precipitation in the Sacramento and San Joaquin River Basins and the onset of drought conditions there. 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 gains confidence in the minimum reliable supplies presented in this UWMP 2015 update for single-dry and multiple-dry year conditions.

While a discussion of climate change is not required in this UWMP 2015 update, it is important to note some potential impacts for the region as laid out in the 2013 Bay Area IRWMP. Climate change may intensify the variability in water supply for the San Francisco Bay Area in the coming decades, and climate change is expected to affect regional imported water supplies as snow pack decreases from less storage in the mountains and precipitation shifts toward more rain and less snow. Timing of runoff is expected to shift to earlier in the year, affecting reservoir storage and hydropower generation, especially in the spring and summer months. Sea-level rise may impact Delta water deliveries. Because the Bay Area relies heavily on imported supplies, any reduction or change in the timing or availability of those supplies could have negative impacts to the regional water supply. Specific climate change vulnerability for City of Napa supplies will likely be required in the next UWMP update.

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 and National Marine Fisheries Service issued Biological Opinions (BOs) regarding the effect of SWP operations on threatened and endangered fish
species in the Delta. In its 2015 SWP Delivery Capability Report, DWR accounts for the impact of these BOs on future Table A deliveries. To ensure a conservative analysis, the DWR report accounts for the institutional, environmental, regulatory, and legal factors affecting SWP supplies, and assumes these limitations remain in place.

As described in Chapter 6, some of these SWP environmental impacts for the City of Napa have now been mitigated by the 2013 “Area of Origin” legal settlement with DWR. DWR now calculates a separate SWP Table A allocation for North of Delta contractors that will not be affected by restrictions that reduce South of Delta exports.

As discussed earlier, the City’s SWP water supply is governed by an agreement with NCFCWCD, which 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 to 2085.

Through permits and licenses with the SWRCB, the City has a legal entitlement to use water from its local reservoirs, 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 water rights 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.

The City has initiated development of a Master Plan for Reservoir and Watershed Operations. One portion of the plan relates to modeling runoff within the watershed, and developing a monitoring and analysis plan to define tributary water quality is being performed in cooperation with the County of Napa who has jurisdiction over land use in thousands of acres of watershed lands. An assessment of current operations under existing agreements will be reviewed and recommendations for future bypass flow releases relative to the downstream habitat for sensitive species including steelhead trout will be developed. Recommendations will be completed through this effort with appropriate biological expertise and the resource agencies providing input on options for efficacy of seasonal releases, restoration efforts, and benefits achieved. Another aspect of the Master Plan is an assessment of spillway capacity and probable maximum storm. The study may require capital improvements and or a combination of operational constraints. Results of the studies could impact annual supplies available from the reservoirs. Any impacts will be reflected in the next UWMP update.

Water Quality/Treatment

Because the Delta is an estuary, salinity is a potential water quality concern. SWP water is required to meet salinity and other water quality objectives for the Delta established by the SWRCB, and these objectives may restrict SWP exports from the Delta.

The City consistently meets drinking water standards prescribed by the U.S. Environmental Protection Agency (EPA) and the SWRCB. 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 improved the Barwick 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. Restoration projects associated with the proposed California Water Fix (formerly referred to as twin tunnels and peripheral canal) are slated for Cache Slough in close proximity
to the Barker Slough Pumping Plant. The restoration projects aim to create new habitat for endangered species including the Delta Smelt that may reduce the reliability of water supply and ability to move water through the NBA. Potential alternate intake locations for the NBA that would improve raw water quality and avoid Delta Smelt habitat are being evaluated.

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 2015 reflect the current practice of using Milliken supplies only during the summer months when lower turbidity levels can be effectively treated.

The Master Plan for Reservoir and Watershed Operations will also address water quality impacts to supply. City supply sources have seasonal taste and odor challenges due to algal growth as well as episodes of high total organic carbon that increases the formation potential for disinfection byproducts. Staff is cognizant of these challenges and uses vigilance to provide the highest quality water to customers but is often left with no good choices. Modifications to reservoir releases may change the frequency of local reservoirs spilling and filling. Increased stagnation of water supplies will increase water temperatures and further exacerbate the taste and odor challenges that are on the rise due to water quality degradation and increased nutrient loading. Management of existing reservoir water and alternate supply options to address loss of quantity and quality will be considered.

### 7.6 Supply vs. Demand: Normal Year

The overall reliability of water service for City customers is assessed by comparing supply and demand for future Normal (Average), Single-Dry, and Multiple-Dry Year scenarios, including the recycled water volumes supplied by NSD to users within the City service area. Combining the data presented earlier in Chapters 4 and 6, Table 7-2 projects Normal Year supply and demand comparisons through 2035.

<table>
<thead>
<tr>
<th>Table 7-2 Retail: Normal Year Supply and Demand Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply totals (AF) (autofill from Table 6-9)</td>
</tr>
<tr>
<td>2020</td>
</tr>
<tr>
<td>32,428</td>
</tr>
<tr>
<td>Demand totals (AF) (autofill from Table 4-3)</td>
</tr>
<tr>
<td>14,839</td>
</tr>
<tr>
<td>Difference (AF)</td>
</tr>
<tr>
<td>17,589</td>
</tr>
</tbody>
</table>

NOTES: Supply and Demand totals also include Recycled Water volumes supplied by Napa Sanitation District.

Healthy annual surpluses ranging from 16,337 AF to 17,589 AF are projected for Normal Years through 2035. Total reliable supplies are nearly double the projected demand for all years.
7.7 Supply vs. Demand: Single-Dry Year

Table 7-3 projects Single-Dry Year supply and demand comparisons through 2035, including the recycled water volumes supplied by NSD to users within the City service area. Demands are assumed to be the same as a Normal Year and do not incorporate the savings that would likely result from implementation of the Water Shortage Contingency Plan.

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040 (Opt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply totals (AF)</td>
<td>17,517</td>
<td>17,722</td>
<td>17,962</td>
<td>17,962</td>
<td>n/a</td>
</tr>
<tr>
<td>Demand totals (AF)</td>
<td>14,839</td>
<td>15,571</td>
<td>16,151</td>
<td>16,536</td>
<td>n/a</td>
</tr>
<tr>
<td>Difference (AF)</td>
<td>2,678</td>
<td>2,151</td>
<td>1,811</td>
<td>1,426</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Table 7-3 Retail: Single Dry Year Supply and Demand Comparison

NOTES: Supply and Demand totals also include Recycled Water volumes supplied by Napa Sanitation District.

Despite the conservatively high demand assumptions and the extremely low SWP deliveries projected for these 2014-type conditions, the City projects a surplus ranging from 1,426 AF to 2,678 AF in critical Single-Dry Years through 2035. More favorable assumptions on the supply side, such as SWP Carryover and Article 21 Water availability, would boost these dry-year surpluses higher. On the demand side, savings generated through public notification of dry conditions and implementation of the Water Shortage Contingency Plan would also improve reliability, as would suspension of interruptible-surge agricultural accounts outside the City limits (300 AF). As shown in Chapter 8, the recent statewide drought demonstrated the ability of City customers to reduce demand 25% in just Stage 2 of the Water Shortage Plan.

The smaller surpluses in the outer years do point out the importance of adhering to the City’s SB X7-7 per capita water use target and maintaining a robust water conservation and efficiency program to avoid potentially tighter supply-demand situations in the most extreme dry years.

7.8 Supply vs. Demand: Multiple-Dry Year Period

Table 7-4 projects supply and demand comparisons for Multiple-Dry Year Periods that begin in 2020, 2025, 2030, and 2035, including the recycled water volumes supplied by NSD to users within the City service area. Demands are assumed to be the same as Normal Years throughout the six-year periods. Despite these conservatively high demand assumptions, no shortfalls are expected at any point during six-year Multiple-Dry Year Periods through 2035. Projected surpluses of at least 3,360 AF are maintained over the time frame, even for the fifth and sixth years of the dry periods.
Overall, the City projects strong, reliable water service for the next 20 years. No shortfalls are projected for Normal, Single-Dry, or Multiple-Dry Year periods through 2035.

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040 (Opt)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First year</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply totals (AF)</td>
<td>24,651</td>
<td>24,856</td>
<td>25,096</td>
<td>25,096</td>
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</tr>
<tr>
<td>Demand totals (AF)</td>
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<td>15,571</td>
<td>16,151</td>
<td>16,536</td>
<td>n/a</td>
</tr>
<tr>
<td>Difference (AF)</td>
<td>9,812</td>
<td>9,285</td>
<td>8,945</td>
<td>8,560</td>
<td>n/a</td>
</tr>
<tr>
<td><strong>Second year</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply totals (AF)</td>
<td>19,451</td>
<td>19,656</td>
<td>19,896</td>
<td>19,896</td>
<td>n/a</td>
</tr>
<tr>
<td>Demand totals (AF)</td>
<td>14,839</td>
<td>15,571</td>
<td>16,151</td>
<td>16,536</td>
<td>n/a</td>
</tr>
<tr>
<td>Difference (AF)</td>
<td>4,612</td>
<td>4,085</td>
<td>3,745</td>
<td>3,360</td>
<td>n/a</td>
</tr>
<tr>
<td><strong>Third year</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply totals (AF)</td>
<td>19,451</td>
<td>19,656</td>
<td>19,896</td>
<td>19,896</td>
<td>n/a</td>
</tr>
<tr>
<td>Demand totals (AF)</td>
<td>14,839</td>
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<td>16,151</td>
<td>16,536</td>
<td>n/a</td>
</tr>
<tr>
<td>Difference (AF)</td>
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<td>4,085</td>
<td>3,745</td>
<td>3,360</td>
<td>n/a</td>
</tr>
<tr>
<td><strong>Fourth year</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(optional)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Supply totals (AF)</td>
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<td>19,656</td>
<td>19,896</td>
<td>19,896</td>
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<tr>
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<td>16,536</td>
<td>n/a</td>
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<tr>
<td>Difference (AF)</td>
<td>4,612</td>
<td>4,085</td>
<td>3,745</td>
<td>3,360</td>
<td>n/a</td>
</tr>
<tr>
<td><strong>Fifth year</strong></td>
<td></td>
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</tr>
<tr>
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<tr>
<td>Supply totals (AF)</td>
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<td>19,656</td>
<td>19,896</td>
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<td>Demand totals (AF)</td>
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<tr>
<td>Difference (AF)</td>
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<td>4,085</td>
<td>3,745</td>
<td>3,360</td>
<td>n/a</td>
</tr>
<tr>
<td><strong>Sixth year</strong></td>
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<td></td>
<td></td>
<td></td>
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<tr>
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<td>Demand totals (AF)</td>
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<tr>
<td>Difference (AF)</td>
<td>4,612</td>
<td>4,085</td>
<td>3,745</td>
<td>3,360</td>
<td>n/a</td>
</tr>
</tbody>
</table>

NOTES: Supply and Demand totals also include Recycled Water volumes supplied by Napa Sanitation District.
7.9 Regional Supply Reliability

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. 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 1989-1991 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. In the future, as DPR regulations are approved, the City will work with NSD to explore options of treating winter flows from the Soscol WRF in lieu of SWP water at the Barwick Jamieson treatment plant.

Overall resource maximization is being addressed primarily through water conservation measures and expansion of local NSD recycled water use for non-potable demands, as discussed in Chapters 5, 6, and 9.
CHAPTER 8

WATER SHORTAGE CONTINGENCY PLANNING

8.1 Introduction

Water use efficiency can help stretch dry year supplies. By implementing the water conservation practices described in Chapter 9 and addressing SB X7-7 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. Other non-drought 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 Analysis that addresses these temporary conservation measures and other actions necessary to handle supply emergencies.

As a result of the most recent statewide drought, the Governor’s Executive Order B-37-16 has called for updating and strengthening requirements for urban Water Shortage Contingency Plans, and creating common statewide standards for them. The implementation framework for that order, Making Water Conservation a California Way of Life, proposes that urban water suppliers conduct Drought Risk Assessments every five years, conduct and submit Water Budget Forecasts annually, and include six standard shortage levels in their Plans, each with shortage response actions. Because these and other statewide changes require legislative action and implementing regulations, the City defers the next comprehensive update of its Water Shortage Contingency Plan until statutory authorization is granted and details of these new standards are finalized. The new standardized Water Shortage Contingency Plans are likely to be required with the UWMP 2020 update.

The Water Shortage Contingency Plan described in this chapter is derived from the City’s original 1992 Plan developed in the six-year 1987-1992 drought period, and from the Moderate and Severe Water Shortage Regulations contained in Napa Municipal Code (NMC) Chapters 13.10 and 13.12. These documents are all attached in Appendix G. In response to SWRCB statewide emergency drought regulations that included water waste prohibitions, mandatory outdoor irrigation limits, and the first-ever percentage reduction targets for urban water agencies, the City updated its Moderate Water Shortage Regulations (NMC Chapter 13.10) in 2014 and 2015. Despite not experiencing an actual local shortage, the City was required under SWRCB regulations to reduce its total water consumption by 20% for the period of June 2015 through May 2016 compared to those same months in 2013. Through public outreach and implementation of its updated Moderate Water Shortage Regulations, effectively Stages 2 and 3 of the Water Shortage Contingency Plan, the City beat its target. As shown in Figure 8-1 below, some months even saw savings of 30% or more, and the Napa community achieved 25% savings for the overall 12-month period that the State-imposed target was in place. Largely through reductions in lawn irrigation, the City of Napa demonstrated the large savings potential that is available in the event of a local supply shortage.
8.2 Water Shortage Declaration

In the event of drought impacting local supplies, the City would likely adopt a Resolution to Declare a Water Shortage Emergency, which would implement the appropriate stage of the Water Shortage Contingency Plan. Attachment “E” of the original 1992 Plan in Appendix G contains an older sample declaration. More recent examples, attached in Appendix H, include the September 2014 Resolution R2014-154 declaring a Moderate Water Shortage and the May 2015 Resolution R2015-60 renewing that declaration to ensure compliance with additional SWRCB emergency regulations.

It should be noted that nothing in this UWMP or the Municipal Code would preclude the City Council from passing an emergency resolution to implement additional water shortage response actions or modify the actions and requirements identified herein.

8.3 Stages of Action

The City of Napa has a legal responsibility to provide for the health and safety needs of its water customers. The City also has an obligation to help minimize the social and economic impact of water shortages by managing 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 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 supply criteria for triggering the City's stages of action are listed in Table 8-1.

### Table 8-1 Retail Stages of Water Shortage Contingency Plan

<table>
<thead>
<tr>
<th>Stage</th>
<th>Percent Supply Reduction</th>
<th>Water Supply Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0-10%</td>
<td>Combined supply reductions totaling up to 3,200 AF, or insufficient carryover storage and projected supplemental water to provide for 90% of normal supplies for the next 2 years</td>
</tr>
<tr>
<td>2</td>
<td>10-20%</td>
<td>Combined supply reductions totaling between 3,200 and 6,400 AF, or insufficient carryover storage and projected supplemental water to provide for 75% of normal supplies for the next 2 years</td>
</tr>
<tr>
<td>3</td>
<td>20-35%</td>
<td>Combined supply reductions totaling between 6,400 and 11,200 AF, or insufficient carryover storage and projected supplemental water to provide for 60% of normal supplies for the next 2 years</td>
</tr>
<tr>
<td>4</td>
<td>35-50%</td>
<td>Combined supply reductions totaling between 11,200 and 16,000 AF, or insufficient carryover storage and projected supplemental water to provide for 50% of normal supplies for the next 2 years</td>
</tr>
<tr>
<td>5</td>
<td>&gt;50%</td>
<td>Combined supply reductions totaling greater than 16,000 AF</td>
</tr>
</tbody>
</table>

1 One stage in the Water Shortage Contingency Plan must address a water shortage of 50%.

NOTES: Based on Normal Year Available Supplies
In response to escalating drought conditions and growing supply shortages, Stages 1, 2, 3, 4, and 5 of the Water Shortage Contingency Plan have escalating demand reduction goals of 10%, 15%, 20%, 35%, and 50%. To guide demand reduction methods, priority order for the beneficial use of limited available water supplies is:

- Health & Safety - interior residential and firefighting
- Commercial, Industrial, and Institutional (CII) – maintain jobs and economic base
- Existing Landscaping - primary consideration is to protect trees and shrubs
- New Development
- Agricultural – customers outside City limits with Interruptible-Surplus Water Agreements

### 8.4 Restrictions and Prohibitions on End Uses

The City has many water conservation policies that are in place at all times, with or without declaration of a water shortage. These include High Performance Building Regulations, MWELO, and the Water Offset Program enforced for new development, as discussed in Chapter 4. Customers are advised of possible leaks by City service workers, and are incentivized to repair leaks as soon as possible with an Underground Leak Adjustment on their bills. As laid out in Chapter 9, the City offers Water-Wise Home and Business Surveys, free water-saving devices, and an array of rebates and educational offerings.

Another method to reduce water use is to prohibit specific end uses, particularly those actions considered to be inherently wasteful. As part of the Executive Order B-37-16/*Making Water Conservation a California Way of Life* effort, the SWRCB is scheduled to make some end use prohibitions permanent statewide beginning in 2017 or 2018. Once those are established, the City will likely implement a local permanent Water Waste Ordinance that is in effect at all times. For now, the City enforces certain end use prohibitions beginning at appropriate stages of a declared water shortage, as summarized in Table 8-2.

<table>
<thead>
<tr>
<th>Stage</th>
<th>Restrictions and Prohibitions on End Users</th>
<th>Additional Explanation or Reference (optional)</th>
<th>Penalty, Charge, or Other Enforcement?</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Landscape - Restrict or prohibit runoff from landscape irrigation</td>
<td>No person shall use water to irrigate landscaping during a measurable rainfall event or within 48 hours thereafter.</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>Landscape - Limit landscape irrigation to specific times</td>
<td>No person shall use water to irrigate ornamental turf on public street medians.</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>Landscape - Prohibit certain types of landscape irrigation</td>
<td>No person shall use water to irrigate ornamental turf on public street medians.</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>Other - Prohibit use of potable water for washing hard surfaces</td>
<td>except to address an immediate health &amp; safety need.</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Add additional rows as needed
<table>
<thead>
<tr>
<th></th>
<th>Other - Require automatic shut of hoses</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Water Features - Restrict water use for decorative water features, such as fountains</td>
<td>Water must be recirculated.</td>
</tr>
<tr>
<td>2</td>
<td>CII - Restaurants may only serve water upon request</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>CII - Lodging establishment must offer opt out of linen service</td>
<td>Yes</td>
</tr>
<tr>
<td>3</td>
<td>Landscape - Limit landscape irrigation to specific days</td>
<td>No person shall use water to irrigate landscaping on consecutive days.</td>
</tr>
<tr>
<td>3</td>
<td>Landscape - Limit landscape irrigation to specific times</td>
<td>No person shall use water to irrigate landscaping between the hours of 10:00 a.m. and 5:00 p.m.</td>
</tr>
<tr>
<td>3</td>
<td>Other water feature or swimming pool restriction</td>
<td>No person shall drain and refill any swimming pool unless needed for the purpose of pool repair or to correct a severe chemical imbalance. No person shall drain and refill any decorative pond or lake unless that person establishes that it is needed for the purpose of lining the bottom to prevent absorption.</td>
</tr>
<tr>
<td>4</td>
<td>Water Features - Restrict water use for decorative water features, such as fountains</td>
<td>No use of water for decorative fountains or the filling of decorative lakes or ponds.</td>
</tr>
<tr>
<td>4</td>
<td>Other water feature or swimming pool restriction</td>
<td>No filling or refilling of swimming pools.</td>
</tr>
<tr>
<td>4</td>
<td>Other - Prohibit use of potable water for construction and dust control</td>
<td>No withdrawal of water from fire hydrants, except for firefighting</td>
</tr>
<tr>
<td>4</td>
<td>Other</td>
<td>No person shall use water to irrigate outdoor ornamental landscapes or turf more than two days per week for the period of June 1-September 30, or more than one day per week for the period of October 1-May 31.</td>
</tr>
<tr>
<td>4</td>
<td>Landscape - Other landscape restriction or prohibition</td>
<td>No installation of new or replacement lawn, sod, or turf.</td>
</tr>
</tbody>
</table>

NOTES: Violation subject to escalating penalties of $100, $200, and $500 per Chapter 1.24 of Napa Municipal Code.
It is a code violation for any person to violate the end use prohibitions, subject to the enforcement provisions of Title 1 Chapter 1.16 of the NMC. The Water Division General Manager is authorized to issue administrative citations, as the Enforcement Officer, pursuant to NMC Chapter 1.24. It is the intent of the Water Division to educate customers by providing outreach and guidance while first issuing a warning, then upon repeat violations, administering punitive penalties as necessary. The primary goal is to correct the water-wasting behavior. Violations of the prohibited actions are subject to an administrative penalty of $100 for a first offense, $200 for a second offense, and $500 for a third offense. These penalties may be levied for each day of the violation.

### 8.5 Consumption Reduction Methods

In addition to prohibiting specific end uses of water, an urban water supplier may use various methods to achieve the consumption reductions corresponding to the escalating stages of the Water Shortage Contingency Plan. Actions taken in the most restrictive stages may include, but are not limited to, percentage reductions in water use or per capita allocations for customers ("rationing"), suspension of non-essential uses, and a drought rate structure or surcharge. Consumption reduction methods in the City’s current Plan are summarized in Table 8-3.

<table>
<thead>
<tr>
<th>Stage</th>
<th>Consumption Reduction Methods by Water Supplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2,3,4,5</td>
<td>Offer Water Use Surveys</td>
</tr>
<tr>
<td>1,2,3,4,5</td>
<td>Provide Rebates on Plumbing Fixtures and Devices</td>
</tr>
<tr>
<td>1,2,3,4,5</td>
<td>Provide Rebates for Landscape Irrigation Efficiency</td>
</tr>
<tr>
<td>1,2,3,4,5</td>
<td>Provide Rebates for Turf Replacement</td>
</tr>
<tr>
<td>1,2,3,4,5</td>
<td>Expand Public Information Campaign</td>
</tr>
<tr>
<td>3,4,5</td>
<td>Increase Water Waste Patrols</td>
</tr>
<tr>
<td>3,4,5</td>
<td>Decrease Line Flushing</td>
</tr>
<tr>
<td>4,5</td>
<td>Other</td>
</tr>
<tr>
<td>4,5</td>
<td>Other</td>
</tr>
<tr>
<td>4,5</td>
<td>Other</td>
</tr>
<tr>
<td>4,5</td>
<td>Implement or Modify Drought Rate Structure or Surcharge</td>
</tr>
</tbody>
</table>

**NOTES:**

Add additional rows as needed.
Stages 4 and 5 include the following water allocation methods by 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 Development**: Assigned Rationed Allocation
- **Agricultural**: Termination of Water Service for Interruptible-Surplus Accounts

Overall reduction targets at each stage by customer type are estimated:

### Annual Consumption Limits (AF) by Stage

<table>
<thead>
<tr>
<th>STAGE 1</th>
<th>Residential</th>
<th>CII</th>
<th>Landscape</th>
<th>Agricultural</th>
<th>TOTAL</th>
<th>TOTAL % Demand Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAGES 2-5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normal Demand</td>
<td>0-10% reduction in supply does not require consumption reduction methods.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage 2</td>
<td>8,500</td>
<td>2,550</td>
<td>680</td>
<td>200</td>
<td>11,930</td>
<td>14.8%</td>
</tr>
<tr>
<td>Stage 3</td>
<td>8,000</td>
<td>2,400</td>
<td>560</td>
<td>200</td>
<td>11,160</td>
<td>20.3%</td>
</tr>
<tr>
<td>Stage 4</td>
<td>6,500</td>
<td>1,950</td>
<td>440</td>
<td>0</td>
<td>8,890</td>
<td>36.5%</td>
</tr>
<tr>
<td>Stage 5</td>
<td>5,000</td>
<td>1,500</td>
<td>320</td>
<td>0</td>
<td>6,820</td>
<td>51.3%</td>
</tr>
</tbody>
</table>

The allocation methods are defined:

**Winter/Summer % 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 customers 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 - Straight percentage 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 advanced drought stages.

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 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.

8.6 Monitoring Water Shortage Reductions

The City system is fully metered. Production meters from the three treatment plants are used to measure overall water savings from implementing the Water Shortage Contingency Plan. Customer meters are used to determine adherence to allocations in Stages 4 and 5.

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.

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. 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.

8.7 Revenue and Expenditure Impacts

Water rates account for more than 90% of the revenues collected for the Water Enterprise Fund. The City’s current Single-Family Residential rate structure includes a small fixed service charge plus variable “per unit” rates based on the amount of water consumed. Other customer types have simply a “per unit” rate, with no fixed charges. Because such a large component of overall rate revenue is variable based on customer water consumption, significant drops in revenue can occur when customers are asked or mandated to reduce that consumption.

The expenses to treat and deliver drinking water to City customers also include both fixed and variable categories. Fixed costs include but are not limited to, 24/7 treatment plant operations and emergency repair services, debt service, and much needed investments in aging infrastructure renewal and replacement. These expenses do not change regardless of the volume of water moved through the system and sold to customers. Variable costs include the transportation charges for water supply, energy, chemicals, and other items that vary slightly based on water demand. Water Division expenses are mostly fixed. A mismatch therefore can occur because while expenses have a large fixed component and do not change significantly based on the amount of water consumed, water revenues have historically had a large variable component and can change significantly based on water consumption.

In a drought, this expense and revenue mismatch is accentuated. Significant revenue shortfalls occurred during the recent statewide drought, as City customers beat the State-mandated savings target. The City did not implement a drought surcharge during the period. Customers reduced their consumption and paid less during this period; however, they did not cover the cost of the service provided to them. While the sale of surplus SWP Carryover Water to another agency helped recover some revenue for use in the Water Rate Stabilization Reserve Account, the long-term solution for the City is to modify its water rate structure to better avoid revenue
shocks. The City is completing a Cost of Service Water Rate Analysis in 2017 that proposes a modified rate structure that includes a higher fixed service charge component. This change is vital to ensure consistent investment in the aging system to maintain reliable service, and if approved, will put the Water Enterprise in a more financially sustainable operating position in this post-drought era of lower GPCD and reduced urban water use.

As the City revises its Water Shortage Contingency Plan to meet the State’s upcoming new standards arising from Executive Order B-37-16, the drought rate structure/drought surcharge component of the Plan will be reevaluated and adjusted to ensure it meets best practices for revenue stability and addresses new laws such as SB 814.

8.8 Catastrophic Supply Interruption

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. The South Napa Earthquake of August 24, 2014 provided a real-life exercise for the ERP. None of the three treatment plants were significantly damaged or knocked offline during that event, but main breaks caused customer outages.

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 was 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 firefighting, and minimize negative impacts on public health and safety.

### 8.9 Three-Year Minimum Supply

For this UWMP 2015 update, the Act requires that the City estimate minimum water supply available during 2016, 2017, and 2018 based on the hydrology of the Multiple-Dry Year Period evaluated in Chapter 7. Based on the last three years of the six-year dry period projected in Table 7-4, the estimates in Table 8-4 reflect the combined availability of all water sources, but assume that the 2015 volume of NSD recycled water does not increase.

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Available Water Supply (AF)</td>
<td>19,238</td>
<td>19,238</td>
<td>19,238</td>
</tr>
</tbody>
</table>

**NOTES:** Includes Recycle Water supplied by Napa Sanitation District, but assumes 2015 volume of 437 AF remains constant through 2018.

With actual SWP North of Delta Allocations of 75% and 100% for 2016 and 2017, along with local reservoirs reaching storage capacity, these estimates are conservatively low. With healthy existing supplies, the City does not anticipate any problems meeting water demands for the next three years.
CHAPTER 9

DEMAND MANAGEMENT MEASURES

9.1 Conservation Best Management Practices

Water conservation programs, also known as Demand Management Measures (DMMs), have been 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 six-year 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. This 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 12,000 AF since 1991.

In 2002, the City 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 back in 1991 at the height of the six-year drought, the CUWCC oversaw the Memorandum of Understanding Regarding Urban Water Conservation in California (MOU) which set forth Best Management Practices (BMPs) in water use efficiency. The City became a signatory to the MOU in 2002, joining more than 170 other water suppliers across California at the time. MOU signatories agreed to make a “good faith effort” to implement a prescribed list of BMPs. Each BMP had a specific implementation schedule and coverage requirement. Agencies filed BMP progress reports on the CUWCC website. Since signing the MOU, the City has greatly expanded its water conservation program and budget in an aggressive attempt to implement BMPs and meet their coverage requirements.

In 2008, the CUWCC reorganized the traditional BMPs into Foundational and Programmatic categories and offered two alternative compliance methods, Flex Track and GPCD (gallons per capita per day). The City selected the GPCD Compliance Option because this performance-based approach offered more flexibility in achieving water savings goals and was compatible with SB X7-7. 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 City filed its most recent Foundational BMP Reports for 2013 and 2014 with the CUWCC, along with a completed GPCD spreadsheet. These were reviewed by CUWCC staff for MOU compliance. The resulting BMP Coverage Reports attached in Appendix I indicate that the City of Napa is “On Track” for all Foundational BMPs and its 2014 GPCD was well under the 2014 compliance target:

Biennial GPCD Compliance Target for 2014: 145.9
City of Napa GPCD in 2014: 134.9

The Year 2018 GPCD target for CUWCC MOU compliance is 134.1 for the City; however, in 2017 the CUWCC restructured into the California Water Efficiency Partnership (CalWEP) and will no longer implement BMPs or require BMP Reports. CalWEP will now focus on providing
tools, training, and research to assist California utilities in meeting evolving water conservation laws and regulations. The 2013 and 2014 versions are the final BMP Coverage Reports to be issued. Future reporting of the City’s water conservation efforts to the State will be primarily via the UWMP update process.

9.2 Demand Management Measures 2010-2015

While some documentation of City programs and accomplishments is contained in Appendix I, a narrative discussion of DMM implementation over the past five years (2010-2015) provides a more complete picture of the City’s efforts in water conservation and efficiency.

Water Waste Prevention Ordinances

The City does not yet have a permanent Water Waste Ordinance in place, but as explained in Chapter 8, the City plans to adopt one that meets new SWRCB statewide prohibitions that will soon be made permanent as part of the Executive Order B-37-16/Making Water Conservation a California Way of Life effort. Under its Moderate Water Shortage Regulations adopted in 2015, the City does enforce end use prohibitions as required under the continuing SWRCB statewide emergency regulations:

- No irrigating during rain or within 48 hours after measurable rainfall.
- No overwatering lawns or landscapes such that excessive runoff flows onto adjacent property, walkways, roads, or parking lots.
- No using water to wash driveways or sidewalks, unless necessary to address an immediate health and safety need.
- No using a hose to wash a motor vehicle, unless hose is equipped with a shutoff nozzle.
- No using water in a fountain or other decorative water feature, unless the water is recirculated.
- Restaurants and other food service establishments can only serve drinking water to customers on request.
- Hotels/Motels must provide guests the option of not having towels and linens laundered daily.

As explained in Chapter 8, these water waste rules are enforced through education, warning, and escalating penalties of $100, $200, and $500.

During the 2010-2015 period, the City also had in place local ordinances to reduce water waste and ensure water efficient design in new development:

- Local High Performance Building Regulations that were more stringent than the 2010 and 2013 California Green Building Standards Codes (CALGreen), making several CALGreen voluntary provisions mandatory and requiring 30% indoor water savings for non-residential buildings.
- Local Water Efficient Landscape Ordinance (WELO) more stringent than the State Model, with a Maximum Applied Water Allowance of 60% of ETo. A new, more stringent State MWELO took effect in December 2015.
Metering

The City of Napa is fully metered, with more than 25,000 meters in the system. 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 older meters on a defined schedule. Automatic Meter Reading (AMR) is employed. By the end of 2015, nearly 75% of meters had been equipped with ERTs (Encoder Receiver Transmitters) allowing staff to perform drive-by radio-reads that significantly reduce the amount of time required for meter reading. After each meter read cycle, the City alerts customers with exceptionally high usage compared to previous years, often leading to their discovery and repair of a leak. Many of the new automatic meters preserve 40 days of historical water usage data that can be analyzed in hourly intervals. These data are sometimes extracted to assist customers in determining the timing and reason for unexpected high usage.

Conservation Pricing

Prior to the most recent rate structure change in 2011, the City had employed a uniform volumetric rate structure with almost no fixed charges, meeting the most basic definition of conservation pricing. Beginning in October 2011, the City switched to a tiered rate structure for its largest customer base, Single-Family Residential. It includes a fixed service charge plus tiered quantity charges; however, the service charge also covers the first 3 units (3,000 gallons) of water consumed. Low water use is billed at the lowest rate and higher water use is billed at progressively higher rates. While justified based on the higher costs to operate the system during peak demand times, the tiered pricing structure also sends a strong conservation signal to customers.

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<th>Single-Family Residential: Inside City (unit = 1,000 gallons)</th>
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<tr>
<td>Bimonthly Service Charge (0-3 units included)</td>
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<tr>
<td>Quantity Charge 4-20 units ($/unit)</td>
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<td>Quantity Charge 21-40 units ($/unit)</td>
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<td>Quantity Charge 41-75 units ($/unit)</td>
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<th>Single-Family Residential: Outside City (unit = 1,000 gallons)</th>
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<td>Quantity Charge 41-75 units ($/unit)</td>
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<td>Quantity Charge 76+ units ($/unit)</td>
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Public Education and Outreach

The City of Napa consistently publicizes its water conservation offerings and educates the community in numerous ways:

- Web site [www.cityofnapa.org/water](http://www.cityofnapa.org/water) provides a hub for all water conservation programs.
- Water conservation messages printed on bimonthly water bills mailed to customers.
• Media releases regarding conservation garner free media mentions in the local newspaper and on local radio.
• Monthly advertisements in the Napa Valley Marketplace magazine, which is mailed out to 33,000 local homes and businesses.
• Fliers and brochures available at Water Division office and at public events.
• Annual appearances at local public events such as Earth Day, Napa Farmers Market, Napa-Solano Home & Garden Show, and Napa Town & Country Fair. Display booth features educational literature, free water-saving devices, and questions answered by the Water Conservation Specialist.
• Presentations to community and business groups by the Water Conservation Specialist, Water Resources Analyst, or Water Division General Manager. During the 2014-2015 drought years alone, City speakers addressed dozens of community groups such as Soroptimists, Rotary, Leadership Napa Valley, Chamber of Commerce, and realtor organizations.
• Radio appearances and advertisements. Two 30-second radio ads to encourage water efficiency were run hundreds of times in 2014 on local stations KVON and KVYN, including Spanish language versions. City staff appeared on radio shows more than a dozen times during the 2010-2015 period to promote conservation programs, events such as Earth Day, and drought awareness.

The City offers many free water conservation services for the general public:

• Water-Wise Home Survey. Marketed to all single-family and multi-family residential customers, the program includes a site visit by the Water Conservation Specialist who checks leaks, plumbing fixture flow rates, and irrigation system performance. If warranted, customers are offered free low-flow showerheads, faucet aerators, appliance rebate information, and irrigation scheduling and maintenance tips. More than 100 Home Surveys were completed during the 2010-2015 period, not including the additional hundreds of high bill investigations performed by service workers.

• Free Water-Saving Devices. City water customers are entitled to an array of free water conservation devices, such as low-flow showerheads, faucet aerators, 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. Thousands of items were distributed during the 2010-2015 period.

• Free Toilet Replacement. Residential customers have participated in this program since 1991. Free EPA 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, or poor-performing ULFTs. 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 (NMC Section 13.09.010, as discussed in Chapter 4). Nearly 800 older toilets were replaced under this program during the 2010-2015 period. An additional 658 were replaced under an alternative local program, a toilet rebate funded by NSD. That NSD toilet rebate program ended in June 2017.

• Water-Wise Gardening in the Napa Valley 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. In early 2010, the original content transitioned from a CD-ROM available for sale to a freely
accessible web site linked from the City’s water conservation web page. Several aesthetic and functional upgrades were made to the site in late 2015, including the addition of videos to help customers set their irrigation controllers. The site received more than 27,000 unique visitors during the 2010-2015 period.

- **Sprinkler Times**, [www.sprinklertimes.com](http://www.sprinklertimes.com), is an easy to use online program and app that generates customized monthly irrigation schedules. The City offers water customers a free one-year registration. Both home gardeners and commercial landscape managers can benefit from Sprinkler Times, allowing standard controllers to mimic the benefits of more expensive "Smart" controllers. More than 400 customers have registered since the program was introduced in 2012.

- **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, mulch, and climate-appropriate plant selection. The City benefits from a strong partnership with the UC 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. During the 2010-2015 period, 28 workshops were held for a total of 844 attendees. Beginning in 2012, rainwater harvesting and rain garden content was added, and in 2013 the City also began partnering with the Bay-Friendly Landscaping & Gardening Coalition on “Lose Your Lawn” Workshops to promote the technique of sheet mulching. In 2015, the City also began sponsoring Laundry-to-Landscape Greywater Workshops in cooperation with the Napa County Resource Conservation District (RCD).

- **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. The other two sites are the Vintage High School Rain Garden and Water-Wise Landscape, installed in 2013, and the Water Division office, whose lawn was replaced with water-wise plants in the fall of 2014.

- **Bay-Friendly Garden Tour.** Beginning in 2011, the City has partnered with the Bay-Friendly Landscaping & Gardening Coalition and other local agencies to offer an annual garden tour that typically features a dozen local residential, commercial, or institutional landscapes demonstrating the beauty of low-water-use design. More than 1,500 people attended the five tours held in the 2010-2015 period.

The City offers financial incentives to save water, in the form of generous rebate programs:

- **High-Efficiency Clothes Washer Rebate.** Since 2008, the City has worked with Pacific Gas & Electric (PG&E) and NSD to offer a combined water-energy rebate on the highest efficiency clothes washer models that save customers more than 50% in water and energy use. The City issued more than 2,800 washer rebates through this regional cooperative program during the 2010-2015 period, resulting in estimated annual water savings of at least 70 AF. To help subsidize this effort, the City received $75,000 in Proposition 84 grant funds as part of the Bay Area IRWMP.

- **“Cash For Grass” Turf Replacement Rebate.** Introduced in 2010, this program currently offers all residential and CII customers $1.00 per square foot to replace high-water-use lawn areas with low-water use plants or permeable hardscape. Projected savings are 25
gallons per year per square foot of turf removed. During the 2010-2015 period, the City issued 838 rebates representing nearly a million square feet (913,555) of turf removed, saving about 70 AF per year. The City received $200,000 in Proposition 84 grant funding to help subsidize this effort. The program generated tremendous interest as the drought wore on in 2014 and 2015, with the participation rate quadrupling compared to prior years.

CII customers are eligible for the “Cash For Grass” Turf Replacement Rebate, the free Sprinkler Times app, and some of the other offerings described above, but in addition the City offers this customer sector some specialized water conservation programs:

- **Water-Wise Business Survey.** Offered to all CII 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 25 of these large audits were completed in the 2010-2015 period, including many sites seeking a Napa County Green Business certification.

- **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.

- **Green Business Stipend.** In 2013, the City began offering a $500 stipend to local businesses that complete the Green Business Certification Program and implement a comprehensive sustainability program, including water use efficiency. The City issued 17 stipends during the 2010-2015 period.

- **Smart Rebates.** The City participates in the CUWCC-administered Smart Rebates Program offering generous rebates on commercial high-efficiency clothes washers ($400), HETs ($200), High-Efficiency Urinals (HEUs) ($300), and pressurized waterbrooms ($50). Rebates for 20 HETs and 30 HEUs were issued to CII customers during the 2010-2015 period.

- **Bay-Friendly Landscaper Training.** As an incentive for local landscape professionals, the City has partnered with the Bay-Friendly Coalition and other local agencies to offer the Bay-Friendly Landscape Maintenance Training & Qualification Program in Napa County since 2010. More than 100 landscape maintenance and design professionals qualified during four training programs held in the 2010-2015 period. 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 in conjunction with the “Cash For Grass” rebate.

- **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 beginning in 2005. Employing weather stations, ET “Smart” controllers, and flow-sensing equipment, the two systems saved more than 600 AF during the 2010-2015 period by fully optimizing irrigation schedules and detecting leaks.
As part of its school education program, the City continues its active membership in the Environmental Education Coalition of Napa County, which distributes an Environmental Education Guide to area K-12 teachers. During the 2010-2015 period, City water conservation offerings included:

- **Water Conservation Classroom Presentation.** An interactive presentation on fresh water supply issues affecting California and Napa. Emphasis is on water conservation methods. Includes brainstorming contest on ways to save water in the home and conservation-related giveaways for students. Grades K-12. Only five in-room presentations for 150 students were held during the 2010-2015 period, as most teachers chose to take advantage of the City’s field trip offering instead.

- **Water Treatment Plant Field Trip.** Tour of the Edward I. Barwick Jamieson Canyon WTP, either separately or as part of combined full-day trip in conjunction with Napa Recycling & Composting Facility and NSD Water Recycling Facility. Includes introductory discussion, plant tour, and drinking water-related giveaways for students. Grades K-12. Bus transportation costs are covered by the City and its partners. During the 2010-2015 period, the City hosted more than 40 groups and 1,600 students.

- **Project WET.** Napa County teachers can gain access to award-winning classroom activities and earn a $75 stipend or 0.5 CEU by participating in *Project WET for the Napa Valley*, six hours of hands-on, action-packed training. Project WET (Water Education for Teachers) promotes awareness, appreciation, knowledge, and stewardship of water resources through the dissemination of classroom-ready teaching aids. Interdisciplinary activities for grades K-12 are designed to enhance existing curriculum and are aligned to Common Core State Standards. Starting in 2013, the City has conducted two trainings, certifying 24 local teachers.

**Water Loss Program**

Historically, the City has experienced less than 10% unaccounted-for water each year. As discussed in Section 4.4, the difference between the amount of water produced at the City’s water treatment plants and the amount of water consumed by end users is actually made up of both Real Losses, physical losses from leaking service lines and water mains, and Apparent Losses in which actual consumption is underreported due to sales meter inaccuracies and other factors. To better analyze these Water Loss categories, in 2010 the City began completing an annual Standard Water Audit and Balance using AWWA Free Water Audit Software.

The 2015 Water Loss volume of 758 AF was estimated to include 595 AF in Real Losses, which was a decline from the prior year. 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.

**Water Conservation Program Staffing**

The City designates its Water Resources Analyst as official Water Conservation Coordinator, with approximately 65% of the position’s duties related to the management and development of DMMs described in this chapter. The Coordinator is a Level 2 Water Use Efficiency Practitioner and a Certified Landscape Irrigation Auditor. The program is supported by a full-time Water Conservation Specialist who provides direct customer service in the field while also assisting in
program development. Other Water Division staff assist as needed, including service workers who alert customers of excessive use and office staff who help at large public events. 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).

Other Demand Management Measures

As discussed in Chapter 4, demand for City drinking water can also be reduced as a result of two local policies:

- Water Offset Program. To mitigate the impact of newly built projects, developers are to offset the projected water demand of their new projects (e.g., hotels, housing subdivisions) by reducing demand elsewhere in the City. These offsets may be achieved through replacement of older high-water-use toilets in existing buildings, recycled water conversions for existing irrigation systems, or an in-lieu fee which funds a variety of City water-saving programs.

- NSD Recycled Water Agreement. The 1998 agreement (Appendix E) permits NSD to solicit and provide recycled water within the City’s service area. In 2015, 18 customers who would otherwise be irrigating with City drinking water used 437 AF of recycled instead. The City continues to fulfill the agreement with NSD as they expand their recycled water service. New recycled water conversions in the 2010-2015 period included parts of Napa Valley Commons and Stanly Ranch Vineyards.

9.3 Planned Implementation to Achieve Water Use Targets

As shown in Figure 9-1 below, average per capita water use in terms of GPCD for the years since the CUWCC MOU signing and BMP expansion is about 14% lower than the period immediately prior. Through implementation of many of the DMMs described above, the City’s GPCD has been on an overall downward path since hitting nearly 180 GPCD in 1997. With the onset of drought, the City’s very low 115 GPCD in 2015 easily beat its SB X7-7 Interim Urban Water Use Target (149 GPCD). As shown in Chapter 5, the City’s 2020 Urban Water Use Target is 132 GPCD. While demand is expected to rise gradually over the next few years as the post-drought period leads to increased lawn irrigation, the limited rebound seen through mid-2017 indicates that many of the changes made during the drought created permanent water savings, such as conversion of high-water-use lawns to water-wise landscaping.

The City expects to meet its 2020 target of 132 GPCD and at least maintain that level of efficiency thereafter by relying on a three-pronged strategy. 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 more water-efficient ones. The third is to support the continued expansion of NSD recycled water use for irrigation. To support this three-pronged strategy, the City will continue to perform the DMMs outlined in Section 9.2 above, but will supplement and modify them to address the indoor residential, landscape, CII, and distribution system leakage targets that are likely to be part of upcoming State regulations. As discussed throughout this UWMP 2015 update, these new regulations arising from Executive Order B-37-16 and Making Water Conservation a California Way of Life will continue to impact urban water use beyond 2020.
New or modified DMMs that will likely be implemented by the City include:

- Enforcing SB 407 which governs the upgrade of existing structures to water-conserving plumbing fixtures. Promoting easy compliance through use of the Water Offset Program in which older high-water-use toilets are replaced at developer expense.

- Continuing High-Efficiency Clothes Washer rebates to effect market transformation through the end of 2017.

- Conducting Landscape Irrigation Audits for City parks to optimize the water savings potential of the Central Control Irrigation System.

- Offering the Qualified Water Efficient Landscaper (QWEL) training program to further educate Napa landscape professionals and transform local behavior toward a more water-efficient landscape ethic.

- Offering a Smart Irrigation Controller Rebate to encourage replacement of standard timers with EPA WaterSense-labeled weather-based controllers, while requiring a landscape irrigation audit to ensure maintenance improvements prior to controller installation.
• Introducing financial incentives for Irrigation Hardware Upgrades to help address inefficiencies in existing sprinkler and drip systems.

• Providing rebates or other incentives for Greywater reuse and Rainwater Harvesting if savings are determined to justify the cost.

• Presenting outdoor water budgets and other useful information on customer bills as the City's utility billing system is modernized.

• Introducing new social norms-based customer engagement tools, such as home water reports or other software.

• Transitioning the existing AMR system into a networked Advanced Metering Infrastructure (AMI) system that provides early leak detection and other customer data.

• Addressing performance standards for system Water Losses arising from SB 555.

• Increasing use of Social Media to publicize water use efficiency and conservation.

• Expanding school educational offerings to include a Musical Assembly for elementary and middle schools, and a High School Video Contest (started in 2016).

• Incorporating effective tracking tools to monitor the impact of individual water conservation programs on GPCD.
CHAPTER 10

PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

10.1 Public Hearing Notice

As required, this UWMP 2015 update includes water use and planning data for the entire calendar year of 2015. The Act requires that the UWMP be made available for public inspection and that a public hearing be held prior to adoption. To allow for public review of UWMP 2015, the public hearing and adoption vote were scheduled for the September 5, 2017 meeting of the Napa City Council. Print copies of draft UWMP 2015 were made available for public inspection two weeks prior to the hearing date at the Public Works Department Building, the Water Division Building, the City Clerk’s office, and the Napa City-County Library. An electronic version was posted on the City’s Water Division web page, www.cityofnapa.org/water, for more convenient public access. The public was invited to forward any written comments to the City Clerk.

In accordance with Government Code 6066, the City published official notices in the local newspaper, the Napa Valley Register, once a week for two successive weeks prior to the public hearing. Copies of these August 22 and August 29, 2017 ads are included in Appendix J, along with other relevant public notices discussed in this section.

As described in Chapter 2, the public was also made aware of the UWMP 2015 update in other ways. In the spring of 2017, the Water Division web page alerted that the City was in the process of preparing its UWMP update. Prior to the hearing, reminders were included in two City of Napa Newsweekly emails sent to more than 1,500 subscribers, engaged and active members of the local community. Mentions were also placed in a half-page water conservation advertisement and on the City of Napa News page in the September issue of Napa Valley Marketplace magazine. The UWMP 2015 update was also highlighted in prior issues of that magazine. Along with printing the City’s official paid public hearing notices, the Napa Valley Register also listed the UWMP hearing date online as part of its July 3, 2017 Napa City Update.

As indicated in Table 10-1, the City provided the required notices to local agencies with which it has a water relationship. To notify at least 60 days prior to a public hearing that the City of Napa was preparing an update of its UWMP, the City mailed letters to appropriate staff at the Cities of American Canyon, St. Helena, and Calistoga, the Town of Yountville, the County of Napa, and the Napa Sanitation District in April 2016. A copy of the draft UWMP 2015 and notification of the September 5, 2017 public hearing were sent to these same agencies on August 22, 2017. Copies of this correspondence are included in Appendix J.

10.2 City Council Adoption

At the City Council Meeting of September 5, 2017, the official public hearing was conducted, with the UWMP 2015 update summarized by staff and the public invited to make comments. With no public comments received, the Council voted to adopt the City of Napa UWMP 2015 as presented. Appendix K includes the adoption resolution, along with the City Council meeting agenda and minutes, and the staff report and presentation slides.
Table 10-1 Retail: Notification to Cities and Counties

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<th>Notice of Public Hearing</th>
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NOTE: Although not a City, the Napa Sanitation District was notified, as it is the local recycled water purveyor.

10.3 UWMP Submittal

Within 30 days of adoption, the City submitted the UWMP 2015 update to DWR, the California State Library, and the local agencies listed in Table 10-1. Correspondence documenting submittal is included in Appendix K. The completed UWMP Standardized Tables, SB X7-7 Verification Form, and 2015 AWWA Water Audit were sent to DWR electronically via their online UWMP submittal tool. Within 30 days of adoption, print copies of UWMP 2015 were made available for public review during normal business hours at the Public Works Department, the Water Division, City Hall, and the Napa City-County Library. An electronic version is posted at www.cityofnapa.org/water.
APPENDIX A

URBAN WATER MANAGEMENT PLANNING ACT
Appendix A Urban Water Management Planning Act Final

California Water Code Division 6, Part 2.6.

Chapter 1. General Declaration and Policy §10610-10610.4
Chapter 2. Definitions §10611-10617
Chapter 3. Urban Water Management Plans
   Article 1. General Provisions §10620-10621
   Article 2. Contents of Plans §10630-10634
   Article 2.5. Water Service Reliability §10635
   Article 3. Adoption And Implementation of Plans §10640-10645
Chapter 4. Miscellaneous Provisions §10650-10656

Chapter 1. General Declaration and Policy

SECTION 10610-10610.4

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

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

(1) The waters of the state are a limited and renewable resource subject to ever-increasing demands.

(2) The conservation and efficient use of urban water supplies are of statewide concern; however, the planning for that use and the implementation of those plans can best be accomplished at the local level.

(3) A long-term, reliable supply of water is essential to protect the productivity of California's businesses and economic climate.

(4) As part of its long-range planning activities, every urban water supplier should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry water years.

(5) Public health issues have been raised over a number of contaminants that have been identified in certain local and imported water supplies.

(6) Implementing effective water management strategies, including groundwater storage projects and recycled water projects, may require specific water quality and salinity targets for meeting groundwater basins water quality objectives and promoting beneficial use of recycled water.

(7) Water quality regulations are becoming an increasingly important factor in water agencies' selection of raw water sources, treatment alternatives, and modifications to existing treatment facilities.
(8) Changes in drinking water quality standards may also impact the usefulness of water supplies and may ultimately impact supply reliability.

(9) The quality of source supplies can have a significant impact on water management strategies and supply reliability.

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

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

(a) The management of urban water demands and efficient use of water shall be actively pursued to protect both the people of the state and their water resources.

(b) The management of urban water demands and efficient use of urban water supplies shall be a guiding criterion in public decisions.

(c) Urban water suppliers shall be required to develop water management plans to actively pursue the efficient use of available supplies.

Chapter 2. Definitions

SECTION 10611-10617

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

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

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

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

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

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

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

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

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

Chapter 3. Urban Water Management Plans


SECTION 10620-10621

10620. (a) Every urban water supplier shall prepare and adopt an urban water management plan in the manner set forth in Article 3 (commencing with Section 10640).

(b) Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.

(c) An urban water supplier indirectly providing water shall not include planning elements in its water management plan as provided in Article 2 (commencing with Section 10630) that would be applicable to urban water suppliers or public agencies directly providing water, or to their customers, without the consent of those suppliers or public agencies.

(d) (1) An urban water supplier may satisfy the requirements of this part by participation in areawide, regional, watershed, or basinwide urban water management planning where those plans will reduce preparation costs and contribute to the achievement of conservation and efficient water use.

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

(e) The urban water supplier may prepare the plan with its own staff, by contract, or in cooperation with other governmental agencies.

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

10621. (a) Each urban water supplier shall update its plan at least once every five years on or before December 31, in years ending in five and zero, except as provided in subdivision (d).

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

(c) The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).

(d) Each urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016.

Article 2. Contents of Plan

SECTION 10630-10634

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

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

(a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a). If groundwater is identified as an existing or planned source of
water available to the supplier, all of the following information shall be included in the plan:

(1) A copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management.

(2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For basins that a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.

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

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

(c) (1) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:

(A) An average water year.

(B) A single-dry water year.

(C) Multiple-dry water years.

(2) For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.
(d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

(e) (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:

(A) Single-family residential.

(B) Multifamily.

(C) Commercial.

(D) Industrial.

(E) Institutional and governmental.

(F) Landscape.

(G) Sales to other agencies.

(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.

(I) Agricultural.

(J) Distribution system water loss.

(2) The water use projections shall be in the same five-year increments described in subdivision (a).

(3) (A) For the 2015 urban water management plan update, the distribution system water loss shall be quantified for the most recent 12-month period available. For all subsequent updates, the distribution system water loss shall be quantified for each of the five years preceding the plan update.

(B) The distribution system water loss quantification shall be reported in accordance with a worksheet approved or developed by the department through a public process. The water loss quantification worksheet shall be based on the water system balance methodology developed by the American Water Works Association.

(4) (A) If available and applicable to an urban water supplier, water use projections may display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area.
(B) To the extent that an urban water supplier reports the information described in subparagraph (A), an urban water supplier shall do both of the following:

(i) Provide citations of the various codes, standards, ordinances, or transportation and land use plans utilized in making the projections.

(ii) Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.

(f) Provide a description of the supplier’s water demand management measures. This description shall include all of the following:

(1) (A) For an urban retail water supplier, as defined in Section 10608.12, a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years. The narrative shall describe the water demand management measures that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.

(B) The narrative pursuant to this paragraph shall include descriptions of the following water demand management measures:

(i) Water waste prevention ordinances.

(ii) Metering.

(iii) Conservation pricing.

(iv) Public education and outreach.

(v) Programs to assess and manage distribution system real loss.

(vi) Water conservation program coordination and staffing support.

(vii) Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovative measures, if implemented.

(2) For an urban wholesale water supplier, as defined in Section 10608.12, a narrative description of the items in clauses (ii), (iv), (vi), and (vii) of subparagraph (B) of paragraph (1), and a narrative description of its distribution system asset management and wholesale supplier assistance programs.

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

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

(i) 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 subdivision (f) by complying with all the 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.

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

10631.1. (a) The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier.

(b) It is the intent of the Legislature that the identification of projected water use for single-family and multifamily residential housing for lower income households will assist a supplier in complying with the requirement under Section 65589.7 of the Government Code to grant a priority for the provision of service to housing units affordable to lower income households.
10631.2. (a) In addition to the requirements of Section 10631, an urban water management plan may, but is not required to, include any of the following information:

(1) An estimate of the amount of energy used to extract or divert water supplies.

(2) An estimate of the amount of energy used to convey water supplies to the water treatment plants or distribution systems.

(3) An estimate of the amount of energy used to treat water supplies.

(4) An estimate of the amount of energy used to distribute water supplies through its distribution systems.

(5) An estimate of the amount of energy used for treated water supplies in comparison to the amount used for nontreated water supplies.

(6) An estimate of the amount of energy used to place water into or withdraw from storage.

(7) Any other energy-related information the urban water supplier deems appropriate.

(b) The department shall include in its guidance for the preparation of urban water management plans a methodology for the voluntary calculation or estimation of the energy intensity of urban water systems. The department may consider studies and calculations conducted by the Public Utilities Commission in developing the methodology.

10631.5. (a) (1) Beginning January 1, 2009, the terms of, and eligibility for, a water management grant or loan made to an urban water supplier and awarded or administered by the department, state board, or California Bay-Delta Authority or its successor agency shall be conditioned on the implementation of the water demand management measures described in Section 10631, as determined by the department pursuant to subdivision (b).

(2) For the purposes of this section, water management grants and loans include funding for programs and projects for surface water or groundwater storage, recycling, desalination, water conservation, water supply reliability, and water supply augmentation. This section does not apply to water management projects funded by the federal American Recovery and Reinvestment Act of 2009 (Public Law 111-5).

(3) Notwithstanding paragraph (1), the department shall determine that an urban water supplier is eligible for a water management grant or loan even though the supplier is not implementing all of the water demand management measures described in Section 10631, if the urban water supplier has
submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for implementation of the water demand management measures. The supplier may request grant or loan funds to implement the water demand management measures to the extent the request is consistent with the eligibility requirements applicable to the water management funds.

(4) (A) Notwithstanding paragraph (1), the department shall determine that an urban water supplier is eligible for a water management grant or loan even though the supplier is not implementing all of the water demand management measures described in Section 10631, if an urban water supplier submits to the department for approval documentation demonstrating that a water demand management measure is not locally cost effective. If the department determines that the documentation submitted by the urban water supplier fails to demonstrate that a water demand management measure is not locally cost effective, the department shall notify the urban water supplier and the agency administering the grant or loan program within 120 days that the documentation does not satisfy the requirements for an exemption, and include in that notification a detailed statement to support the determination.

(B) For purposes of this paragraph, "not locally cost effective" means that the present value of the local benefits of implementing a water demand management measure is less than the present value of the local costs of implementing that measure.

(b) (1) The department, in consultation with the state board and the California Bay-Delta Authority or its successor agency, and after soliciting public comment regarding eligibility requirements, shall develop eligibility requirements to implement the requirement of paragraph (1) of subdivision (a). In establishing these eligibility requirements, the department shall do both of the following:

(A) Consider the conservation measures described in the Memorandum of Understanding Regarding Urban Water Conservation in California, and alternative conservation approaches that provide equal or greater water savings.

(B) Recognize the different legal, technical, fiscal, and practical roles and responsibilities of wholesale water suppliers and retail water suppliers.

(2) (A) For the purposes of this section, the department shall determine whether an urban water supplier is implementing all of the water demand management measures described in Section 10631 based on either, or a combination, of the following:
(i) Compliance on an individual basis.

(ii) Compliance on a regional basis. Regional compliance shall require participation in a regional conservation program consisting of two or more urban water suppliers that achieves the level of conservation or water efficiency savings equivalent to the amount of conservation or savings achieved if each of the participating urban water suppliers implemented the water demand management measures. The urban water supplier administering the regional program shall provide participating urban water suppliers and the department with data to demonstrate that the regional program is consistent with this clause. The department shall review the data to determine whether the urban water suppliers in the regional program are meeting the eligibility requirements.

(B) The department may require additional information for any determination pursuant to this section.

(3) The department shall not deny eligibility to an urban water supplier in compliance with the requirements of this section that is participating in a multiagency water project, or an integrated regional water management plan, developed pursuant to Section 75026 of the Public Resources Code, solely on the basis that one or more of the agencies participating in the project or plan is not implementing all of the water demand management measures described in Section 10631.

(c) In establishing guidelines pursuant to the specific funding authorization for any water management grant or loan program subject to this section, the agency administering the grant or loan program shall include in the guidelines the eligibility requirements developed by the department pursuant to subdivision (b).

(d) Upon receipt of a water management grant or loan application by an agency administering a grant and loan program subject to this section, the agency shall request an eligibility determination from the department with respect to the requirements of this section. The department shall respond to the request within 60 days of the request.

(e) The urban water supplier may submit to the department copies of its annual reports and other relevant documents to assist the department in determining whether the urban water supplier is implementing or scheduling the implementation of water demand management activities. In addition, for urban water suppliers that are signatories to the Memorandum of Understanding Regarding Urban Water Conservation in California and submit biennial reports to the California Urban Water Conservation Council in accordance with the memorandum, the department may use these reports to assist in tracking the implementation of water demand management measures.
(f) This section shall remain in effect only until July 1, 2016, and as of that date is repealed, unless a later enacted statute, that is enacted before July 1, 2016, deletes or extends that date.

10631.7. The department, in consultation with the California Urban Water Conservation Council, shall convene an independent technical panel to provide information and recommendations to the department and the Legislature on new demand management measures, technologies, and approaches. The panel shall consist of no more than seven members, who shall be selected by the department to reflect a balanced representation of experts. The panel shall have at least one, but no more than two, representatives from each of the following: retail water suppliers, environmental organizations, the business community, wholesale water suppliers, and academia. The panel shall be convened by January 1, 2009, and shall report to the Legislature no later than January 1, 2010, and every five years thereafter. The department shall review the panel report and include in the final report to the Legislature the department's recommendations and comments regarding the panel process and the panel's recommendations.

10632. (a) The plan shall provide an urban water shortage contingency analysis that includes each of the following elements that are within the authority of the urban water supplier:

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

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

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

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

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

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

(7) An analysis of the impacts of each of the actions and conditions described in paragraphs (1) to (6), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.

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

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

(b) Commencing with the urban water management plan update due July 1, 2016, for purposes of developing the water shortage contingency analysis pursuant to subdivision (a), the urban water supplier shall analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code.

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

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

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

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

(d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.
(e) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.

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

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

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

Article 2.5. Water Service Reliability

SECTION 10635

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

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

(c) Nothing in this article is intended to create a right or entitlement to water service or any specific level of water service.
(d) Nothing in this article is intended to change existing law concerning an urban water supplier's obligation to provide water service to its existing customers or to any potential future customers.

Article 3. Adoption and Implementation of Plans

SECTION 10640-10645

10640. Every urban water supplier required to prepare a plan pursuant to this part shall prepare its plan pursuant to Article 2 (commencing with Section 10630). The supplier shall likewise periodically review the plan as required by Section 10621, and any amendments or changes required as a result of that review shall be adopted pursuant to this article.

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

10642. Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area.

After the hearing, the plan shall be adopted as prepared or as modified after the hearing.

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

10644. (a) (1) An urban water supplier shall submit to the department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. Copies of amendments or changes to the plans shall be submitted to the department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.

(2) The plan, or amendments to the plan, submitted to the department pursuant to paragraph (1) shall be submitted electronically and shall include any standardized forms, tables, or displays specified by the department.
(b) (1) Notwithstanding Section 10231.5 of the Government Code, the department shall prepare and submit to the Legislature, on or before December 31, in the years ending in six and one, a report summarizing the status of the plans adopted pursuant to this part.

The report prepared by the department shall identify the exemplary elements of the individual plans. The department shall provide a copy of the report to each urban water supplier that has submitted its plan to the department. The department shall also prepare reports and provide data for any legislative hearings designed to consider the effectiveness of plans submitted pursuant to this part.

(2) A report to be submitted pursuant to paragraph (1) shall be submitted in compliance with Section 9795 of the Government Code.

(c) (1) For the purpose of identifying the exemplary elements of the individual plans, the department shall identify in the report water demand management measures adopted and implemented by specific urban water suppliers, and identified pursuant to Section 10631, that achieve water savings significantly above the levels established by the department to meet the requirements of Section 10631.5.

(2) The department shall distribute to the panel convened pursuant to Section 10631.7 the results achieved by the implementation of those water demand management measures described in paragraph (1).

(3) The department shall make available to the public the standard the department will use to identify exemplary water demand management measures.

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

Chapter 4. Miscellaneous Provisions

SECTION 10650-10656

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

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

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

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

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

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

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

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

WATER CONSERVATION ACT OF 2009
(SB X7-7)
Chapter 1. General Declarations and Policy

SECTION 10608-10608.8

10608. The Legislature finds and declares all of the following:

(a) Water is a public resource that the California Constitution protects against waste and unreasonable use.

(b) Growing population, climate change, and the need to protect and grow California's economy while protecting and restoring our fish and wildlife habitats make it essential that the state manage its water resources as efficiently as possible.

(c) Diverse regional water supply portfolios will increase water supply reliability and reduce dependence on the Delta.

(d) Reduced water use through conservation provides significant energy and environmental benefits, and can help protect water quality, improve streamflows, and reduce greenhouse gas emissions.

(e) The success of state and local water conservation programs to increase efficiency of water use is best determined on the basis of measurable outcomes related to water use or efficiency.

(f) Improvements in technology and management practices offer the potential for increasing water efficiency in California over time, providing an essential water management tool to meet the need for water for urban, agricultural, and environmental uses.

(g) The Governor has called for a 20 percent per capita reduction in urban water use statewide by 2020.

(h) The factors used to formulate water use efficiency targets can vary significantly from location to location based on factors including weather, patterns of urban and suburban development, and past efforts to enhance water use efficiency.
Appendix B Sustainable Water Use and Demand Reduction (SB X7-7) Final

(i) Per capita water use is a valid measure of a water provider's efforts to reduce urban water use within its service area. However, per capita water use is less useful for measuring relative water use efficiency between different water providers. Differences in weather, historical patterns of urban and suburban development, and density of housing in a particular location need to be considered when assessing per capita water use as a measure of efficiency.

10608.4. It is the intent of the Legislature, by the enactment of this part, to do all of the following:

(a) Require all water suppliers to increase the efficiency of use of this essential resource.

(b) Establish a framework to meet the state targets for urban water conservation identified in this part and called for by the Governor.

(c) Measure increased efficiency of urban water use on a per capita basis.

(d) Establish a method or methods for urban retail water suppliers to determine targets for achieving increased water use efficiency by the year 2020, in accordance with the Governor's goal of a 20-percent reduction.

(e) Establish consistent water use efficiency planning and implementation standards for urban water suppliers and agricultural water suppliers.

(f) Promote urban water conservation standards that are consistent with the California Urban Water Conservation Council's adopted best management practices and the requirements for demand management in Section 10631.

(g) Establish standards that recognize and provide credit to water suppliers that made substantial capital investments in urban water conservation since the drought of the early 1990s.

(h) Recognize and account for the investment of urban retail water suppliers in providing recycled water for beneficial uses.

(i) Require implementation of specified efficient water management practices for agricultural water suppliers.

(j) Support the economic productivity of California's agricultural, commercial, and industrial sectors.

(k) Advance regional water resources management.

10608.8. (a) (1) Water use efficiency measures adopted and implemented pursuant to this part or Part 2.8 (commencing with Section 10800) are water conservation measures subject to the protections provided under Section 1011.

(2) Because an urban agency is not required to meet its urban water use target until 2020 pursuant to subdivision (b) of Section 10608.24, an urban retail water supplier's failure to meet those targets shall not establish a violation of law for purposes of any state administrative or judicial proceeding prior to
January 1, 2021. Nothing in this paragraph limits the use of data reported to the department or the board in litigation or an administrative proceeding. This paragraph shall become inoperative on January 1, 2021.

(3) To the extent feasible, the department and the board shall provide for the use of water conservation reports required under this part to meet the requirements of Section 1011 for water conservation reporting.

(b) This part does not limit or otherwise affect the application of Chapter 3.5 (commencing with Section 11340), Chapter 4 (commencing with Section 11370), Chapter 4.5 (commencing with Section 11400), and Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code.

(c) This part does not require a reduction in the total water used in the agricultural or urban sectors, because other factors, including, but not limited to, changes in agricultural economics or population growth may have greater effects on water use. This part does not limit the economic productivity of California's agricultural, commercial, or industrial sectors.

(d) The requirements of this part do not apply to an agricultural water supplier that is a party to the Quantification Settlement Agreement, as defined in subdivision (a) of Section 1 of Chapter 617 of the Statutes of 2002, during the period within which the Quantification Settlement Agreement remains in effect. After the expiration of the Quantification Settlement Agreement, to the extent conservation water projects implemented as part of the Quantification Settlement Agreement remain in effect, the conserved water created as part of those projects shall be credited against the obligations of the agricultural water supplier pursuant to this part.

Chapter 2 Definitions

SECTION 10608.12

10608.12. Unless the context otherwise requires, the following definitions govern the construction of this part:

(a) "Agricultural water supplier" means a water supplier, either publicly or privately owned, providing water to 10,000 or more irrigated acres, excluding recycled water. "Agricultural water supplier" includes a supplier or contractor for water, regardless of the basis of right, that distributes or sells water for ultimate resale to customers. "Agricultural water supplier" does not include the department.

(b) "Base daily per capita water use" means any of the following:

(1) The urban retail water supplier’s estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous 10-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.
(2) For an urban retail water supplier that meets at least 10 percent of its 2008 measured retail water demand through recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier, the urban retail water supplier may extend the calculation described in paragraph (1) up to an additional five years to a maximum of a continuous 15-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.

(3) For the purposes of Section 10608.22, the urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous five-year period ending no earlier than December 31, 2007, and no later than December 31, 2010.

(c) "Baseline commercial, industrial, and institutional water use" means an urban retail water supplier's base daily per capita water use for commercial, industrial, and institutional users.

(d) "Commercial water user" means a water user that provides or distributes a product or service.

(e) "Compliance daily per capita water use" means the gross water use during the final year of the reporting period, reported in gallons per capita per day.

(f) "Disadvantaged community" means a community with an annual median household income that is less than 80 percent of the statewide annual median household income.

(g) "Gross water use" means the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following:

(1) Recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier.

(2) The net volume of water that the urban retail water supplier places into long-term storage.

(3) The volume of water the urban retail water supplier conveys for use by another urban water supplier.

(4) The volume of water delivered for agricultural use, except as otherwise provided in subdivision (f) of Section 10608.24.

(h) "Industrial water user" means a water user that is primarily a manufacturer or processor of materials as defined by the North American Industry Classification System code sectors 31 to 33, inclusive, or an entity that is a water user primarily engaged in research and development.

(i) "Institutional water user" means a water user dedicated to public service. This type of user includes, among other users, higher education institutions, schools, courts, churches, hospitals, government facilities, and nonprofit research institutions.
(j) "Interim urban water use target" means the midpoint between the urban retail water supplier's base daily per capita water use and the urban retail water supplier's urban water use target for 2020.

(k) "Locally cost effective" means that the present value of the local benefits of implementing an agricultural efficiency water management practice is greater than or equal to the present value of the local cost of implementing that measure.

(l) "Process water" means water used for producing a product or product content or water used for research and development, including, but not limited to, continuous manufacturing processes, water used for testing and maintaining equipment used in producing a product or product content, and water used in combined heat and power facilities used in producing a product or product content. Process water does not mean incidental water uses not related to the production of a product or product content, including, but not limited to, water used for restrooms, landscaping, air conditioning, heating, kitchens, and laundry.

(m) "Recycled water" means recycled water, as defined in subdivision (n) of Section 13050, that is used to offset potable demand, including recycled water supplied for direct use and indirect potable reuse, that meets the following requirements, where applicable:

1. For groundwater recharge, including recharge through spreading basins, water supplies that are all of the following:
   A. Metered.
   B. Developed through planned investment by the urban water supplier or a wastewater treatment agency.
   C. Treated to a minimum tertiary level.
   D. Delivered within the service area of an urban retail water supplier or its urban wholesale water supplier that helps an urban retail water supplier meet its urban water use target.

2. For reservoir augmentation, water supplies that meet the criteria of paragraph (1) and are conveyed through a distribution system constructed specifically for recycled water.

(n) "Regional water resources management" means sources of supply resulting from watershed-based planning for sustainable local water reliability or any of the following alternative sources of water:

1. The capture and reuse of stormwater or rainwater.
2. The use of recycled water.
3. The desalination of brackish groundwater.
(4) The conjunctive use of surface water and groundwater in a manner that is consistent with the safe yield of the groundwater basin.

(o) "Reporting period" means the years for which an urban retail water supplier reports compliance with the urban water use targets.

(p) "Urban retail water supplier" means a water supplier, either publicly or privately owned, that directly provides potable municipal water to more than 3,000 end users or that supplies more than 3,000 acre-feet of potable water annually at retail for municipal purposes.

(q) "Urban water use target" means the urban retail water supplier's targeted future daily per capita water use.

(r) "Urban wholesale water supplier," means a water supplier, either publicly or privately owned, that provides more than 3,000 acre-feet of water annually at wholesale for potable municipal purposes.

Chapter 3 Urban Retail Water Suppliers

SECTION 10608.16-10608.44

10608.16.(a) The state shall achieve a 20-percent reduction in urban per capita water use in California on or before December 31, 2020.

(b) The state shall make incremental progress towards the state target specified in subdivision (a) by reducing urban per capita water use by at least 10 percent on or before December 31, 2015.

10608.20.(a) (1) Each urban retail water supplier shall develop urban water use targets and an interim urban water use target by July 1, 2011. Urban retail water suppliers may elect to determine and report progress toward achieving these targets on an individual or regional basis, as provided in subdivision (a) of Section 10608.28, and may determine the targets on a fiscal year or calendar year basis.

(2) It is the intent of the Legislature that the urban water use targets described in paragraph (1) cumulatively result in a 20-percent reduction from the baseline daily per capita water use by December 31, 2020.

(b) An urban retail water supplier shall adopt one of the following methods for determining its urban water use target pursuant to subdivision (a):

(1) Eighty percent of the urban retail water supplier's baseline per capita daily water use.

(2) The per capita daily water use that is estimated using the sum of the following performance standards:
(A) For indoor residential water use, 55 gallons per capita daily water use as a provisional standard. Upon completion of the department's 2016 report to the Legislature pursuant to Section 10608.42, this standard may be adjusted by the Legislature by statute.

(B) For landscape irrigated through dedicated or residential meters or connections, water efficiency equivalent to the standards of the Model Water Efficient Landscape Ordinance set forth in Chapter 2.7 (commencing with Section 490) of Division 2 of Title 23 of the California Code of Regulations, as in effect the later of the year of the landscape's installation or 1992. An urban retail water supplier using the approach specified in this subparagraph shall use satellite imagery, site visits, or other best available technology to develop an accurate estimate of landscaped areas.

(C) For commercial, industrial, and institutional uses, a 10-percent reduction in water use from the baseline commercial, industrial, and institutional water use by 2020.

(3) Ninety-five percent of the applicable state hydrologic region target, as set forth in the state's draft 20x2020 Water Conservation Plan (dated April 30, 2009). If the service area of an urban water supplier includes more than one hydrologic region, the supplier shall apportion its service area to each region based on population or area.

(4) A method that shall be identified and developed by the department, through a public process, and reported to the Legislature no later than December 31, 2010. The method developed by the department shall identify per capita targets that cumulatively result in a statewide 20-percent reduction in urban daily per capita water use by December 31, 2020. In developing urban daily per capita water use targets, the department shall do all of the following:

(A) Consider climatic differences within the state.

(B) Consider population density differences within the state.

(C) Provide flexibility to communities and regions in meeting the targets.

(D) Consider different levels of per capita water use according to plant water needs in different regions.

(E) Consider different levels of commercial, industrial, and institutional water use in different regions of the state.

(F) Avoid placing an undue hardship on communities that have implemented conservation measures or taken actions to keep per capita water use low.

(c) If the department adopts a regulation pursuant to paragraph (4) of subdivision (b) that results in a requirement that an urban retail water supplier achieve a reduction in daily per capita water use that is greater than 20 percent by December 31, 2020, an urban retail water supplier that adopted the method
Appendix B Sustainable Water Use and Demand Reduction (SB X7-7) Final

described in paragraph (4) of subdivision (b) may limit its urban water use target to a reduction of not more than 20 percent by December 31, 2020, by adopting the method described in paragraph (1) of subdivision (b).

(d) The department shall update the method described in paragraph (4) of subdivision (b) and report to the Legislature by December 31, 2014. An urban retail water supplier that adopted the method described in paragraph (4) of subdivision (b) may adopt a new urban daily per capita water use target pursuant to this updated method.

(e) An urban retail water supplier shall include in its urban water management plan due in 2010 pursuant to Part 2.6 (commencing with Section 10610) the baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.

(f) When calculating per capita values for the purposes of this chapter, an urban retail water supplier shall determine population using federal, state, and local population reports and projections.

(g) An urban retail water supplier may update its 2020 urban water use target in its 2015 urban water management plan required pursuant to Part 2.6 (commencing with Section 10610).

(h) (1) The department, through a public process and in consultation with the California Urban Water Conservation Council, shall develop technical methodologies and criteria for the consistent implementation of this part, including, but not limited to, both of the following:

(A) Methodologies for calculating base daily per capita water use, baseline commercial, industrial, and institutional water use, compliance daily per capita water use, gross water use, service area population, indoor residential water use, and landscaped area water use.

(B) Criteria for adjustments pursuant to subdivisions (d) and (e) of Section 10608.24.

(2) The department shall post the methodologies and criteria developed pursuant to this subdivision on its Internet Web site, and make written copies available, by October 1, 2010. An urban retail water supplier shall use the methods developed by the department in compliance with this part.

(i) (1) The department shall adopt regulations for implementation of the provisions relating to process water in accordance with subdivision (l) of Section 10608.12, subdivision (e) of Section 10608.24, and subdivision (d) of Section 10608.26.

(2) The initial adoption of a regulation authorized by this subdivision is deemed to address an emergency, for purposes of Sections 11346.1 and 11349.6 of the Government Code, and the department is hereby exempted for that purpose from the requirements of subdivision (b) of Section 11346.1 of the
Government Code. After the initial adoption of an emergency regulation pursuant to this subdivision, the department shall not request approval from the Office of Administrative Law to readopt the regulation as an emergency regulation pursuant to Section 11346.1 of the Government Code.

(j) (1) An urban retail water supplier is granted an extension to July 1, 2011, for adoption of an urban water management plan pursuant to Part 2.6 (commencing with Section 10610) due in 2010 to allow the use of technical methodologies developed by the department pursuant to paragraph (4) of subdivision (b) and subdivision (h). An urban retail water supplier that adopts an urban water management plan due in 2010 that does not use the methodologies developed by the department pursuant to subdivision (h) shall amend the plan by July 1, 2011, to comply with this part.

(2) An urban wholesale water supplier whose urban water management plan prepared pursuant to Part 2.6 (commencing with Section 10610) was due and not submitted in 2010 is granted an extension to July 1, 2011, to permit coordination between an urban wholesale water supplier and urban retail water suppliers.

10608.22. Notwithstanding the method adopted by an urban retail water supplier pursuant to Section 10608.20, an urban retail water supplier's per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use as defined in paragraph (3) of subdivision (b) of Section 10608.12. This section does not apply to an urban retail water supplier with a base daily per capita water use at or below 100 gallons per capita per day.

10608.24. (a) Each urban retail water supplier shall meet its interim urban water use target by December 31, 2015.

(b) Each urban retail water supplier shall meet its urban water use target by December 31, 2020.

(c) An urban retail water supplier's compliance daily per capita water use shall be the measure of progress toward achievement of its urban water use target.

(d) (1) When determining compliance daily per capita water use, an urban retail water supplier may consider the following factors:

(A) Differences in evapotranspiration and rainfall in the baseline period compared to the compliance reporting period.

(B) Substantial changes to commercial or industrial water use resulting from increased business output and economic development that have occurred during the reporting period.

(C) Substantial changes to institutional water use resulting from fire suppression services or other extraordinary events, or from new or expanded operations, that have occurred during the reporting period.

(2) If the urban retail water supplier elects to adjust its estimate of compliance daily per capita water use due to one or more of the factors described in
paragraph (1), it shall provide the basis for, and data supporting, the adjustment in the report required by Section 10608.40.

(e) When developing the urban water use target pursuant to Section 10608.20, an urban retail water supplier that has a substantial percentage of industrial water use in its service area may exclude process water from the calculation of gross water use to avoid a disproportionate burden on another customer sector.

(f) (1) An urban retail water supplier that includes agricultural water use in an urban water management plan pursuant to Part 2.6 (commencing with Section 10610) may include the agricultural water use in determining gross water use. An urban retail water supplier that includes agricultural water use in determining gross water use and develops its urban water use target pursuant to paragraph (2) of subdivision (b) of Section 10608.20 shall use a water efficient standard for agricultural irrigation of 100 percent of reference evapotranspiration multiplied by the crop coefficient for irrigated acres.

(2) An urban retail water supplier, that is also an agricultural water supplier, is not subject to the requirements of Chapter 4 (commencing with Section 10608.48), if the agricultural water use is incorporated into its urban water use target pursuant to paragraph (1).

10608.26.(a) In complying with this part, an urban retail water supplier shall conduct at least one public hearing to accomplish all of the following:

(1) Allow community input regarding the urban retail water supplier's implementation plan for complying with this part.

(2) Consider the economic impacts of the urban retail water supplier's implementation plan for complying with this part.

(3) Adopt a method, pursuant to subdivision (b) of Section 10608.20, for determining its urban water use target.

(b) In complying with this part, an urban retail water supplier may meet its urban water use target through efficiency improvements in any combination among its customer sectors. An urban retail water supplier shall avoid placing a disproportionate burden on any customer sector.

(c) For an urban retail water supplier that supplies water to a United States Department of Defense military installation, the urban retail water supplier's implementation plan for complying with this part shall consider the conservation of that military installation under federal Executive Order 13514.

(d) (1) Any ordinance or resolution adopted by an urban retail water supplier after the effective date of this section shall not require existing customers as of the effective date of this section, to undertake changes in product formulation, operations, or equipment that would reduce process water use, but may provide technical assistance and financial incentives to those customers to implement efficiency measures for process water. This section shall not limit
an ordinance or resolution adopted pursuant to a declaration of drought emergency by an urban retail water supplier.

(2) This part shall not be construed or enforced so as to interfere with the requirements of Chapter 4 (commencing with Section 113980) to Chapter 13 (commencing with Section 114380), inclusive, of Part 7 of Division 104 of the Health and Safety Code, or any requirement or standard for the protection of public health, public safety, or worker safety established by federal, state, or local government or recommended by recognized standard setting organizations or trade associations.

10608.28. (a) An urban retail water supplier may meet its urban water use target within its retail service area, or through mutual agreement, by any of the following:

(1) Through an urban wholesale water supplier.

(2) Through a regional agency authorized to plan and implement water conservation, including, but not limited to, an agency established under the Bay Area Water Supply and Conservation Agency Act (Division 31 (commencing with Section 81300)).

(3) Through a regional water management group as defined in Section 10537.

(4) By an integrated regional water management funding area.

(5) By hydrologic region.

(6) Through other appropriate geographic scales for which computation methods have been developed by the department.

(b) A regional water management group, with the written consent of its member agencies, may undertake any or all planning, reporting, and implementation functions under this chapter for the member agencies that consent to those activities. Any data or reports shall provide information both for the regional water management group and separately for each consenting urban retail water supplier and urban wholesale water supplier.

10608.32. All costs incurred pursuant to this part by a water utility regulated by the Public Utilities Commission may be recoverable in rates subject to review and approval by the Public Utilities Commission, and may be recorded in a memorandum account and reviewed for reasonableness by the Public Utilities Commission.

10608.36. Urban wholesale water suppliers shall include in the urban water management plans required pursuant to Part 2.6 (commencing with Section 10610) an assessment of their present and proposed future measures, programs, and policies to help achieve the water use reductions required by this part.

10608.40. Urban water retail suppliers shall report to the department on their progress in meeting their urban water use targets as part of their urban water management plans
submitted pursuant to Section 10631. The data shall be reported using a standardized form developed pursuant to Section 10608.52.

10608.42. (a) The department shall review the 2015 urban water management plans and report to the Legislature by July 1, 2017, on progress towards achieving a 20-percent reduction in urban water use by December 31, 2020. The report shall include recommendations on changes to water efficiency standards or urban water use targets to achieve the 20-percent reduction and to reflect updated efficiency information and technology changes.

(b) A report to be submitted pursuant to subdivision (a) shall be submitted in compliance with Section 9795 of the Government Code.

10608.43. The department, in conjunction with the California Urban Water Conservation Council, by April 1, 2010, shall convene a representative task force consisting of academic experts, urban retail water suppliers, environmental organizations, commercial water users, industrial water users, and institutional water users to develop alternative best management practices for commercial, industrial, and institutional users and an assessment of the potential statewide water use efficiency improvement in the commercial, industrial, and institutional sectors that would result from implementation of these best management practices. The taskforce, in conjunction with the department, shall submit a report to the Legislature by April 1, 2012, that shall include a review of multiple sectors within commercial, industrial, and institutional users and that shall recommend water use efficiency standards for commercial, industrial, and institutional users among various sectors of water use. The report shall include, but not be limited to, the following:

(a) Appropriate metrics for evaluating commercial, industrial, and institutional water use.

(b) Evaluation of water demands for manufacturing processes, goods, and cooling.

(c) Evaluation of public infrastructure necessary for delivery of recycled water to the commercial, industrial, and institutional sectors.

(d) Evaluation of institutional and economic barriers to increased recycled water use within the commercial, industrial, and institutional sectors.

(e) Identification of technical feasibility and cost of the best management practices to achieve more efficient water use statewide in the commercial, industrial, and institutional sectors that is consistent with the public interest and reflects past investments in water use efficiency.

10608.44. Each state agency shall reduce water use at facilities it operates to support urban retail water suppliers in meeting the target identified in Section 10608.16.
Chapter 4 Agricultural Water Suppliers

SECTION 10608.48

10608.48.(a) On or before July 31, 2012, an agricultural water supplier shall implement efficient water management practices pursuant to subdivisions (b) and (c).

(b) Agricultural water suppliers shall implement all of the following critical efficient management practices:

(1) Measure the volume of water delivered to customers with sufficient accuracy to comply with subdivision (a) of Section 531.10 and to implement paragraph (2).

(2) Adopt a pricing structure for water customers based at least in part on quantity delivered.

(c) Agricultural water suppliers shall implement additional efficient management practices, including, but not limited to, practices to accomplish all of the following, if the measures are locally cost effective and technically feasible:

(1) Facilitate alternative land use for lands with exceptionally high water duties or whose irrigation contributes to significant problems, including drainage.

(2) Facilitate use of available recycled water that otherwise would not be used beneficially, meets all health and safety criteria, and does not harm crops or soils.

(3) Facilitate the financing of capital improvements for on-farm irrigation systems.

(4) Implement an incentive pricing structure that promotes one or more of the following goals:

(A) More efficient water use at the farm level.

(B) Conjunctive use of groundwater.

(C) Appropriate increase of groundwater recharge.

(D) Reduction in problem drainage.

(E) Improved management of environmental resources.

(F) Effective management of all water sources throughout the year by adjusting seasonal pricing structures based on current conditions.

(5) Expand line or pipe distribution systems, and construct regulatory reservoirs to increase distribution system flexibility and capacity, decrease maintenance, and reduce seepage.
(6) Increase flexibility in water ordering by, and delivery to, water customers within operational limits.

(7) Construct and operate supplier spill and tailwater recovery systems.

(8) Increase planned conjunctive use of surface water and groundwater within the supplier service area.

(9) Automate canal control structures.

(10) Facilitate or promote customer pump testing and evaluation.

(11) Designate a water conservation coordinator who will develop and implement the water management plan and prepare progress reports.

(12) Provide for the availability of water management services to water users. These services may include, but are not limited to, all of the following:

(A) On-farm irrigation and drainage system evaluations.

(B) Normal year and real-time irrigation scheduling and crop evapotranspiration information.

(C) Surface water, groundwater, and drainage water quantity and quality data.

(D) Agricultural water management educational programs and materials for farmers, staff, and the public.

(13) Evaluate the policies of agencies that provide the supplier with water to identify the potential for institutional changes to allow more flexible water deliveries and storage.

(14) Evaluate and improve the efficiencies of the supplier's pumps.

(d) Agricultural water suppliers shall include in the agricultural water management plans required pursuant to Part 2.8 (commencing with Section 10800) a report on which efficient water management practices have been implemented and are planned to be implemented, an estimate of the water use efficiency improvements that have occurred since the last report, and an estimate of the water use efficiency improvements estimated to occur five and 10 years in the future. If an agricultural water supplier determines that an efficient water management practice is not locally cost effective or technically feasible, the supplier shall submit information documenting that determination.

(e) The data shall be reported using a standardized form developed pursuant to Section 10608.52.

(f) An agricultural water supplier may meet the requirements of subdivisions (d) and (e) by submitting to the department a water conservation plan submitted to the United States Bureau of Reclamation that meets the requirements described in Section 10828.
(g) On or before December 31, 2013, December 31, 2016, and December 31, 2021, the department, in consultation with the board, shall submit to the Legislature a report on the agricultural efficient water management practices that have been implemented and are planned to be implemented and an assessment of the manner in which the implementation of those efficient water management practices has affected and will affect agricultural operations, including estimated water use efficiency improvements, if any.

(h) The department may update the efficient water management practices required pursuant to subdivision (c), in consultation with the Agricultural Water Management Council, the United States Bureau of Reclamation, and the board. All efficient water management practices for agricultural water use pursuant to this chapter shall be adopted or revised by the department only after the department conducts public hearings to allow participation of the diverse geographical areas and interests of the state.

(i) (1) The department shall adopt regulations that provide for a range of options that agricultural water suppliers may use or implement to comply with the measurement requirement in paragraph (1) of subdivision (b).

(2) The initial adoption of a regulation authorized by this subdivision is deemed to address an emergency, for purposes of Sections 11346.1 and 11349.6 of the Government Code, and the department is hereby exempted for that purpose from the requirements of subdivision (b) of Section 11346.1 of the Government Code. After the initial adoption of an emergency regulation pursuant to this subdivision, the department shall not request approval from the Office of Administrative Law to readopt the regulation as an emergency regulation pursuant to Section 11346.1 of the Government Code.

Chapter 5 Sustainable Water Management

Section 10608.50

10608.50.(a) The department, in consultation with the board, shall promote implementation of regional water resources management practices through increased incentives and removal of barriers consistent with state and federal law. Potential changes may include, but are not limited to, all of the following:

(1) Revisions to the requirements for urban and agricultural water management plans.

(2) Revisions to the requirements for integrated regional water management plans.

(3) Revisions to the eligibility for state water management grants and loans.
(4) Revisions to state or local permitting requirements that increase water supply opportunities, but do not weaken water quality protection under state and federal law.

(5) Increased funding for research, feasibility studies, and project construction.

(6) Expanding technical and educational support for local land use and water management agencies.

(b) No later than January 1, 2011, and updated as part of the California Water Plan, the department, in consultation with the board, and with public input, shall propose new statewide targets, or review and update existing statewide targets, for regional water resources management practices, including, but not limited to, recycled water, brackish groundwater desalination, and infiltration and direct use of urban stormwater runoff.

Chapter 6 Standardized Data Collection

SECTION 10608.52

10608.52.(a) The department, in consultation with the board, the California Bay-Delta Authority or its successor agency, the State Department of Public Health, and the Public Utilities Commission, shall develop a single standardized water use reporting form to meet the water use information needs of each agency, including the needs of urban water suppliers that elect to determine and report progress toward achieving targets on a regional basis as provided in subdivision (a) of Section 10608.28.

(b) At a minimum, the form shall be developed to accommodate information sufficient to assess an urban water supplier's compliance with conservation targets pursuant to Section 10608.24 and an agricultural water supplier's compliance with implementation of efficient water management practices pursuant to subdivision (a) of Section 10608.48. The form shall accommodate reporting by urban water suppliers on an individual or regional basis as provided in subdivision (a) of Section 10608.28.

Chapter 7 Funding Provisions

Section 10608.56-10608.60

10608.56.(a) On and after July 1, 2016, an urban retail water supplier is not eligible for a water grant or loan awarded or administered by the state unless the supplier complies with this part.

(b) On and after July 1, 2013, an agricultural water supplier is not eligible for a water grant or loan awarded or administered by the state unless the supplier complies with this part.
(c) Notwithstanding subdivision (a), the department shall determine that an urban retail water supplier is eligible for a water grant or loan even though the supplier has not met the per capita reductions required pursuant to Section 10608.24, if the urban retail water supplier has submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for achieving the per capita reductions. The supplier may request grant or loan funds to achieve the per capita reductions to the extent the request is consistent with the eligibility requirements applicable to the water funds.

(d) Notwithstanding subdivision (b), the department shall determine that an agricultural water supplier is eligible for a water grant or loan even though the supplier is not implementing all of the efficient water management practices described in Section 10608.48, if the agricultural water supplier has submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for implementation of the efficient water management practices. The supplier may request grant or loan funds to implement the efficient water management practices to the extent the request is consistent with the eligibility requirements applicable to the water funds.

(e) Notwithstanding subdivision (a), the department shall determine that an urban retail water supplier is eligible for a water grant or loan even though the supplier has not met the per capita reductions required pursuant to Section 10608.24, if the urban retail water supplier has submitted to the department for approval documentation demonstrating that its entire service area qualifies as a disadvantaged community.

(f) The department shall not deny eligibility to an urban retail water supplier or agricultural water supplier in compliance with the requirements of this part and Part 2.8 (commencing with Section 10800), that is participating in a multiagency water project, or an integrated regional water management plan, developed pursuant to Section 75026 of the Public Resources Code, solely on the basis that one or more of the agencies participating in the project or plan is not implementing all of the requirements of this part or Part 2.8 (commencing with Section 10800).

10608.60.(a) It is the intent of the Legislature that funds made available by Section 75026 of the Public Resources Code should be expended, consistent with Division 43 (commencing with Section 75001) of the Public Resources Code and upon appropriation by the Legislature, for grants to implement this part. In the allocation of funding, it is the intent of the Legislature that the department give consideration to disadvantaged communities to assist in implementing the requirements of this part.

(b) It is the intent of the Legislature that funds made available by Section 75041 of the Public Resources Code, should be expended, consistent with Division 43 (commencing with Section 75001) of the Public Resources Code and upon appropriation by the Legislature, for direct expenditures to implement this part.
Chapter 8 Quantifying Agricultural Water Use Efficiency

SECTION 10608.64

10608.64. The department, in consultation with the Agricultural Water Management Council, academic experts, and other stakeholders, shall develop a methodology for quantifying the efficiency of agricultural water use. Alternatives to be assessed shall include, but not be limited to, determination of efficiency levels based on crop type or irrigation system distribution uniformity. On or before December 31, 2011, the department shall report to the Legislature on a proposed methodology and a plan for implementation. The plan shall include the estimated implementation costs and the types of data needed to support the methodology. Nothing in this section authorizes the department to implement a methodology established pursuant to this section.
APPENDIX C

2015 AWWA WATER AUDIT
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# Water Audit Report

## Reporting Year: 2015

### Water Supplied

<table>
<thead>
<tr>
<th>Source</th>
<th>Volume</th>
<th>Value</th>
</tr>
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<tbody>
<tr>
<td>Volume from own sources</td>
<td>3,731.763</td>
<td>MG/Yr</td>
</tr>
<tr>
<td>Water imported</td>
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<td>MG/Yr</td>
</tr>
<tr>
<td>Water exported</td>
<td>7,367.711</td>
<td>MG/Yr</td>
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### Authorized Consumption

<table>
<thead>
<tr>
<th>Type</th>
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<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Billed metered</td>
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<td>MG/Yr</td>
</tr>
<tr>
<td>Billed unmetered</td>
<td>n/a</td>
<td>MG/Yr</td>
</tr>
<tr>
<td>Unbilled metered</td>
<td>n/a</td>
<td>MG/Yr</td>
</tr>
<tr>
<td>Unbilled unmetered</td>
<td>9.329</td>
<td>MG/Yr</td>
</tr>
</tbody>
</table>

### Water Losses (Water Supplied - Authorized Consumption)

- **Apparent Losses**
  - Unauthorized consumption: 9.329 MG/Yr
  - Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed
  - Customer metering inaccuracies: 35.106 MG/Yr
    - Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed
  - Apparent Losses: 53.124 MG/Yr

### Non-Revenue Water

- **Non-Revenue Water**: 256.301 MG/Yr

### System Data

- Length of mains: 370.3 miles
- Number of active AND inactive service connections: 25,682
- Service connection density: 69 conn./mile main

### Cost Data

- Total annual cost of operating water system: $23,524,118 $/Year
- Customer retail unit cost (applied to Apparent Losses): $6.31 $/1000 gallons (US)
- Variable production cost (applied to Real Losses): $1,500.00 $/Million gallons

### Water Audit Data Validity Score

- **YOUR SCORE IS: 50 out of 100***

### Priority Areas for Attention

Based on the information provided, audit accuracy can be improved by addressing the following components:

1. Volume from own sources
2. Customer metering inaccuracies
3. Variable production cost (applied to Real Losses)
**Water Audit Report for:** City of Napa  (CA2810003)  
**Reporting Year:** 2015

### System Attributes:

- **Apparent Losses:** 53.124 MG/Yr
- **Real Losses:** 193.848 MG/Yr
- **Water Losses:** 246.972 MG/Yr
- **Unavoidable Annual Real Losses (UARL):** 132.51 MG/Yr

**Annual cost of Apparent Losses:** $335,211
**Annual cost of Real Losses:** $290,772 Valued at *Variable Production Cost*

### Performance Indicators:

**Non-revenue water as percent by volume of Water Supplied:** 6.9%
**Non-revenue water as percent by cost of operating system:** 2.7%

**Apparent Losses per service connection per day:** 5.67 gallons/connector/day
**Real Losses per service connection per day:** 20.68 gallons/connector/day
**Real Losses per length of main per day:** N/A
**Real Losses per service connection per day per psi pressure:** 0.33 gallons/connector/day/psi

From Above, **Real Losses = Current Annual Real Losses (CARL):** 193.85 million gallons/year

**Infrastructure Leakage Index (ILI) [CARL/UARL]:** 1.46

* This performance indicator applies for systems with a low service connection density of less than 32 service connections/mile of pipeline.
<table>
<thead>
<tr>
<th>Audit Item</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume from own sources</td>
<td>Obtained from &quot;Napa_Dmd-2015 Final.xlsx&quot; monthly tabs and summary Production tab. Distribution system input volume comes from three water treatment plant output volumes: Hennnessey (HTP), Jamieson Canyon (JTP), Milliken (MTP). HTP production is calculated by subtracting backwash meter from raw water intake to arrive at treatment plant output. JTP treats water from the State Water Project, so the City often defers to the meter reading reported by the Department of Water Resources, applying a correction factor to our own meter readings.</td>
</tr>
<tr>
<td>Vol. from own sources: Master meter error adjustment</td>
<td>Error adjustment of -2% is purely an estimate based on meters typically underreporting as they age.</td>
</tr>
<tr>
<td>Water imported</td>
<td>While the City technically imports water from the State Water Project, this is raw water that does not directly enter our distribution system. It is first treated at the City’s Jamieson Canyon plant (JTP), so we have counted JTP output as Volume from our own source.</td>
</tr>
<tr>
<td>Water imported: master meter error adjustment</td>
<td></td>
</tr>
<tr>
<td>Water exported</td>
<td>The City exports treated drinking water to neighboring water systems: City of American Canyon, Town of Yountville, City of St. Helena, City of Calistoga, California Veterans Home. Raw meter data are found in the MTR tab in &quot;Napa_Dmd-2015 Final.xlsx&quot;, with monthly and annual total volumes summarized in the NBA tab of that file and also in &quot;Napa_2015 NON-AS400 WATER USAGE - FINAL.xls&quot; and &quot;Napa_Calculations - 2015 Metered Water Deliveries.xls&quot;.</td>
</tr>
<tr>
<td>Water exported: master meter error adjustment</td>
<td>Meters for exported water are equipped with ERTs (Encoder Receiver Transmitter) that can preserve limited historical data, but they are not networked to an AMI system. City meter readers do a monthly driveby reading to establish the volume for billing. Error adjustment of -2% is purely an estimate based on meters typically underreporting as they age.</td>
</tr>
<tr>
<td>Billed metered</td>
<td>All customers are now billed based on metered volume; however, for the first half of 2015 some school accounts were still being billed on a flat rate (although they were metered). AMR is employed in most of the system. Metered volumes by account type are summarized in &quot;Napa_Calculations - 2015 Metered Water Deliveries.xls&quot;, based on input from &quot;Napa_UBN220 Report CY2015.pdf&quot;, &quot;Napa_City 909 Accounts 2015.xlsx&quot;, and &quot;Napa_2015 NON-AS400 WATER USAGE - FINAL.xls&quot;. Most customer accounts are in our aging AS400 utility billing system, but a few are manually invoiced. Because our AS400 system is comprised of staggered bimonthly meter read cycles and we are not an AMI system, the City is not able to calculate exact amounts of metered consumption on a calendar month basis. The UBN220 program is used to force-fit the actual metered data into specific time periods (months, year) so there is some error related to the data carving employed. The only way to exactly match overall metered consumption to calendar year or month would be to read all meters on the final day of each month (or use AMI).</td>
</tr>
<tr>
<td>Billed unmetered</td>
<td></td>
</tr>
<tr>
<td>Audit Item</td>
<td>Comment</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Unbilled metered</td>
<td>The last accounts in this category were other City accounts (parks, etc.) but they switched to normal volumetric billing back in 2013.</td>
</tr>
<tr>
<td>Unbilled unmetered</td>
<td>The default value of 1.25% may be high for the City of Napa, but a comprehensive audit of all these use categories has not been conducted. Hydrant flushing is estimated.</td>
</tr>
<tr>
<td>Unauthorized consumption:</td>
<td></td>
</tr>
<tr>
<td>Customer metering inaccuracies:</td>
<td>2% inaccuracy is purely an estimate based on meters typically underreporting as they age. Approximately 70 meters per month are replaced.</td>
</tr>
<tr>
<td>Systematic data handling errors:</td>
<td></td>
</tr>
<tr>
<td>Length of mains</td>
<td>Obtained from GIS data.</td>
</tr>
<tr>
<td>Number of active AND inactive service connections</td>
<td>Obtained from section 3 of &quot;Napa_2015 LWS Report-approved.pdf&quot;. Includes 25,107 active connections plus 575 standby fire services.</td>
</tr>
<tr>
<td>Average length of customer service line:</td>
<td></td>
</tr>
<tr>
<td>Average operating pressure:</td>
<td>System includes three lower pressure zones representing about 90% of the pipeline miles, and two higher pressure zones representing about 10%. Elevation-adjusted pressure ranges from the hydraulic model were used in a simple weighted average calculation to estimate average operating pressure. More extensive calculations could be employed to get a more precise average.</td>
</tr>
<tr>
<td>Total annual cost of operating water system:</td>
<td>Operating expenses for water utility from City of Napa  Comprehensive Annual Financial Report for Fiscal Year ended June 30, 2015: <a href="http://www.cityofnapa.org/images/finance/Audit/FY15/FY15CAFR.pdf">http://www.cityofnapa.org/images/finance/Audit/FY15/FY15CAFR.pdf</a>  (Fiscal Year data used in lieu of calendar year due to availability of audited data.)</td>
</tr>
<tr>
<td>Customer retail unit cost (applied to Apparent Losses):</td>
<td>Estimated by dividing total sales revenue by totaled billed volume, in lieu of composite weighted average by customer class. Result is logical as it falls between lowest tier price for single-family inside city and outside city.</td>
</tr>
<tr>
<td>Variable production cost (applied to Real Losses):</td>
<td>Estimated based on most expensive supply (State Water Project).</td>
</tr>
<tr>
<td>Category</td>
<td>Quantity</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Water Exported</td>
<td>367.711</td>
</tr>
<tr>
<td>Revenue Water</td>
<td>367.711</td>
</tr>
<tr>
<td>Billed Water Exported</td>
<td>3,475.462</td>
</tr>
<tr>
<td>Billed Metered Consumption</td>
<td>3,475.462</td>
</tr>
<tr>
<td>Billed Unmetered Consumption</td>
<td>0.000</td>
</tr>
<tr>
<td>Unbilled Metered Consumption</td>
<td>0.000</td>
</tr>
<tr>
<td>Unbilled Unmetered Consumption</td>
<td>9.329</td>
</tr>
<tr>
<td>Non-Revenue Water (NRW)</td>
<td>256.301</td>
</tr>
<tr>
<td>System Input</td>
<td>4,099.474</td>
</tr>
<tr>
<td>Water Supplied</td>
<td>3,731.763</td>
</tr>
<tr>
<td>Revenue Water</td>
<td>3,475.462</td>
</tr>
<tr>
<td>Billed Authorized Consumption</td>
<td>3,484.791</td>
</tr>
<tr>
<td>Billed Water Exported</td>
<td>3,475.462</td>
</tr>
<tr>
<td>Billed Metered Consumption</td>
<td>3,475.462</td>
</tr>
<tr>
<td>Billed Unmetered Consumption</td>
<td>0.000</td>
</tr>
<tr>
<td>Unbilled Metered Consumption</td>
<td>0.000</td>
</tr>
<tr>
<td>Unbilled Unmetered Consumption</td>
<td>9.329</td>
</tr>
<tr>
<td>Apparent Losses</td>
<td>53.124</td>
</tr>
<tr>
<td>Unauthorized Consumption</td>
<td>9.329</td>
</tr>
<tr>
<td>Customer Metering Inaccuracies</td>
<td>35.106</td>
</tr>
<tr>
<td>Systematic Data Handling Errors</td>
<td>8.689</td>
</tr>
<tr>
<td>Water Losses</td>
<td>246.972</td>
</tr>
<tr>
<td>Real Losses</td>
<td>193.848</td>
</tr>
<tr>
<td>Leakage on Transmission and/or Distribution Mains</td>
<td>Not broken down</td>
</tr>
<tr>
<td>Leakage and Overflows at Utility's Storage Tanks</td>
<td>Not broken down</td>
</tr>
<tr>
<td>Leakage on Service Connections</td>
<td>Not broken down</td>
</tr>
<tr>
<td>City of Napa (CA2810003)</td>
<td></td>
</tr>
<tr>
<td>Reporting Year</td>
<td>2015</td>
</tr>
<tr>
<td>Data Validity Score</td>
<td>50</td>
</tr>
</tbody>
</table>
Water Audit Report for: City of Napa (CA2810003)

Reporting Year: 2015

Data Validity Score: 50

Show me the VOLUME of Non-Revenue Water

Show me the COST of Non-Revenue Water

Total Cost of NRW = $639,977
APPENDIX D

SB X7-7 VERIFICATION FORM
<table>
<thead>
<tr>
<th>SB X7-7 Table 0: Units of Measure Used in UWMP*</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>select one from the drop down list</em></td>
</tr>
<tr>
<td>Acre Feet</td>
</tr>
<tr>
<td>*The unit of measure must be consistent with Table 2-3</td>
</tr>
<tr>
<td>NOTES:</td>
</tr>
<tr>
<td>Baseline</td>
</tr>
<tr>
<td>----------------------------------</td>
</tr>
<tr>
<td>10- to 15-year baseline period</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>5-year baseline period</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

^1 If the 2008 recycled water percent is less than 10 percent, then the first baseline period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater, the first baseline period is a continuous 10- to 15-year period.

^2 The Water Code requires that the baseline period is between 10 and 15 years. However, DWR recognizes that some water suppliers may not have the minimum 10 years of baseline data.

^3 The ending year must be between December 31, 2004 and December 31, 2010.

^4 The ending year must be between December 31, 2007 and December 31, 2010.

NOTES: City does not deliver recycled water. It is delivered by a separate agency, the Napa Sanitation District.
### SB X7-7 Table 2: Method for Population Estimates

<table>
<thead>
<tr>
<th>Method Used to Determine Population</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Department of Finance (DOF)</strong></td>
<td>- DOF Table E-8 (1990 - 2000) and (2000-2010) and DOF Table E-5 (2011 - 2015) when available</td>
</tr>
<tr>
<td><strong>2. Persons-per-Connection Method</strong></td>
<td></td>
</tr>
<tr>
<td><strong>3. DWR Population Tool</strong></td>
<td></td>
</tr>
<tr>
<td><strong>4. Other</strong></td>
<td>- DWR recommends pre-review</td>
</tr>
</tbody>
</table>

**NOTES:** Most current DOF data used for inside City population, supplemented with outside City persons per household (DOF) times number of outside City dwelling units served. Resident population of Napa State Hospital also included for each year.
<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 6</th>
<th>Year 7</th>
<th>Year 8</th>
<th>Year 9</th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
<th>Year 13</th>
<th>Year 14</th>
<th>Year 15</th>
</tr>
</thead>
<tbody>
<tr>
<td>74,295</td>
<td>75,105</td>
<td>76,430</td>
<td>77,301</td>
<td>78,398</td>
<td>79,925</td>
<td>81,129</td>
<td>81,331</td>
<td>81,806</td>
<td>82,461</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year 11</th>
<th>Year 12</th>
<th>Year 13</th>
<th>Year 14</th>
<th>Year 15</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 6</th>
<th>Year 7</th>
<th>Year 8</th>
<th>Year 9</th>
<th>Year 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>2005</td>
<td>2006</td>
<td>2007</td>
<td>2008</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>82,461</td>
<td>82,216</td>
<td>82,259</td>
<td>82,307</td>
<td>82,807</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2015</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>87,615</td>
<td></td>
</tr>
</tbody>
</table>

NOTES: 2001-2009 data updated since 2010
UWMP based on revised Department of Finance data made available in 2012.
### SB X7-7 Table 4: Annual Gross Water Use *

<table>
<thead>
<tr>
<th>Year</th>
<th>Baseline Year</th>
<th>Volume Into Distribution System</th>
<th>Exported Water</th>
<th>Change in Dist. System Storage (+/-)</th>
<th>Indirect Recycled Water</th>
<th>Water Delivered for Agricultural Use</th>
<th>Annual Gross Water Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>1995</td>
<td>13,385</td>
<td>323</td>
<td>-</td>
<td>52</td>
<td>-</td>
<td>13,011</td>
</tr>
<tr>
<td>Year 2</td>
<td>1996</td>
<td>14,282</td>
<td>707</td>
<td>-</td>
<td>83</td>
<td>-</td>
<td>13,491</td>
</tr>
<tr>
<td>Year 3</td>
<td>1997</td>
<td>16,314</td>
<td>949</td>
<td>-</td>
<td>183</td>
<td>-</td>
<td>15,183</td>
</tr>
<tr>
<td>Year 4</td>
<td>1998</td>
<td>14,499</td>
<td>590</td>
<td>-</td>
<td>138</td>
<td>-</td>
<td>13,771</td>
</tr>
<tr>
<td>Year 5</td>
<td>1999</td>
<td>16,065</td>
<td>1,089</td>
<td>-</td>
<td>131</td>
<td>-</td>
<td>14,845</td>
</tr>
<tr>
<td>Year 6</td>
<td>2000</td>
<td>16,041</td>
<td>775</td>
<td>-</td>
<td>197</td>
<td>-</td>
<td>15,069</td>
</tr>
<tr>
<td>Year 7</td>
<td>2001</td>
<td>17,293</td>
<td>1,400</td>
<td>-</td>
<td>171</td>
<td>-</td>
<td>15,722</td>
</tr>
<tr>
<td>Year 8</td>
<td>2002</td>
<td>17,596</td>
<td>1,569</td>
<td>-</td>
<td>170</td>
<td>-</td>
<td>15,857</td>
</tr>
<tr>
<td>Year 9</td>
<td>2003</td>
<td>16,105</td>
<td>1,810</td>
<td>-</td>
<td>110</td>
<td>-</td>
<td>14,185</td>
</tr>
<tr>
<td>Year 10</td>
<td>2004</td>
<td>17,371</td>
<td>2,157</td>
<td>-</td>
<td>173</td>
<td>-</td>
<td>15,041</td>
</tr>
</tbody>
</table>

#### 10 - 15 Year Baseline average gross water use

<table>
<thead>
<tr>
<th>Year</th>
<th>Baseline Year</th>
<th>Volume Into Distribution System</th>
<th>Exported Water</th>
<th>Change in Dist. System Storage (+/-)</th>
<th>Indirect Recycled Water</th>
<th>Water Delivered for Agricultural Use</th>
<th>Annual Gross Water Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>2004</td>
<td>17,371</td>
<td>2,157</td>
<td>-</td>
<td>173</td>
<td>-</td>
<td>15,041</td>
</tr>
<tr>
<td>Year 2</td>
<td>2005</td>
<td>14,974</td>
<td>610</td>
<td>-</td>
<td>173</td>
<td>-</td>
<td>14,190</td>
</tr>
<tr>
<td>Year 3</td>
<td>2006</td>
<td>15,367</td>
<td>889</td>
<td>-</td>
<td>184</td>
<td>-</td>
<td>14,294</td>
</tr>
<tr>
<td>Year 4</td>
<td>2007</td>
<td>16,817</td>
<td>1,345</td>
<td>-</td>
<td>214</td>
<td>-</td>
<td>15,259</td>
</tr>
<tr>
<td>Year 5</td>
<td>2008</td>
<td>17,436</td>
<td>1,638</td>
<td>-</td>
<td>250</td>
<td>-</td>
<td>15,547</td>
</tr>
</tbody>
</table>

#### 5 year baseline average gross water use

<table>
<thead>
<tr>
<th>Year</th>
<th>Baseline Year</th>
<th>Volume Into Distribution System</th>
<th>Exported Water</th>
<th>Change in Dist. System Storage (+/-)</th>
<th>Indirect Recycled Water</th>
<th>Water Delivered for Agricultural Use</th>
<th>Annual Gross Water Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>Base Line</td>
<td>12,581</td>
<td>1,128</td>
<td>-</td>
<td>195</td>
<td>-</td>
<td>11,258</td>
</tr>
</tbody>
</table>

*NOTE that the units of measure must remain consistent throughout the UWMP, as reported in Table 2-3*

**NOTES:** Change in Distribution Storage deemed insignificant to overall calculation.
### SB X7-7 Table 4-A: Volume Entering the Distribution System(s)

Complete one table for each source.

<table>
<thead>
<tr>
<th>Name of Source</th>
<th>State Water Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>This water source is:</td>
<td></td>
</tr>
<tr>
<td>☐ The supplier's own water source</td>
<td></td>
</tr>
<tr>
<td>☑ A purchased or imported source</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Baseline Year</th>
<th>Volume Entering Distribution System</th>
<th>Meter Error Adjustment * Optional (+/-)</th>
<th>Corrected Volume Entering Distribution System</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>10 to 15 Year Baseline - Water into Distribution System</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 1</td>
<td>1995</td>
<td>3,515</td>
<td>3,515</td>
</tr>
<tr>
<td>Year 2</td>
<td>1996</td>
<td>3,145</td>
<td>3,145</td>
</tr>
<tr>
<td>Year 3</td>
<td>1997</td>
<td>2,617</td>
<td>2,617</td>
</tr>
<tr>
<td>Year 4</td>
<td>1998</td>
<td>3,585</td>
<td>3,585</td>
</tr>
<tr>
<td>Year 5</td>
<td>1999</td>
<td>3,469</td>
<td>3,469</td>
</tr>
<tr>
<td>Year 6</td>
<td>2000</td>
<td>3,022</td>
<td>3,022</td>
</tr>
<tr>
<td>Year 7</td>
<td>2001</td>
<td>7,374</td>
<td>7,374</td>
</tr>
<tr>
<td>Year 8</td>
<td>2002</td>
<td>4,690</td>
<td>4,690</td>
</tr>
<tr>
<td>Year 9</td>
<td>2003</td>
<td>5,482</td>
<td>5,482</td>
</tr>
<tr>
<td>Year 10</td>
<td>2004</td>
<td>6,473</td>
<td>6,473</td>
</tr>
<tr>
<td>Year 11</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Year 12</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Year 13</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Year 14</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Year 15</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>5 Year Baseline - Water into Distribution System</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 1</td>
<td>2004</td>
<td>6,473</td>
<td>6,473</td>
</tr>
<tr>
<td>Year 2</td>
<td>2005</td>
<td>4,950</td>
<td>4,950</td>
</tr>
<tr>
<td>Year 3</td>
<td>2006</td>
<td>5,100</td>
<td>5,100</td>
</tr>
<tr>
<td>Year 4</td>
<td>2007</td>
<td>7,935</td>
<td>7,935</td>
</tr>
<tr>
<td>Year 5</td>
<td>2008</td>
<td>10,583</td>
<td>10,583</td>
</tr>
</tbody>
</table>
| **2015 Compliance Year - Water into Distribution System** | | | *
| 2015 | 8,404 | 8,404 |

* Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document

**NOTES:**
### SB X7-7 Table 4-A: Volume Entering the Distribution

<table>
<thead>
<tr>
<th>Name of Source</th>
<th>Lake Hennessey</th>
</tr>
</thead>
<tbody>
<tr>
<td>This water source is:</td>
<td></td>
</tr>
<tr>
<td>☑</td>
<td>The supplier's own water source</td>
</tr>
<tr>
<td>☐</td>
<td>A purchased or imported source</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Baseline Year</th>
<th>Volume Entering Distribution System</th>
<th>Meter Error Adjustment * Optional (+/-)</th>
<th>Corrected Volume Entering Distribution System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fm SB X7-7 Table 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>10 to 15 Year Baseline - Water into Distribution System</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 1</td>
<td>1995</td>
<td>8,944</td>
<td>8,944</td>
</tr>
<tr>
<td>Year 2</td>
<td>1996</td>
<td>9,721</td>
<td>9,721</td>
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<tr>
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<td>1997</td>
<td>12,055</td>
<td>12,055</td>
</tr>
<tr>
<td>Year 4</td>
<td>1998</td>
<td>9,821</td>
<td>9,821</td>
</tr>
<tr>
<td>Year 5</td>
<td>1999</td>
<td>11,599</td>
<td>11,599</td>
</tr>
<tr>
<td>Year 6</td>
<td>2000</td>
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<td>12,182</td>
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<td>Year 11</td>
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</tr>
<tr>
<td>Year 13</td>
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</tr>
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<td>Year 14</td>
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</tr>
<tr>
<td>Year 15</td>
<td>-</td>
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<td>0</td>
</tr>
<tr>
<td><strong>5 Year Baseline - Water into Distribution System</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 1</td>
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</tr>
<tr>
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<td>2005</td>
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<tr>
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<td>2006</td>
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</tr>
<tr>
<td>Year 4</td>
<td>2007</td>
<td>8,055</td>
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</tr>
<tr>
<td>Year 5</td>
<td>2008</td>
<td>6,149</td>
<td>6,149</td>
</tr>
<tr>
<td><strong>2015 Compliance Year - Water into Distribution System</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td></td>
<td>3,444</td>
<td>3,444</td>
</tr>
</tbody>
</table>

* Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document

NOTES:
### SB X7-7 Table 4-A: Volume Entering the Distribution System

<table>
<thead>
<tr>
<th>Name of Source</th>
<th>Milliken Reservoir</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>This water source is:</strong></td>
<td></td>
</tr>
<tr>
<td>✓ The supplier's own water source</td>
<td></td>
</tr>
<tr>
<td>☐ A purchased or imported source</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Baseline Year</th>
<th>Volume Entering Distribution System</th>
<th>Meter Error Adjustment *Optional (+/-)</th>
<th>Corrected Volume Entering Distribution System</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>10 to 15 Year Baseline - Water into Distribution System</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 1</td>
<td>1995</td>
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<td>925</td>
</tr>
<tr>
<td>Year 2</td>
<td>1996</td>
<td>1,416</td>
<td>1,416</td>
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<tr>
<td>Year 3</td>
<td>1997</td>
<td>1,292</td>
<td>1,292</td>
</tr>
<tr>
<td>Year 4</td>
<td>1998</td>
<td>1,059</td>
<td>1,059</td>
</tr>
<tr>
<td>Year 5</td>
<td>1999</td>
<td>997</td>
<td>997</td>
</tr>
<tr>
<td>Year 6</td>
<td>2000</td>
<td>838</td>
<td>838</td>
</tr>
<tr>
<td>Year 7</td>
<td>2001</td>
<td>529</td>
<td>529</td>
</tr>
<tr>
<td>Year 8</td>
<td>2002</td>
<td>570</td>
<td>570</td>
</tr>
<tr>
<td>Year 9</td>
<td>2003</td>
<td>760</td>
<td>760</td>
</tr>
<tr>
<td>Year 10</td>
<td>2004</td>
<td>713</td>
<td>713</td>
</tr>
<tr>
<td>Year 11</td>
<td>-</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Year 12</td>
<td>-</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Year 13</td>
<td>-</td>
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</tr>
<tr>
<td>Year 14</td>
<td>-</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Year 15</td>
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<td>0</td>
</tr>
<tr>
<td><strong>5 Year Baseline - Water into Distribution System</strong></td>
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<tr>
<td>Year 1</td>
<td>2004</td>
<td>713</td>
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<td>Year 2</td>
<td>2005</td>
<td>818</td>
<td>818</td>
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<tr>
<td>Year 3</td>
<td>2006</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Year 4</td>
<td>2007</td>
<td>827</td>
<td>827</td>
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<tr>
<td>Year 5</td>
<td>2008</td>
<td>703</td>
<td>703</td>
</tr>
<tr>
<td><strong>2015 Compliance Year - Water into Distribution System</strong></td>
<td>734</td>
<td>734</td>
<td></td>
</tr>
</tbody>
</table>

* Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document

**NOTES:**
### SB X7-7 Table 4-A: Volume Entering the Distribution System

**Name of Source**: Rector Reservoir

This water source is:
- [ ] The supplier's own water source
- [x] A purchased or imported source

<table>
<thead>
<tr>
<th>Baseline Year</th>
<th>Volume Entering Distribution System</th>
<th>Meter Error Adjustment * Optional (+/-)</th>
<th>Corrected Volume Entering Distribution System</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>10 to 15 Year Baseline - Water into Distribution System</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 1</td>
<td>1995</td>
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</tr>
<tr>
<td>Year 2</td>
<td>1996</td>
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<tr>
<td>Year 3</td>
<td>1997</td>
<td>350</td>
<td>350</td>
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<tr>
<td>Year 4</td>
<td>1998</td>
<td>35</td>
<td>35</td>
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<tr>
<td>Year 5</td>
<td>1999</td>
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<tr>
<td>Year 6</td>
<td>2000</td>
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<td>Year 7</td>
<td>2001</td>
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<td>Year 8</td>
<td>2002</td>
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<td>0</td>
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<tr>
<td>Year 9</td>
<td>2003</td>
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<tr>
<td>Year 10</td>
<td>2004</td>
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<td>Year 11</td>
<td>-</td>
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<td>Year 12</td>
<td>-</td>
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<td>Year 13</td>
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<tr>
<td>Year 14</td>
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<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Year 15</td>
<td>-</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td><strong>5 Year Baseline - Water into Distribution System</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 1</td>
<td>2004</td>
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</tr>
<tr>
<td>Year 2</td>
<td>2005</td>
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<tr>
<td>Year 3</td>
<td>2006</td>
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<td>Year 4</td>
<td>2007</td>
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<td>Year 5</td>
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<td>0</td>
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<tr>
<td><strong>2015 Compliance Year - Water into Distribution System</strong></td>
<td>0</td>
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<td></td>
</tr>
</tbody>
</table>

* * Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document

NOTES: Interconnection with State-owned Rector Reservoir in Yountville, not used since 1998.
### SB X7-7 Table 5: Gallons Per Capita Per Day (GPCD)

<table>
<thead>
<tr>
<th>Baseline Year</th>
<th>Service Area Population</th>
<th>Annual Gross Water Use</th>
<th>Daily Per Capita Water Use (GPCD)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fm SB X7-7 Table 3</td>
<td>Fm SB X7-7 Table 3</td>
<td></td>
</tr>
<tr>
<td><strong>10 to 15 Year Baseline GPCD</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 1</td>
<td>1995</td>
<td>74,295</td>
<td>13,011</td>
</tr>
<tr>
<td>Year 2</td>
<td>1996</td>
<td>75,105</td>
<td>13,491</td>
</tr>
<tr>
<td>Year 3</td>
<td>1997</td>
<td>76,430</td>
<td>15,183</td>
</tr>
<tr>
<td>Year 4</td>
<td>1998</td>
<td>77,301</td>
<td>13,771</td>
</tr>
<tr>
<td>Year 5</td>
<td>1999</td>
<td>78,398</td>
<td>14,845</td>
</tr>
<tr>
<td>Year 6</td>
<td>2000</td>
<td>79,925</td>
<td>15,069</td>
</tr>
<tr>
<td>Year 7</td>
<td>2001</td>
<td>81,129</td>
<td>15,722</td>
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<tr>
<td>Year 8</td>
<td>2002</td>
<td>81,331</td>
<td>15,857</td>
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<tr>
<td>Year 9</td>
<td>2003</td>
<td>81,806</td>
<td>14,185</td>
</tr>
<tr>
<td>Year 10</td>
<td>2004</td>
<td>82,461</td>
<td>15,041</td>
</tr>
<tr>
<td>Year 11</td>
<td>0</td>
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</tr>
<tr>
<td>Year 12</td>
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<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Year 13</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Year 14</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Year 15</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>10-15 Year Average Baseline GPCD</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>5 Year Baseline GPCD</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline Year</td>
<td>Service Area Population</td>
<td>Gross Water Use</td>
<td>Daily Per Capita Water Use</td>
</tr>
<tr>
<td>Fm SB X7-7 Table 3</td>
<td>Fm SB X7-7 Table 3</td>
<td>Fm SB X7-7 Table 4</td>
<td></td>
</tr>
<tr>
<td>Year 1</td>
<td>2004</td>
<td>82,461</td>
<td>15,041</td>
</tr>
<tr>
<td>Year 2</td>
<td>2005</td>
<td>82,216</td>
<td>14,190</td>
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<td>2006</td>
<td>82,259</td>
<td>14,294</td>
</tr>
<tr>
<td>Year 4</td>
<td>2007</td>
<td>82,307</td>
<td>15,259</td>
</tr>
<tr>
<td>Year 5</td>
<td>2008</td>
<td>82,807</td>
<td>15,547</td>
</tr>
<tr>
<td><strong>5 Year Average Baseline GPCD</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
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</table>

#### 2015 Compliance Year GPCD

| Year 2015 | 87,615 | 11,258 | 115 |

**NOTES:**
<table>
<thead>
<tr>
<th>Description</th>
<th>GPCD</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-15 Year Baseline GPCD</td>
<td>166</td>
</tr>
<tr>
<td>5 Year Baseline GPCD</td>
<td>161</td>
</tr>
<tr>
<td>2015 Compliance Year GPCD</td>
<td>115</td>
</tr>
</tbody>
</table>

NOTES:
<table>
<thead>
<tr>
<th>Target Method</th>
<th>Supporting Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑️ Method 1</td>
<td>SB X7-7 Table 7A</td>
</tr>
<tr>
<td>☐ Method 2</td>
<td>SB X7-7 Tables 7B, 7C, and 7D</td>
</tr>
<tr>
<td></td>
<td><em>Contact DWR for these tables</em></td>
</tr>
<tr>
<td>☐ Method 3</td>
<td>SB X7-7 Table 7-E</td>
</tr>
<tr>
<td>☐ Method 4</td>
<td>Method 4 Calculator</td>
</tr>
</tbody>
</table>

NOTES:
### SB X7-7 Table 7-A: Target Method 1
#### 20% Reduction

<table>
<thead>
<tr>
<th></th>
<th>10-15 Year Baseline</th>
<th>2020 Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPCD</td>
<td>166</td>
<td>132</td>
</tr>
</tbody>
</table>

**NOTES:**
### SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target

<table>
<thead>
<tr>
<th>5 Year Baseline GPCD From SB X7-7 Table 5</th>
<th>Maximum 2020 Target&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Calculated 2020 Target&lt;sup&gt;2&lt;/sup&gt;</th>
<th>Confirmed 2020 Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>161</td>
<td>153</td>
<td>132</td>
<td>132</td>
</tr>
</tbody>
</table>

<sup>1</sup> Maximum 2020 Target is 95% of the 5 Year Baseline GPCD except for suppliers at or below 100 GPCD.

<sup>2</sup> 2020 Target is calculated based on the selected Target Method, see SB X7-7 Table 7 and corresponding tables for agency’s calculated target.

NOTES:
<table>
<thead>
<tr>
<th>Confirmed 2020 Target Fm SB X7-7 Table 7-F</th>
<th>10-15 year Baseline GPCD Fm SB X7-7 Table 5</th>
<th><strong>2015 Interim Target GPCD</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>132</td>
<td>166</td>
<td>149</td>
</tr>
</tbody>
</table>

**NOTES:**
<table>
<thead>
<tr>
<th>Actual 2015 GPCD</th>
<th>2015 Interim Target GPCD</th>
<th>Optional Adjustments (in GPCD)</th>
<th>2015 GPCD (Adjusted if applicable)</th>
<th>Did Supplier Achieve Targeted Reduction for 2015?</th>
</tr>
</thead>
<tbody>
<tr>
<td>115</td>
<td>149</td>
<td>Extraordinary Events</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Weather Normalization</td>
<td>From Methodology 8 (Optional)</td>
<td>115</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Economic Adjustment</td>
<td>From Methodology 8 (Optional)</td>
<td>115</td>
</tr>
</tbody>
</table>

**NOTES:**

- Enter "0" if Adjustment Not Used
- From Methodology 8 (Optional)

---

**Extraordinary Events**

- Weather Normalization
- Economic Adjustment

---

**115**

- Actual 2015 GPCD
- 2015 Interim Target GPCD

**149**

- Optional Adjustments (in GPCD)
- Enter "0" if Adjustment Not Used

---

**TOTAL Adjustments**

- Adjusted 2015 GPCD

---

**2015 GPCD (Adjusted if applicable)**

- Did Supplier Achieve Targeted Reduction for 2015?
APPENDIX E

CITY OF NAPA/NAPA SANITATION DISTRICT AGREEMENT #7247
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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 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:
Mike O’Bryon, Public Works Director
City of Napa, Public Works Department
1600 First Street
P. O. Box 660
Napa, CA 94559

NSD:
Manager
Napa Sanitation District
950 Imola Avenue, West
Post Office Box 2480
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:

\[Signature\]

NAPA SANITATION DISTRICT

\[Signature\]

By:

ATTEST:

\[Signature\]

CITY CLERK

SECRETARY

NAPA SANITATION DISTRICT

COUNTERSIGNED:

\[Signature\]

FINANCE DIRECTOR

APPROVED AS TO FORM:

\[Signature\]

CITY ATTORNEY

APPROVED AS TO FORM:

Date: 7-8-98

\[Signature\]

DISTRICT LEGAL COUNSEL
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 due 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 \times 3,500 \text{ 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 \times 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 \times 3,500 \text{ 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.

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</tr>
<tr>
<td>Tin</td>
<td>Same as above</td>
<td>&lt;1.0</td>
<td>Semi-annual</td>
</tr>
<tr>
<td>Titanium</td>
<td>Same as above</td>
<td>&lt;1.0</td>
<td>Semi-annual</td>
</tr>
<tr>
<td>Tungsten</td>
<td>Same as above</td>
<td>&lt;1.0</td>
<td>Semi-annual</td>
</tr>
<tr>
<td>Zirconium</td>
<td>Same as above</td>
<td>&lt;1.0</td>
<td>Semi-annual</td>
</tr>
<tr>
<td>Vanadium</td>
<td>&lt;0.1</td>
<td>&lt;0.1</td>
<td>Semi-annual</td>
</tr>
</tbody>
</table>

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. Delivery and Availability of Recycled Water; Interruption of Service.
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

Ed Henderson
MAYOR

NAPA SANITATION DISTRICT

LeRoy Spence
CHAIRMAN

ATTEST:

Debra Wagner
CITY CLERK

ATTEST:

Susan Staples
SECRETARY

NAPA SANITATION DISTRICT

COUNTERSIGNED:

Fred Christensen
FINANCE DIRECTOR

APPROVED AS TO FORM:

CITY ATTORNEY

APPROVED AS TO FORM:

DISTRICT LEGAL COUNSEL

DATED: 4 August 1998

C:\AGREEMENTS\REC\WATER\CITY
APPENDIX F

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

Resolution of the Board of Directors of the Napa Sanitation District to
Provide Policy for Future Activities Associated with the Recycled Water Program
<table>
<thead>
<tr>
<th>Type of User</th>
<th>Estimated Demand (acre-feet per year)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Existing Uses/Commitments</strong></td>
<td></td>
</tr>
<tr>
<td>Existing Customers in Service Area</td>
<td>1,400</td>
</tr>
<tr>
<td>Montelcino Golf Course (Somky)</td>
<td>300</td>
</tr>
<tr>
<td>Valley Gate Vineyards</td>
<td>100</td>
</tr>
<tr>
<td>MST (could be as little as 500 AF)</td>
<td>1,000</td>
</tr>
<tr>
<td>District Use (Jameson Ranch)</td>
<td>100</td>
</tr>
<tr>
<td><strong>SUBTOTAL EXISTING USES/COMMITMENTS</strong></td>
<td>2,900</td>
</tr>
<tr>
<td><strong>Probable Commitments</strong></td>
<td></td>
</tr>
<tr>
<td>Infill (Kennedy Park, Industrial Parks)</td>
<td>300</td>
</tr>
<tr>
<td>Napa State Hospital</td>
<td>250</td>
</tr>
<tr>
<td>Stanly Ranch (St. Regis)</td>
<td>200</td>
</tr>
<tr>
<td><strong>SUBTOTAL PROBABLE COMMITMENTS</strong></td>
<td>750</td>
</tr>
<tr>
<td><strong>Other Areas Being Discussed in Near-Term</strong></td>
<td></td>
</tr>
<tr>
<td>Los Carneros Water District</td>
<td>1,650</td>
</tr>
<tr>
<td>Suscol Mountain Vineyards</td>
<td>150</td>
</tr>
<tr>
<td><strong>SUBTOTAL OTHER POSSIBLE AREAS</strong></td>
<td>1,800</td>
</tr>
<tr>
<td><strong>TOTAL PROBABLE DEMAND (acre-feet per year)</strong></td>
<td>5,450</td>
</tr>
</tbody>
</table>

Resolution of the Board of Directors of the Napa Sanitation District to Provide Policy for Future Activities Associated with the Recycled Water Program
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

<table>
<thead>
<tr>
<th>Growth Scenarios</th>
<th>Number of Sewer Connections</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Residential</td>
</tr>
<tr>
<td></td>
<td>Existing¹</td>
</tr>
<tr>
<td>City of Napa General Plan – Buildout Conditions</td>
<td>30,973</td>
</tr>
<tr>
<td>ABAG 2020 Projection</td>
<td>36,342</td>
</tr>
</tbody>
</table>

¹Napa 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>
<thead>
<tr>
<th>Wastewater Source</th>
<th>Annual Average Influent Flowrate (mgd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>7.31</td>
</tr>
<tr>
<td>Commercial/Industrial</td>
<td>1.55</td>
</tr>
<tr>
<td>Other Connections</td>
<td>0.701</td>
</tr>
<tr>
<td><strong>Average Influent (2020)</strong></td>
<td><strong>9.56</strong></td>
</tr>
<tr>
<td><strong>Average Influent (1998 to 2003)</strong></td>
<td><strong>8.83</strong></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Type of Recycled Water Use</th>
<th>Existing Users (irrigated acres)</th>
<th>Potential Users (irrigated acres)</th>
<th>Total Users in 2020 (irrigated acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landscape and Turf Grass Irrigation</td>
<td>383</td>
<td>617</td>
<td>1,000</td>
</tr>
<tr>
<td>Agricultural Irrigation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vineyards</td>
<td>446</td>
<td>7,545</td>
<td>7,991</td>
</tr>
<tr>
<td>Pasture</td>
<td>0</td>
<td>199</td>
<td>199</td>
</tr>
<tr>
<td>District Reclamation Sites</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vineyards</td>
<td>10</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Turf</td>
<td>43</td>
<td>213</td>
<td>256</td>
</tr>
<tr>
<td>Reclamation</td>
<td>693</td>
<td>-213</td>
<td>480</td>
</tr>
<tr>
<td>Total</td>
<td>1,575</td>
<td>8,361</td>
<td>9,936</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Type of Planting</th>
<th>Irrigation Water Requirement</th>
<th>Irrigation Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turf Grass</td>
<td>2.8 ft/yr</td>
<td>April-October</td>
</tr>
<tr>
<td>Pasture</td>
<td>2.5 ft/yr</td>
<td>April-October</td>
</tr>
<tr>
<td>Vineyards</td>
<td>0.25 ft/yr</td>
<td>June-September</td>
</tr>
</tbody>
</table>
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](image)

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.
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**

<table>
<thead>
<tr>
<th>Strategy No. - Title</th>
<th>Description</th>
</tr>
</thead>
</table>
| 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

<table>
<thead>
<tr>
<th>Quantifiable Benefits</th>
<th>Intangible Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Low Capital Costs</td>
<td>• Acceptance by Outside Stakeholders</td>
</tr>
<tr>
<td>• Low O&amp;M Costs</td>
<td>• Helps Environment</td>
</tr>
<tr>
<td>• Augment Supply in Water-Short Areas</td>
<td>• Rapid Implementation</td>
</tr>
<tr>
<td>• Reduction in River Discharge</td>
<td>• Simple Implementation</td>
</tr>
<tr>
<td>• Large Volume of Recycled Water Distributed</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Criteria</th>
<th>No. 1 Recycle all effluent produced</th>
<th>No. 2 Recycle enough to meet permit requirements</th>
<th>No. 3 Maximize use of existing storage, deliver water to largest users</th>
<th>No. 4 Maximize use of existing storage, least pipeline cost</th>
<th>No. 5 Deliver water quickly to the MST area</th>
<th>No. 6 Deliver water quickly to the Carneros area</th>
<th>No. 7 Maximize use of existing storage, augment water supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Volume of Recycled Water Delivered (acre-ft/yr)</td>
<td>9,800</td>
<td>3,590</td>
<td>4,540</td>
<td>4,280</td>
<td>3,780</td>
<td>3,780</td>
<td>4,260</td>
</tr>
<tr>
<td>Total Volume of Recycled Water Provided to Water-Short Areas (acre-ft/yr)</td>
<td>2,110 (Carneros) 420 (MST)</td>
<td>0</td>
<td>730 (Carneros) 420 (MST)</td>
<td>2,040 (Carneros)</td>
<td>420 (MST)</td>
<td>590 (Carneros)</td>
<td>1,400 (Carneros) 420 (MST)</td>
</tr>
<tr>
<td>Total Volume of Effluent Discharged to the Napa River (acre-ft/yr) [mgal/yr]</td>
<td>0</td>
<td>6,200 [2,020]</td>
<td>5,260 [1,710]</td>
<td>5,520 [1,800]</td>
<td>6,010 [1,960]</td>
<td>6,010 [1,960]</td>
<td>5,520 [1,800]</td>
</tr>
<tr>
<td>Total Capital Costs ($, million)</td>
<td>91.8</td>
<td>1.91</td>
<td>64.0</td>
<td>34.9</td>
<td>30.9</td>
<td>16.3</td>
<td>62.9</td>
</tr>
<tr>
<td>Additional O&amp;M Costs ($/yr)</td>
<td>3,040,000</td>
<td>39,400</td>
<td>424,000</td>
<td>431,000</td>
<td>157,000</td>
<td>134,000</td>
<td>482,000</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Phase</th>
<th>Construction Project</th>
<th>Construction Dates(^1) (approximate)</th>
<th>Construction Costs(^2) (millions, $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>User Hook-up to the Existing Recycled Water Pipeline - <em>Strategy No. 2</em> (as parcels are developed and infrastructure is provided)</td>
<td>2006 to 2020</td>
<td>1.91</td>
</tr>
<tr>
<td>2E</td>
<td>Recycled Water Delivery to the MST Area (pipe segments 22,24,28, 29,30,31,32)</td>
<td>2006 to 2010</td>
<td>30.8</td>
</tr>
<tr>
<td>2W</td>
<td>Recycled Water Delivery to South Los Carneros (pipe segments 1,2,3,4,6,7,8,9a,11)</td>
<td>2006 to 2010</td>
<td>17.6</td>
</tr>
<tr>
<td>3</td>
<td>Recycled Water Delivery to Downtown Napa and Silverado (pipe segments 21,25,27,33,34)</td>
<td>2015 to 2020</td>
<td>13.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>64.1</strong></td>
</tr>
</tbody>
</table>

\(^1\)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)
APPENDIX G

WATER SHORTAGE REGULATIONS

Included in this Appendix are the following documents:

- Napa Municipal Code Chapter 13.10
- Napa Municipal Code Chapter 13.12
- Original 1992 Water Shortage Contingency Plan
Chapter 13.10 MODERATE WATER SHORTAGE REGULATIONS

13.10.010 Purpose and scope.
This chapter establishes 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. (O2015-6, 6/2/15)

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 Sections 355 et seq., and 375 et seq. (O2015-6, 6/2/15)

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.
“General Manager” means the General Manager of the Water Division of the Public Works Department, or a designee of the General Manager, or a designee of the City Manager.
“High-efficiency toilet” means any toilet with an effective flush volume that does not exceed 1.28 gallons per flush.
“Moderate water shortage emergency” means a shortage in either local or statewide water supplies exists such that mandatory water use restrictions are required to achieve up to 20% community-wide demand reduction and maintain water supply reliability.
“New development” means any of the following construction projects:
1. Any freestanding 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” is as defined by Section 1.04.030 of this code.
“Water” means potable water that is supplied by the city’s water distribution system. (O2015-6, 6/2/15)
13.10.040 Water use regulations.

A. The Congress Valley Water District must enact and enforce water use regulations identical to those water use regulations included in this chapter.

B. Service to interruptible surplus agricultural water contractors may be reduced or suspended during the water shortage period in accordance with the terms of the Agreement for Provision of Interruptible-Surplus Agricultural Water Service. (O2015-6, 6/2/15)

13.10.050 Prohibitions and limitations.

A. No person shall waste water. As used herein, the term “waste” means:
   1. Use of water in a decorative fountain or other decorative water feature, except where the water is part of a recirculating system;
   2. Use of a hose that dispenses water to wash a motor vehicle, except where the hose is fitted with a shutoff nozzle or device attached to it that causes it to cease dispensing water immediately when not in use;
   3. Application of water to driveways and sidewalks, except where necessary to address an immediate health and safety need;
   4. Application of water to outdoor landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures.

B. No person shall use water to irrigate landscaping on consecutive days, except for the initial watering of newly planted landscaping and germination requirements of newly seeded lawns.

C. No person shall use water to 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.

D. No person shall use water to irrigate landscaping during a measurable rainfall event or within 48 hours thereafter.

E. No person shall use water to irrigate ornamental turf on public street medians.

F. No person shall drain and refill any swimming pool unless that person establishes that it is needed for the purpose of pool repair or to correct a severe chemical imbalance. No person shall drain and refill any decorative pond or lake unless that person establishes that it is needed for the purpose of lining the bottom to prevent absorption.

G. No operators of eating or drinking establishments, including but not limited to restaurants, hotels, cafés, cafeterias, bars, or other public places where food or drinks are sold, served, or offered for sale, shall provide drinking water to any person unless expressly requested by that person.

H. Operators of hotel, motel, and other commercial lodging establishments shall provide guests the option of not having towels and linens laundered daily, and shall prominently display notice of this option in each guestroom using clear and understood language. (O2015-6, 6/2/15)

13.10.055 Prohibitions subject to supplemental Council findings.

A. If the City Council determines, by resolution, that specified conditions warrant the establishment of additional water conservation measures in order to achieve the city’s water conservation goals, the City
Manager is authorized to impose the measures set forth in subsection B, provided that written notice is published in a newspaper of general circulation no less than 10 days prior to the effective date of the imposition, consistent with the provisions of California Government Code Sections 6060 and 6061.

B. No person shall use water to irrigate outdoor ornamental landscapes or turf more than two days per week for the period of June 1st through September 30th. No person shall use water to irrigate outdoor ornamental landscapes or turf more than one day per week for the period of October 1st through May 31st. (O2015-6, 6/2/15)

13.10.060 Water use guidelines.

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. Each person is encouraged to use the following water conservation guidelines:

A. Establish procedures in the home and business to recycle water where possible;
B. Use recycled water for construction purposes when available;
C. Use water in a manner which minimizes waste and repair leaks as soon as possible;
D. Install low-flow showerheads, high-efficiency toilets;
E. Refrain from additional irrigation and unnecessary use of water, such as car washing, on days when the temperature exceeds 85 degrees Fahrenheit;
F. Limit outdoor irrigation of ornamental landscapes or turf with water to no more than two days per week for the period of June 1st through September 30th and to no more than one day per week for the period of October 1st through May 31st;
G. New development must adhere to the city’s High Performance Building Regulations. All new or replacement landscaping should be designed and installed in accordance with the city’s Water Efficient Landscape Guidelines in order to be water efficient, and the irrigation of landscapes outside of newly constructed homes and buildings must be consistent with emergency regulations or other requirements established by the California Building Standards Commission and the Department of Housing and Community Development. (O2015-6, 6/2/15)

13.10.070 Requests for exceptions.

Any person may request an exception to any provision of Section 13.10.040, 13.10.050, or 13.10.055 of this chapter by submitting a written request to the Water Division of the Public Works Department in accordance with this Section 13.10.070.

A. The request shall be made in writing, using the form provided by the Water Division of the Public Works Department.
B. The request shall provide sufficient information, documentation, and verification, to the satisfaction of the General Manager, which establishes that the requested exception is necessary in order to: (1) protect the public health or safety, or (2) avoid undue hardship (including adverse economic impacts such as loss of production or jobs). The request shall also document that all feasible conservation measures are being used, and that there are no alternative available sources of water.
C. The request shall be subject to the review and approval of the General Manager.
D. The decision of the General Manager will be final. (O2015-6, 6/2/15)
13.10.080 Enforcement of code violations.

A. It is a code violation for any person to violate any provision of Sections 13.10.040 and 13.10.050 of this chapter, subject to the enforcement provisions of Title 1 and Chapter 1.16 of this code.

B. The General Manager is authorized to issue administrative citations, as the Enforcement Officer, pursuant to Chapter 1.24 of this code. Any penalty that could otherwise be imposed pursuant to this chapter or Chapter 1.16 may be reduced or discharged if the cited person establishes that the water waste was beyond the control of the cited person, 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.

C. In addition to the remedies and penalties for code violations, set forth in Title 1 of this code: (1) filing of false information for any requirement contained in this chapter shall be subject to a fine of $10,000.00 for each offense. (O2015-6, 6/2/15)
Chapter 13.12 SEVERE WATER SHORTAGE REGULATIONS

13.12.010 Purpose and scope.

This chapter 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. (O4277; O4305)


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 133,000,000 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. (O4277; O4305)


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 freestanding 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. (O4277; O4305)

13.12.040 Water allocation regulations for 20% 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 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 90% of his or her average historical winter consumption plus 70% of historical water usage in excess of the average historical winter consumption for each nonwinter billing period. These percentages may be adjusted by five percent 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 70% of his or her historical consumption. These percentages may be adjusted by five percent 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 75% of their 1987 usage;
   4. The Napa Valley Unified School District (NVUSD) shall receive an annual allocation equal to 75% of its 1986 usage;
   5. The Town & Country Fairgrounds shall receive an annual allocation of 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 13.12.070;
   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 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 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 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 25,000 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.

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 10:00 a.m. and 5:00 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 chapter is in effect, unless the plan is revised to comply with the xeriscape standards. (O4277; O4305)


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 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 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. (O4277)

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 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 designee) will be final. (O4277)

**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. (O4277)

**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 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 10 business days. If an appeal is filed, the bail for the fine must be paid within said 10 days.

C. The Finance Department is authorized to collect all unpaid civil fines. (O4277)

**13.12.110 Civil fines established.**

A. All violations of this chapter are subject to a civil fine of $50.00 for a first offense, $150.00 for a second offense, and $300.00 for a third offense.

B. Violations of Section 13.12.050(A)(5), (A)(8), (A)(9), (B) or (D) are subject to a civil fine of $500.00 for a first offense and $1,000.00 for a second offense.

C. Violations of Section 13.12.050(A)(7) are subject to a civil fine of $2,500.00 per occurrence.

D. Filing a false certificate of compliance for any requirement contained in this chapter shall be subject to a civil fine of $10,000.00 for each offense. (O4277)

**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 $1,000.00 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. (O4277)
CITY of NAPA

WATER SHORTAGE CONTINGENCY PLAN

Robert J. Peterson
General Manager - Water Division

David L. Coggiola
Water Conservation Specialist
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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 Hemenne 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 built 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 1993.

**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. (a) (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 12,989 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

<table>
<thead>
<tr>
<th>CUSTOMER TYPE</th>
<th>CURRENT NO OF ACTIVE CONNECTIONS</th>
<th>HIGHEST EVER 1987 USE</th>
<th>1990 USE</th>
<th>1991 WATER USE</th>
<th>PROJECTED WATER USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SINGLE FAMILY</td>
<td>18664</td>
<td>7928</td>
<td>7037</td>
<td>7178</td>
<td>7322 7468 7617</td>
</tr>
<tr>
<td>MULTIFAMILY BLDGS</td>
<td>738**</td>
<td>2450</td>
<td>2220</td>
<td>2264</td>
<td>2309 2355 2402</td>
</tr>
<tr>
<td>COMMERCIAL</td>
<td>1323</td>
<td>2179</td>
<td>2363</td>
<td>2387</td>
<td>2411 2435 2459</td>
</tr>
<tr>
<td>INDUSTRIAL</td>
<td>1</td>
<td>0</td>
<td>13</td>
<td>13</td>
<td>13 14</td>
</tr>
<tr>
<td>GOVERNMENT</td>
<td>313</td>
<td>1422</td>
<td>974</td>
<td>979</td>
<td>984 989 994</td>
</tr>
<tr>
<td>IRRIGATION</td>
<td>153</td>
<td>317</td>
<td>285</td>
<td>268</td>
<td>268 289 291</td>
</tr>
<tr>
<td>AGRICULTURAL</td>
<td>13</td>
<td>117</td>
<td>91</td>
<td>91</td>
<td>91 91 91</td>
</tr>
<tr>
<td>TOTAL</td>
<td>21205</td>
<td>14412</td>
<td>12983</td>
<td>13198</td>
<td>13418 13640 13868</td>
</tr>
</tbody>
</table>

* 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>
<thead>
<tr>
<th>TABLE II SUPPLY SOURCES AND WORST CASE SUPPLY PROJECTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>--------</td>
</tr>
<tr>
<td>HENNESSY</td>
</tr>
<tr>
<td>MILLIKEN</td>
</tr>
<tr>
<td>NAPA</td>
</tr>
<tr>
<td>RECYCLED</td>
</tr>
<tr>
<td>YUBA</td>
</tr>
<tr>
<td>RECTOR</td>
</tr>
<tr>
<td>UNSCHEDULED</td>
</tr>
<tr>
<td>TOTAL</td>
</tr>
<tr>
<td>% SUPPLY SHORTAGE</td>
</tr>
</tbody>
</table>

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 revision 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

<table>
<thead>
<tr>
<th>TOTAL RESERVOIR STORAGE ON APR.</th>
<th>% OF REDUCTION</th>
<th>AVAILABLE SUPPLY IN AFY</th>
<th>LAKE LEVEL IN FEET OF ELEV.</th>
<th>% OF CAPACITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>31000–23000</td>
<td>0</td>
<td>8300</td>
<td>315–304.4</td>
<td>100–74.2</td>
</tr>
<tr>
<td>23000–19000</td>
<td>5</td>
<td>7885</td>
<td>304.4–297.8</td>
<td>74.2–61.3</td>
</tr>
<tr>
<td>19000–15000</td>
<td>20</td>
<td>6640</td>
<td>297.8–290.8</td>
<td>61.3–48.4</td>
</tr>
<tr>
<td>15000–11000</td>
<td>40</td>
<td>4980</td>
<td>290.8–283.2</td>
<td>48.4–35.8</td>
</tr>
<tr>
<td>11000–9000</td>
<td>60</td>
<td>3320</td>
<td>283.2–279</td>
<td>35.8–29</td>
</tr>
<tr>
<td>9000–7000</td>
<td>80</td>
<td>1660</td>
<td>279–274.7</td>
<td>29–22.6</td>
</tr>
<tr>
<td>&lt;7000 A.F.</td>
<td>EMERGENCY USE ONLY</td>
<td>&lt;274.7</td>
<td>&lt;22.6</td>
<td></td>
</tr>
</tbody>
</table>

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 than 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

<table>
<thead>
<tr>
<th>YEAR</th>
<th>CARRY OVER FROM PREVIOUS YEAR</th>
<th>WORST CASE RECOVERY</th>
<th>TOTAL WATER AVAILABLE</th>
<th>AMOUNT USED BASED ON STAGED REDUCTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1992</td>
<td>17118</td>
<td>1240</td>
<td>18358</td>
<td>6440</td>
</tr>
<tr>
<td>1993</td>
<td>11918</td>
<td>1240</td>
<td>13158</td>
<td>4980</td>
</tr>
<tr>
<td>1994</td>
<td>8178</td>
<td>1240</td>
<td>9418</td>
<td>3320</td>
</tr>
</tbody>
</table>

**MILLIKEN RESERVOIR**

<table>
<thead>
<tr>
<th>YEAR</th>
<th>CARRY OVER FROM PREVIOUS YEAR</th>
<th>WORST CASE RECOVERY</th>
<th>TOTAL WATER AVAILABLE</th>
<th>AMOUNT USED BASED ON STAGED REDUCTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1992</td>
<td>1065</td>
<td>1055</td>
<td>FULL&gt;1986</td>
<td>1400</td>
</tr>
<tr>
<td>1993</td>
<td>586</td>
<td>1055</td>
<td>1641</td>
<td>1400</td>
</tr>
<tr>
<td>1994</td>
<td>241</td>
<td>1055</td>
<td>1296</td>
<td>1096*</td>
</tr>
</tbody>
</table>

* 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 18,600 acre feet in 2021. This entitlement buildup was set to match the earlier growth projections for the City.

**TABLE V**  
CONTRACTUAL NBA ENTITLEMENT

<table>
<thead>
<tr>
<th>YEAR</th>
<th>ENTITLEMENT</th>
<th>YEAR</th>
<th>ENTITLEMENT</th>
<th>YEAR</th>
<th>ENTITLEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1983</td>
<td>3000</td>
<td>1998</td>
<td>7000</td>
<td>2013</td>
<td>14500</td>
</tr>
<tr>
<td>1984</td>
<td>3000</td>
<td>1999</td>
<td>7400</td>
<td>2014</td>
<td>15100</td>
</tr>
<tr>
<td>1985</td>
<td>3000</td>
<td>2000</td>
<td>7900</td>
<td>2015</td>
<td>15700</td>
</tr>
<tr>
<td>1986</td>
<td>3000</td>
<td>2001</td>
<td>8400</td>
<td>2016</td>
<td>16300</td>
</tr>
<tr>
<td>1987</td>
<td>3200</td>
<td>2002</td>
<td>8800</td>
<td>2017</td>
<td>16900</td>
</tr>
<tr>
<td>1988</td>
<td>3400</td>
<td>2003</td>
<td>9300</td>
<td>2018</td>
<td>17500</td>
</tr>
<tr>
<td>1989</td>
<td>3700</td>
<td>2004</td>
<td>9800</td>
<td>2019</td>
<td>18100</td>
</tr>
<tr>
<td>1990</td>
<td>4000</td>
<td>2005</td>
<td>10300</td>
<td>2020</td>
<td>18700</td>
</tr>
<tr>
<td>1991</td>
<td>4300</td>
<td>2006</td>
<td>10700</td>
<td>2021</td>
<td>18800 &amp;</td>
</tr>
<tr>
<td>1992</td>
<td>4600</td>
<td>2007</td>
<td>11300 EACH SUCCEEDING YEAR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1993</td>
<td>5000</td>
<td>2008</td>
<td>11800 THEREAFTER FOR THE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1994</td>
<td>5400</td>
<td>2009</td>
<td>12300 TERM OF THIS CONTRACT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1995</td>
<td>5800</td>
<td>2010</td>
<td>12600 AS A MAXIMUM ENTITLEMENT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1996</td>
<td>6200</td>
<td>2011</td>
<td>13400</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1997</td>
<td>6600</td>
<td>2012</td>
<td>13900</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.

UN_SCHEDULED 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 known 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 offset 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 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>
<thead>
<tr>
<th>SHORTAGE</th>
<th>STAGE</th>
<th>DEMAND REDUCTION GOAL</th>
<th>TYPE OF PROGRAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-10 %</td>
<td>STAGE 1</td>
<td>0 % REDUCTION</td>
<td>NO ACTION</td>
</tr>
<tr>
<td>10-20 %</td>
<td>STAGE 2</td>
<td>15 % REDUCTION</td>
<td>VOLUNTARY</td>
</tr>
<tr>
<td>20-35 %</td>
<td>STAGE 3</td>
<td>20 % REDUCTION</td>
<td>MANDATORY</td>
</tr>
<tr>
<td>35-50 %</td>
<td>STAGE 4</td>
<td>35 % REDUCTION</td>
<td>MANDATORY</td>
</tr>
<tr>
<td>&gt;50 %</td>
<td>STAGE 5</td>
<td>50 % REDUCTION</td>
<td>MANDATORY</td>
</tr>
</tbody>
</table>

PRIORITYs 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 mediate 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 prudently. 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

<table>
<thead>
<tr>
<th>STAGE</th>
<th>PERCENT SHORTAGE</th>
<th>WATER SHORTAGE</th>
<th>CARRY-OVER SHORTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAGE 1</td>
<td>UP TO 10 PERCENT SUPPLY REDUCTION</td>
<td>COMBINED SUPPLY REDUCTIONS TOTALING UP TO 1400 AFY.</td>
<td>OR INSUFFICIENT CARRY-OVER STORAGE AND PROJECTED SUPPLEMENTAL WATER TO PROVIDE FOR 90 PERCENT OF NORMAL SUPPLIES FOR THE NEXT 2 YEARS.</td>
</tr>
<tr>
<td>STAGE 2</td>
<td>10 TO 20 PERCENT SUPPLY REDUCTION</td>
<td>COMBINED SUPPLY REDUCTIONS TOTALING BETWEEN 1400 &amp; 2800 AFY.</td>
<td>OR INSUFFICIENT CARRY-OVER STORAGE AND PROJECTED SUPPLEMENTAL WATER TO PROVIDE FOR 75 PERCENT OF NORMAL SUPPLIES FOR THE NEXT 2 YEARS.</td>
</tr>
<tr>
<td>STAGE 3</td>
<td>20 TO 35 PERCENT SUPPLY REDUCTION</td>
<td>COMBINED SUPPLY REDUCTIONS TOTALING BETWEEN 2800 &amp; 4900 AFY.</td>
<td>OR INSUFFICIENT CARRY-OVER STORAGE AND PROJECTED SUPPLEMENTAL WATER TO PROVIDE FOR 50 PERCENT OF NORMAL SUPPLIES FOR THE NEXT 2 YEARS.</td>
</tr>
<tr>
<td>STAGE 4</td>
<td>35 TO 50 PERCENT SUPPLY REDUCTION</td>
<td>COMBINED SUPPLY REDUCTIONS TOTALING BETWEEN 4900 &amp; 7000 AFY.</td>
<td>OR INSUFFICIENT CARRY-OVER STORAGE AND PROJECTED SUPPLEMENTAL WATER TO PROVIDE FOR 50 PERCENT OF NORMAL SUPPLIES FOR THE NEXT 2 YEARS.</td>
</tr>
<tr>
<td>STAGE 5</td>
<td>&gt; 50 PERCENT SUPPLY REDUCTION</td>
<td>COMBINED SUPPLY REDUCTIONS OF MORE THAN 7000 AFY.</td>
<td>OR INSUFFICIENT CARRY-OVER STORAGE AND PROJECTED SUPPLEMENTAL WATER TO PROVIDE FOR 50 PERCENT OF NORMAL SUPPLIES FOR THE NEXT 2 YEARS.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>STAGE I</th>
<th>0 TO 10% REDUCTION IN SUPPLY, DOES NOT REQUIRE ANY REDUCTIONS OF CUSTOMERS. THE CITY WILL PUBLISH A WATER SHORTAGE AWARENESS PROGRAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAGES II-V</td>
<td>SINGLE FAMILY</td>
</tr>
<tr>
<td>II - VOL</td>
<td>8568</td>
</tr>
<tr>
<td>III - 20%</td>
<td>8064</td>
</tr>
<tr>
<td>IV - 35%</td>
<td>6552</td>
</tr>
<tr>
<td>V - 50%</td>
<td>5040</td>
</tr>
</tbody>
</table>

NORMAL CONSUMPT. | 10,080 | 3,500 | 280 | 140 | 14000 | 0.0% |

13
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 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 - 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.

<table>
<thead>
<tr>
<th>(1) Single-Family Residential</th>
<th>Rate Blocks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meter Size</td>
<td>3</td>
</tr>
<tr>
<td>5/8 &amp; 3/4</td>
<td></td>
</tr>
<tr>
<td>1-8</td>
<td>21-30</td>
</tr>
<tr>
<td>1</td>
<td>21-30</td>
</tr>
<tr>
<td>1 1/2</td>
<td>61-90</td>
</tr>
<tr>
<td>2+</td>
<td>91-135</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(2) Multiple-Family Residential</th>
<th>Rate Blocks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meter Size</td>
<td>3</td>
</tr>
<tr>
<td>5/8 &amp; 3/4</td>
<td></td>
</tr>
<tr>
<td>1-8</td>
<td>21-30</td>
</tr>
<tr>
<td>1</td>
<td>21-30</td>
</tr>
<tr>
<td>1 1/2</td>
<td>61-90</td>
</tr>
<tr>
<td>2</td>
<td>91-134</td>
</tr>
<tr>
<td>3</td>
<td>161-240</td>
</tr>
<tr>
<td>4</td>
<td>101-250</td>
</tr>
<tr>
<td>6</td>
<td>188-467</td>
</tr>
<tr>
<td>8 &amp; 10</td>
<td>278-693</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(3) Commercial</th>
<th>Rate Blocks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meter Size</td>
<td>3</td>
</tr>
<tr>
<td>5/8 &amp; 3/4</td>
<td></td>
</tr>
<tr>
<td>N/A</td>
<td>21-30</td>
</tr>
<tr>
<td>N/A</td>
<td>21-30</td>
</tr>
<tr>
<td>1 1/2</td>
<td>61-90</td>
</tr>
<tr>
<td>N/A</td>
<td>91-134</td>
</tr>
<tr>
<td>3</td>
<td>161-240</td>
</tr>
<tr>
<td>N/A</td>
<td>251-375</td>
</tr>
<tr>
<td>6</td>
<td>1467</td>
</tr>
<tr>
<td>8 &amp; 10</td>
<td>N/A</td>
</tr>
</tbody>
</table>
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:

<table>
<thead>
<tr>
<th>BLOCK</th>
<th>BASE RATE</th>
<th>20% CONSERVATION RATE</th>
<th>35% CONSERVATION RATE</th>
<th>50% CONSERVATION RATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$1.08</td>
<td>$1.08</td>
<td>$1.08</td>
<td>$1.08</td>
</tr>
<tr>
<td>2</td>
<td>1.54</td>
<td>1.93</td>
<td>2.39</td>
<td>2.93</td>
</tr>
<tr>
<td>3</td>
<td>1.60</td>
<td>2.16</td>
<td>2.64</td>
<td>3.22</td>
</tr>
<tr>
<td>4</td>
<td>1.66</td>
<td>2.49</td>
<td>2.99</td>
<td>3.71</td>
</tr>
<tr>
<td>5</td>
<td>1.73</td>
<td>2.94</td>
<td>3.46</td>
<td>4.45</td>
</tr>
<tr>
<td>6</td>
<td>1.90</td>
<td>3.70</td>
<td>4.28</td>
<td>5.56</td>
</tr>
</tbody>
</table>

C. SERVICE CHARGE - For all consumers within the City, the bimonthly service charge applicable to all metered and measured services will be as follows:

<table>
<thead>
<tr>
<th>Meter Size</th>
<th>Bimonthly Service Charge</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/8 &amp; 3/4 inch</td>
<td>$14.89</td>
</tr>
<tr>
<td>1 inch</td>
<td>29.77</td>
</tr>
<tr>
<td>1 1/2 inch</td>
<td>53.59</td>
</tr>
<tr>
<td>2 inch</td>
<td>82.17</td>
</tr>
<tr>
<td>3 inch</td>
<td>142.91</td>
</tr>
<tr>
<td>4 inch</td>
<td>208.41</td>
</tr>
<tr>
<td>6 inch</td>
<td>357.28</td>
</tr>
<tr>
<td>8 inch</td>
<td>506.15</td>
</tr>
<tr>
<td>10 inch</td>
<td>819.97</td>
</tr>
</tbody>
</table>

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 $3.18.

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 one retrofit 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

<table>
<thead>
<tr>
<th></th>
<th>Single Family</th>
<th>Condominium</th>
<th>Apartment*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single family (Detached home)</td>
<td>4.0 or 4.5</td>
<td>5.4</td>
<td></td>
</tr>
<tr>
<td>Condominium</td>
<td>3.6 or 4.0</td>
<td>5.0</td>
<td></td>
</tr>
<tr>
<td>Apartment</td>
<td>3.1 or 3.7</td>
<td>4.0</td>
<td></td>
</tr>
</tbody>
</table>

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 $3.6 \times 7 = 25.2$ 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) 
\[21,900 \text{ gallons saved per year}\]

\[\text{Converted to acre-feet:} \quad \frac{21,900}{325,851} = 0.07 \text{ acre-feet per year}\]

**Average Water Savings Per Flush**

**Assumptions:**

1. 60% of existing toilets are 7 gallons.
2. 40% of existing toilets are 3.5 gallons.

\[7 - 1.6 = 5.4 \text{ (gallons saved per flush by replacing 7-gallon toilet)}\]
\[3.5 - 1.6 = 1.9 \text{ (gallons saved per flush by replacing 3.5-gallon toilet)}\]

\[5.4 \times 0.60 = 3.24\]
\[1.9 \times 0.40 = 0.76\]

\[4.00 \text{ (average gallons saved per flush)}\]

**Retrofit Requirement for a Single-Family Residence**

\[0.27 \text{ acre-feet per year (use of a new home)}\]
\[0.07 \text{ acre-feet per year (water savings of one retrofit)}\]
\[= 3.85 \text{ homes to be retrofitted per new home}\]

Use 4 retrofits per new single-family home
This Certificate of Completion is to be credited to the retrofit requirements for the following project:

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Project Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Permit Number</td>
<td>Site Address</td>
</tr>
<tr>
<td>Developer</td>
<td>Plumbing Contractor</td>
</tr>
<tr>
<td>Address</td>
<td>Address</td>
</tr>
<tr>
<td>License Number</td>
<td>License Number</td>
</tr>
</tbody>
</table>

Please complete the following for the home being retrofitted:

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 sink faucet, please explain:

__________________________

I, ___________________________ (print name), do hereby certify that I am the owner of the property above and that the work described on this Certificate has been completed to my satisfaction, and that all toilets have 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
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 adopted 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.
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.

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(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 waywater, 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(b).

(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 proper-
ty 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 in-
stalled 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 exempt 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 that 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-
City 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.


(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) business days from
the date the citation was issued. The Notice of Appeal for administrative
indications must be made in writing and filed in the Public Works Depart-
ment.

(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 viola-
tion 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-sec-
tions, subdivisions, paragraphs, sentences, clauses or phrases may be declared
invalid or unconstitutional.

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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.
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 bi-monthly 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 exceed 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 shut-off 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.
a. The decision of the General Manager of the Water Division (or his designee) will be final.


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 bill 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 AI12.19.2.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:
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 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.
STATE OF CALIFORNIA  
COUNTY OF NAPA  
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

[Signature]

ATTEST: [Signature]

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)

<table>
<thead>
<tr>
<th>Meter Size</th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
<th>6th</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/8 &amp; 3/4</td>
<td>1-8</td>
<td>9-20</td>
<td>21-30</td>
<td>31-40</td>
<td>41-75</td>
<td>76 &amp; above</td>
</tr>
<tr>
<td>1</td>
<td>1-8</td>
<td>9-20</td>
<td>21-30</td>
<td>31-40</td>
<td>41-75</td>
<td>76 &amp; above</td>
</tr>
<tr>
<td>1 1/2</td>
<td>1-8</td>
<td>9-60</td>
<td>61-90</td>
<td>91-120</td>
<td>121-225</td>
<td>226 &amp; above</td>
</tr>
<tr>
<td>2</td>
<td>1-8</td>
<td>9-90</td>
<td>91-135</td>
<td>136-180</td>
<td>181-340</td>
<td>341 &amp; above</td>
</tr>
<tr>
<td>3</td>
<td>1-8</td>
<td>9-160</td>
<td>161-240</td>
<td>241-320</td>
<td>321-600</td>
<td>601 &amp; above</td>
</tr>
<tr>
<td>4</td>
<td>1-8</td>
<td>9-250</td>
<td>251-375</td>
<td>376-500</td>
<td>501-938</td>
<td>939 &amp; above</td>
</tr>
<tr>
<td>6</td>
<td>1-8</td>
<td>9-468</td>
<td>469-701</td>
<td>702-934</td>
<td>935-1,750</td>
<td>1,751 &amp; above</td>
</tr>
<tr>
<td>8 &amp; 10</td>
<td>1-8</td>
<td>9-693</td>
<td>694-1,039</td>
<td>1,040-1,387</td>
<td>1,388-2,600</td>
<td>2,601 &amp; above</td>
</tr>
</tbody>
</table>

*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:

<table>
<thead>
<tr>
<th>Block</th>
<th>Base Rate</th>
<th>20% Conservation Rate</th>
<th>35% Conservation Rate</th>
<th>50% Conservation Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$1.08</td>
<td>$1.08</td>
<td>$1.08</td>
<td>$1.08</td>
</tr>
<tr>
<td>2</td>
<td>1.54</td>
<td>1.93</td>
<td>2.39</td>
<td>2.93</td>
</tr>
<tr>
<td>3</td>
<td>1.60</td>
<td>2.16</td>
<td>2.64</td>
<td>3.22</td>
</tr>
<tr>
<td>4</td>
<td>1.66</td>
<td>2.49</td>
<td>2.99</td>
<td>3.71</td>
</tr>
<tr>
<td>5</td>
<td>1.73</td>
<td>2.94</td>
<td>3.46</td>
<td>4.45</td>
</tr>
<tr>
<td>6</td>
<td>1.90</td>
<td>3.70</td>
<td>4.28</td>
<td>5.56</td>
</tr>
</tbody>
</table>

(2) For all consumers within the City, the bimonthly service charge applicable to all metered and measured services will be as follows:

<table>
<thead>
<tr>
<th>Meter Size</th>
<th>Bimonthly Service Charge</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/8 &amp; 3/4 inch</td>
<td>$14.89</td>
</tr>
<tr>
<td>1 inch</td>
<td>29.77</td>
</tr>
<tr>
<td>1 1/2 inch</td>
<td>53.59</td>
</tr>
<tr>
<td>2 inch</td>
<td>82.17</td>
</tr>
<tr>
<td>3 inch</td>
<td>142.91</td>
</tr>
<tr>
<td>4 inch</td>
<td>208.41</td>
</tr>
<tr>
<td>6 inch</td>
<td>357.28</td>
</tr>
<tr>
<td>8 inch</td>
<td>506.15</td>
</tr>
<tr>
<td>10 inch</td>
<td>819.97</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Block</th>
<th>Base Rate</th>
<th>20% Conservation Rate</th>
<th>35% Conservation Rate</th>
<th>50% Conservation Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$2.16</td>
<td>$2.16</td>
<td>$2.16</td>
<td>$2.16</td>
</tr>
<tr>
<td>2</td>
<td>3.08</td>
<td>3.85</td>
<td>4.77</td>
<td>5.96</td>
</tr>
<tr>
<td>3</td>
<td>3.20</td>
<td>4.32</td>
<td>5.28</td>
<td>6.44</td>
</tr>
<tr>
<td>4</td>
<td>3.33</td>
<td>5.00</td>
<td>5.99</td>
<td>7.42</td>
</tr>
<tr>
<td>5</td>
<td>3.46</td>
<td>5.88</td>
<td>6.92</td>
<td>8.95</td>
</tr>
<tr>
<td>6</td>
<td>3.81</td>
<td>7.43</td>
<td>8.57</td>
<td>11.12</td>
</tr>
</tbody>
</table>

(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:

<table>
<thead>
<tr>
<th>Meter Size</th>
<th>Bimonthly Service Charge</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/8 &amp; 3/4 inch</td>
<td>$ 29.78</td>
</tr>
<tr>
<td>1 inch</td>
<td>$  59.54</td>
</tr>
<tr>
<td>1 1/2 inch</td>
<td>$107.18</td>
</tr>
<tr>
<td>2 inch</td>
<td>$164.34</td>
</tr>
<tr>
<td>3 inch</td>
<td>$285.82</td>
</tr>
<tr>
<td>4 inch</td>
<td>$416.82</td>
</tr>
<tr>
<td>6 inch</td>
<td>$714.56</td>
</tr>
<tr>
<td>8 inch</td>
<td>$1,012.30</td>
</tr>
<tr>
<td>10 inch</td>
<td>$1,639.94</td>
</tr>
</tbody>
</table>

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

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APPENDIX H

WATER SHORTAGE DECLARATIONS

Included in this Appendix are the following documents:

- City of Napa Resolution R2014-154, September 16, 2014
- City of Napa Resolution R2015-60, May 19, 2015
RESOLUTION R2014-154

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF NAPA, STATE OF CALIFORNIA, DECLARING A MODERATE WATER SHORTAGE TO IMPLEMENT THE CITY'S WATER SHORTAGE CONTINGENCY PLAN, SET FORTH IN NAPA MUNICIPAL CODE CHAPTER 13.10, IN COMPLIANCE WITH STATE WATER RESOURCES CONTROL BOARD EMERGENCY REGULATIONS

WHEREAS, on January 17, 2014, the Governor issued a proclamation of a State of Emergency under the California Emergency Services Act based on drought conditions and called on Californians to voluntarily reduce water consumption by 20%; and

WHEREAS, on April 25, 2014, the Governor issued a proclamation of a Continued State of Emergency under the California Emergency Services Act based on continued drought conditions; and

WHEREAS, the State Water Resources Control Board adopted California Code of Regulations, Title 23, Sections 863, 864, and 865 as emergency regulations for statewide urban water conservation on July 15, 2014; and

WHEREAS, on July 28, 2014, the Office of Administrative Law approved the statewide emergency regulatory action pursuant to section 1058.5 of the Water Code that will expire on April 25, 2015; and

WHEREAS, Section 865(b)(1) of the statewide emergency regulations mandates that each urban water supplier shall implement the stage of its water shortage contingency plan that imposes mandatory restrictions on outdoor irrigation of ornamental landscapes or turf with potable water; and

WHEREAS, Section 865(b)(1) applies to all urban water suppliers regardless of their water supply situation; and

WHEREAS, during the irrigation season from March through July 2014, City of Napa water customers have reduced consumption 15% below the same period in 2013; and

WHEREAS, the Moderate Water Shortage Regulations contained in Chapter 13.10 of the Napa Municipal Code constitute the applicable stage of the City of Napa Water Shortage Contingency Plan to meet the Section 865(b)(1) mandate; and

WHEREAS, updates to the City of Napa Water Shortage Contingency Plan are to become a required part of the City’s 2015 Urban Water Management Plan; and
WHEREAS, the City Council has considered all information related to this matter, as presented at the public meeting of the City Council identified herein, including any supporting reports by City Staff, and any 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 finds that with three consecutive dry years leaving the state's major reservoirs and snowpack well below normal and many areas of the state facing severe water shortages, reasonable mandatory restrictions on water use and prohibitions on wasteful practices will help the City reach the Governor's target of 20% demand reduction, thereby improving the City's water supply reliability into an uncertain 2015.

3. Based on the facts presented to the City Council as part of the hearing for this resolution, and in order to comply with the Statewide Urban Water Conservation Emergency Regulation adopted by the State Water Resources Control Board on July 15, 2014 (Resolution No. 2014-0038), the City Council hereby determines and declares that a "moderate water shortage emergency" exists in the City of Napa. In accordance with Napa Municipal Code Section 13.10.010, the requirements of Napa Municipal Code Chapter 13.10 are hereby in effect until the City Council finds that the moderate water shortage emergency no longer exists.

4. The City Council hereby determines that the actions taken under this resolution are exempt from CEQA pursuant to CEQA Guidelines Sections 15307 and 15308 which exempt actions taken by a regulatory agency as authorized by state law or local ordinance to assure the maintenance, restoration, or enhancement of a natural resource or protection of the environment where the regulatory process involves procedures for protection of the environment.

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 16th day of September, 2014, by the following vote:

AYES: Mott, Pedroza, Inman, Techel

NOES: Sedgley

ABSENT: None

ABSTAIN: None

ATTEST: Dorothy Roberts
City Clerk

Approved as to form:

Michael W. Barrett
City Attorney
RESOLUTION R2015-60

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF NAPA, STATE OF CALIFORNIA, RENEWING ITS DECLARATION OF A MODERATE WATER SHORTAGE TO IMPLEMENT THE CITY’S WATER SHORTAGE CONTINGENCY PLAN, SET FORTH IN NAPA MUNICIPAL CODE CHAPTER 13.10, IN COMPLIANCE WITH STATE WATER RESOURCES CONTROL BOARD EMERGENCY REGULATIONS

WHEREAS, on January 17, 2014, the Governor issued a proclamation of a State of Emergency under the California Emergency Services Act based on drought conditions; and

WHEREAS, the State Water Resources Control Board adopted California Code of Regulations, Title 23, Sections 863, 864, and 865 as emergency regulations for statewide urban water conservation on July 15, 2014; and

WHEREAS, on September 16, 2014, the City Council declared a Moderate Water Shortage Emergency, pursuant to Resolution No. R2014-154, and adopted amendments to Napa Municipal Code Chapter 13.10 in response to the statewide regulations; and

WHEREAS, the City of Napa responded to the statewide emergency in 2014 with its lowest annual water usage since 1995, and has begun 2015 on an even lower pace of usage than last year; and

WHEREAS, the State Water Resources Control Board amended and readopted California Code of Regulations, Title 23, Sections 863, 864, and 865 on March 17, 2015, to include additional end-user restrictions and a requirement for urban water suppliers to adopt mandatory restrictions on the number of days that outdoor irrigation of ornamental landscapes or turf with potable water is allowed; and

WHEREAS, Governor Brown issued Executive Order B29-15 on April 1, 2015, directing the State Water Resources Control Board to impose additional restrictions to achieve a statewide 25 percent reduction in potable urban water usage through February 16, 2016; and

WHEREAS, to address provisions in the Executive Order the State Water Resources Control Board adopted California Code of Regulations, Title 23, Section 866 and amended and readopted Sections 863, 864, and 865 on May 5, 2015; and

WHEREAS, the newly adopted state regulations place the City in a tier of agencies required to reduce total potable water production by 20 percent for the period
of June 2015 through February 2016 compared to the same months in 2013, and the State Water Resources Control Board will track compliance on a cumulative basis; and

WHEREAS, the Moderate Water Shortage Regulations contained in Chapter 13.10 of the Napa Municipal Code constitute the applicable stage of the City of Napa Water Shortage Contingency Plan to achieve 20 percent conservation; and

WHEREAS, updates to the City of Napa Water Shortage Contingency Plan are to become a required part of the City's 2015 Urban Water Management Plan; and

WHEREAS, the City Council has considered all information related to this matter, as presented at the public meeting of the City Council identified herein, including any supporting reports by City Staff, and any 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 finds that with four consecutive dry years leaving the state's major reservoirs and snowpack well below normal and many areas of the state facing severe water shortages, reasonable mandatory restrictions on water use, prohibitions on wasteful practices, more aggressive enforcement, and targeted customer outreach will help the City reach the mandatory target of 20 percent reduction, thereby improving the City's water supply reliability into an uncertain 2016.

3. The City Council hereby renews its declaration that a "moderate water shortage emergency" exists in the City of Napa, based on the facts presented to the City Council as part of the hearing for this resolution, in order to implement and comply with the Statewide Urban Water Conservation Emergency Regulation adopted by the State Water Resources Control Board on May 5, 2015 (Resolution No. 2015-0032), and in order to reinforce the severity of the statewide drought conditions and the importance of meeting the 20 percent conservation target for June 2015 through February 2016. In accordance with Napa Municipal Code Section 13.10.010, the requirements of Napa Municipal Code Chapter 13.10 remain in effect until the City Council finds that the moderate water shortage emergency no longer exists.

4. The City Council hereby determines that a cumulative reduction of water usage by the City's residential customers of less than 18 percent (comparing the months of June-July-August 2015 to the months of June-July-August 2013) warrants the imposition of the additional water conservation measures set forth in Napa Municipal Code Section 13.10.055 in order to achieve the City's water conservation goals. Therefore, if the City Manager determines, based on a recommendation from the City's Water General Manager, that the City's residential water usage has been reduced by
less than 18 percent (using the criteria set forth in this section to compare residential water usage in 2015 to residential water usage in 2013), the City Manager is authorized to implement the additional water conservation measures that are set forth in Napa Municipal Code Section 13.10.055(B). These additional water conservation measures shall be in effect beginning no sooner than 10 days after publication of the notice required by Napa Municipal Code Section 13.10.055(A), and ending when the Council finds that the moderate water shortage emergency no longer exists.

5. The City Council hereby determines that the actions taken under this resolution are exempt from CEQA pursuant to CEQA Guidelines Sections 15307 and 15308 which exempt actions taken by a regulatory agency as authorized by state law or local ordinance to assure the maintenance, restoration, or enhancement of a natural resource or protection of the environment where the regulatory process involves procedures for protection of the environment.

6. 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 19th day of May, 2015, by the following vote:

AYES: Inman, Luros, Mott, Sedgley, Techel

NOES: None

ABSENT: None

ABSTAIN: None

ATTEST:

Dorothy Roberts
City Clerk

Approved as to form:

Michael W. Barrett
City Attorney
APPENDIX I

CUWCC
BMP COVERAGE REPORTS
2013-2014
**Conservation Coordinator:** Yes

**Contact Information**

| First Name | Patrick |
| Last Name  | Costello |
| Title      | Water Resources Analyst |
| Phone      | 707-257-9309 |
| Email      | pcostello@cityofnapa.org |

**Water Waste Prevention**

<table>
<thead>
<tr>
<th>WW Document Name</th>
<th>WWP File Name</th>
<th>WW Prevention URL</th>
<th>WW Prevention Ordinance Terms Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option A Describe the ordinances or terms of service adopted by your agency to meet the water waste prevention requirements of this BMP.</td>
<td>CONAPA_6298_2013_BMP_1-1-B WaterShortageRegs.pdf</td>
<td>As of 2013, in a moderate or severe water shortage, Napa Municipal Code Chapters 13.10 and 13.12 become activated, addressing prohibitions and limitations on water use with administrative citations and civil fines.</td>
<td></td>
</tr>
<tr>
<td>Option B Describe any water waste prevention ordinances or requirements adopted by your local jurisdiction or regulatory agencies within your service area.</td>
<td>CONAPA_6298_2013_BMP_1-1-B WaterShortageRegs.pdf</td>
<td>As of 2013, the City of Napa had adopted a local Water Efficient Landscape Ordinance (WELO) for new development that was more stringent than the State Model WELO in effect at the time. The Maximum Applied Water Allowance was just 60% of ET0.</td>
<td></td>
</tr>
</tbody>
</table>

**Reporting unit name (District name):**

City of Napa

**Reporting unit number:**

6298

**BMP1.1 Operation Practices - Retail Only 2013**
Option F Describe your agency efforts to support local ordinances that establish permits requirements for water efficient design in new development.

As of 2013, the City of Napa had adopted local High Performance Building Regulations that were more stringent in their mandatory water efficiency measures than the State counterpart (CALGreen). For example, non-residential projects save 30% indoors.

<table>
<thead>
<tr>
<th>At Least As effective As</th>
<th>No</th>
</tr>
</thead>
</table>

| Exemption | No |

Comments:
**BMP 1.2 Water Loss Control**

**ON TRACK**

**6298 City of Napa**

- Completed Standard Water Audit Using AWWA Software? Yes
- AWWA File provided to CUWCC? Yes
- CONAPA_6298_2013_BMP_1-2_AWWA.xls
  - AWWA Water Audit Validity Score? 71
  - Complete Training in AWWA Audit Method Yes
  - Complete Training in Component Analysis Process? Yes
  - Component Analysis? Yes
  - Repaired all leaks and breaks to the extent cost effective? Yes
  - Locate and Repaired unreported leaks to the extent cost effective? Yes

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. Yes

<table>
<thead>
<tr>
<th>Leaks Repairs</th>
<th>Value Real Losses</th>
<th>Value Apparent Losses</th>
<th>Miles Surveyed</th>
<th>Press Reduction</th>
<th>Cost Of Interventions</th>
<th>Water Saved (AF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>67</td>
<td></td>
<td></td>
<td>17</td>
<td>False</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

At Least As effective As No

Exemption No

Comments:
### BMP 1.3 Metering With Commodity

**City of Napa**

<table>
<thead>
<tr>
<th>Numbered Unmetered Accounts</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metered Accounts billed by volume of use</td>
<td>Yes</td>
</tr>
<tr>
<td>Number of CII Accounts with Mixed Use Meters</td>
<td>1220</td>
</tr>
</tbody>
</table>

Conducted a feasibility study to assess merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters? Yes

Feasibility Study provided to CUWCC? Yes

Date: 6/7/2013

Uploaded file name: Feasibility Study - City of Napa.pdf

Completed a written plan, policy or program to test, repair and replace meters Yes

At Least As effective As No

Exemption No

Comments:
### BMP 1.4 Retail Conservation Pricing

6298 City of Napa

Implementation (Water Rate Structure)

<table>
<thead>
<tr>
<th>Customer Class</th>
<th>Water Rate Type</th>
<th>Conserving Rate?</th>
<th>(V) Total Revenue Comodity Charges</th>
<th>(M) Total Revenue Fixed Carges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single-Family</td>
<td>Increasing Block</td>
<td>Yes</td>
<td>9973380</td>
<td>1900000</td>
</tr>
<tr>
<td>Multi-Family</td>
<td>Uniform</td>
<td>Yes</td>
<td>2992323</td>
<td>11500</td>
</tr>
<tr>
<td>Commercial</td>
<td>Uniform</td>
<td>Yes</td>
<td>3926308</td>
<td>7600</td>
</tr>
<tr>
<td>Institutional</td>
<td>Uniform</td>
<td>Yes</td>
<td>1862278</td>
<td>0</td>
</tr>
<tr>
<td>Dedicated Irrigation</td>
<td>Uniform</td>
<td>Yes</td>
<td>1529266</td>
<td>0</td>
</tr>
<tr>
<td>Agricultural</td>
<td>Uniform</td>
<td>Yes</td>
<td>417075</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>Uniform</td>
<td>Yes</td>
<td>3377663</td>
<td>27200</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>24076293</td>
</tr>
</tbody>
</table>

Calculate: \( \frac{V}{V + M} \) 93%

**Implementation Option:** Use Annual Revenue As Reported

- [ ] Use 3 years average instead of most recent year

Canadian Water and Wastewater Association

Upload file: [ ]

Agency Provide Sewer Service: No

At Least As effective As: No

Exemption: No

Comments:
BMP 2.1 Public Outreach

6298    City of Napa

Does your agency perform Public Outreach programs? Yes

The list of wholesale agencies performing public outreach which can be counted to help the agency comply with the BMP

The name of agency, contact name and email address if not CUWCC Group 1 members

Harbison Appliance

Did at least one contact take place during each quarter of the reporting year? Yes

<table>
<thead>
<tr>
<th>Public Outreach Program List</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newsletter articles on conservation</td>
<td>4</td>
</tr>
<tr>
<td>Flyers and/or brochures (total copies), bill stuffers, messages</td>
<td>16</td>
</tr>
<tr>
<td>Website</td>
<td>25</td>
</tr>
<tr>
<td>Landscape water conservation media campaigns</td>
<td>15</td>
</tr>
<tr>
<td>General water conservation information</td>
<td>24</td>
</tr>
<tr>
<td>Email Messages</td>
<td>10</td>
</tr>
</tbody>
</table>

Total 94

Did at least one contact take place during each quarter of the reporting year? Yes

<table>
<thead>
<tr>
<th>Number Media Contacts</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Articles or stories resulting from outreach</td>
<td>6</td>
</tr>
<tr>
<td>News releases</td>
<td>4</td>
</tr>
<tr>
<td>Newspaper contacts</td>
<td>5</td>
</tr>
<tr>
<td>Radio contacts</td>
<td>2</td>
</tr>
<tr>
<td>Written editorials</td>
<td>1</td>
</tr>
<tr>
<td>Online Advertisings</td>
<td>3</td>
</tr>
</tbody>
</table>

Total 21

Did at least one website update take place during each quarter of the reporting year? Yes

Public Information Program Annual Budget

<table>
<thead>
<tr>
<th>Annual Budget Category</th>
<th>Annual Budget Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>64500</td>
</tr>
</tbody>
</table>

Total Amount: 64500

Public Outreach Additional Programs

Displays at Public Events
### BMP 2.1 Public Outreach

<table>
<thead>
<tr>
<th>Public Outreach Additional Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational Workshops</td>
</tr>
<tr>
<td>Presentations to Community Groups</td>
</tr>
</tbody>
</table>

Description of all other Public Outreach programs

High-Efficiency Clothes Washer Rebate promotion
Bay-Friendly Landscaping & Gardening Coalition

**Comments:**

**At Least As effective As**

| No |

**Exemption**

| No | 0 |
### BMP 2.2 School Education Programs

<table>
<thead>
<tr>
<th>6298</th>
<th>City of Napa</th>
<th>Retail</th>
</tr>
</thead>
</table>

- Does your agency implement School Education programs? **Yes**
- The list of wholesale agencies performing public outreach which can be counted to help the agency comply with the BMP

- Materials meet state education framework requirements? **Yes**
- Materials distributed to K-6? **Yes**

<table>
<thead>
<tr>
<th>Water Education Foundation (WEF) Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project WET Curriculum &amp; Activity Guide, Conserve Water Educators Guide</td>
</tr>
<tr>
<td>Water Week Teaching Kit (Channing Bete)</td>
</tr>
<tr>
<td>Various activity booklets</td>
</tr>
</tbody>
</table>

| "The Story of Drinking Water" (AWWA) |
| "Conserve Water" (Project WET Foundation) |
| "We Can Conserve Water" (Channing Bete) |
| "My Book About Water" (Channing Bete)   |
| "About the Water Cycle" (Channing Bete) |

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

| WEF "Project Water Science" - series of hands-on exercises to teach water quality, supply, conservation |

- Annual budget for school education program: **5200.00**

- Description of all other water supplier education programs:
  - Water Conservation Classroom Presentation, Water Treatment Plant Field Trip, free curriculum materials. The City participates in the Environmental Education Coalition of Napa County (EECNC) which produces a local teachers guide and plans Earth Day.

- Comments:
  - Budget expenditures do not include staff time.

<table>
<thead>
<tr>
<th>At Least As effective As</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exemption</td>
<td>No 0</td>
</tr>
</tbody>
</table>
Conservation Coordinator: Yes

**Contact Information**

<table>
<thead>
<tr>
<th>First Name</th>
<th>Patrick</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last Name</td>
<td>Costello</td>
</tr>
<tr>
<td>Title</td>
<td>Water Resources Analyst</td>
</tr>
<tr>
<td>Phone</td>
<td>707-257-9309</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:pcostello@cityofnapa.org">pcostello@cityofnapa.org</a></td>
</tr>
</tbody>
</table>

**Water Waste Prevention**

<table>
<thead>
<tr>
<th>WW Document Name</th>
<th>WWP File Name</th>
<th>WW Prevention URL</th>
<th>WW Prevention Ordinance Terms Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option A Describe the ordinances or terms of service adopted by your agency to meet the water waste prevention requirements of this BMP.</td>
<td>CONAPA_6298_2014_BMP_1-1-B_WaterShortageRegs.pdf</td>
<td>In response to State Water Resources Control Board Emergency Regulations in 2014, the City of Napa modified and activated its Moderate Water Shortage Regulations contained in Napa Municipal Code Chapter 13.10, enhancing its irrigation restrictions.</td>
<td></td>
</tr>
<tr>
<td>Option B Describe any water waste prevention ordinances or requirements adopted by your local jurisdiction or regulatory agencies within your service area.</td>
<td>CONAPA_6298_2014_BMP_1-1-B_WaterShortageRegs.pdf</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Option C Describe any documentation of support for legislation or regulations that prohibit water waste.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Option D Describe your agency efforts to cooperate with other entities in the adoption or enforcement of local requirements consistent with this BMP.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Option E Describe your agency support positions with respect to adoption of legislation or regulations that are consistent with this BMP.</td>
<td>CONAPA_6298_2014_BMP_1-1-E_WELO.pdf</td>
<td>As of 2014, the City of Napa had adopted a local Water Efficient Landscape Ordinance (WELO) for new development that was more stringent than the State Model WELO in effect at the time. The Maximum Applied Water Allowance was just 60% of ETo.</td>
<td></td>
</tr>
</tbody>
</table>
Option F Describe your agency efforts to support local ordinances that establish permits requirements for water efficient design in new development.

| CONAPA_6298_2014_BMP_1-1-F_HPBO.pdf | As of 2014, the City of Napa had readopted local High Performance Building Regulations that were more stringent in their mandatory water efficiency measures than the State counterpart (CALGreen). For example, non-residential saves 30% indoors. |

| At Least As effective As | No |

| Exemption | No |

Comments:
BMP 1.2 Water Loss Control  

ON TRACK

6298  City of Napa

- Completed Standard Water Audit Using AWWA Software? Yes
- AWWA File provided to CUWCC? Yes
- CONAPA_6298_2014_BMP_1-2_AWWA.xls
- AWWA Water Audit Validity Score? 72
- Complete Training in AWWA Audit Method? Yes
- Complete Training in Component Analysis Process? Yes
- Component Analysis? Yes
- Repaired all leaks and breaks to the extent cost effective? Yes
- Locate and Repair unreported leaks to the extent cost effective? Yes

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. Yes

Provided 7 Types of Water Loss Control Info

<table>
<thead>
<tr>
<th>Leaks Repairs</th>
<th>Value Real Losses</th>
<th>Value Apparent Losses</th>
<th>Miles Surveyed</th>
<th>Press Reduction</th>
<th>Cost Of Interventions</th>
<th>Water Saved (AF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>289</td>
<td></td>
<td></td>
<td>17</td>
<td>False</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

At Least As effective As  No

Exemption  No

Comments:
## BMP 1.3 Metering With Commodity

### City of Napa

<table>
<thead>
<tr>
<th>Category</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numbered Unmetered Accounts</td>
<td>No</td>
</tr>
<tr>
<td>Metered Accounts billed by volume of use</td>
<td>Yes</td>
</tr>
<tr>
<td>Number of CII Accounts with Mixed Use Meters</td>
<td>1218</td>
</tr>
<tr>
<td>Conducted a feasibility study to assess merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters?</td>
<td>Yes</td>
</tr>
<tr>
<td>Feasibility Study provided to CUWCC?</td>
<td>Yes</td>
</tr>
<tr>
<td>Date: 6/7/2013</td>
<td></td>
</tr>
<tr>
<td>Completed a written plan, policy or program to test, repair and replace meters</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>At Least As effective As</strong></td>
<td>No</td>
</tr>
<tr>
<td><strong>Exemption</strong></td>
<td>No</td>
</tr>
</tbody>
</table>

Comments:
### BMP 1.4 Retail Conservation Pricing

**6298 City of Napa**

Implementation (Water Rate Structure)

<table>
<thead>
<tr>
<th>Customer Class</th>
<th>Water Rate Type</th>
<th>Conserving Rate?</th>
<th>(V) Total Revenue Commodity Charges</th>
<th>(M) Total Revenue Fixed Carges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single-Family</td>
<td>Increasing Block</td>
<td>Yes</td>
<td>8649723</td>
<td>2085200</td>
</tr>
<tr>
<td>Multi-Family</td>
<td>Uniform</td>
<td>Yes</td>
<td>2957488</td>
<td>12100</td>
</tr>
<tr>
<td>Commercial</td>
<td>Uniform</td>
<td>Yes</td>
<td>3411574</td>
<td>8200</td>
</tr>
<tr>
<td>Institutional</td>
<td>Uniform</td>
<td>Yes</td>
<td>1490254</td>
<td>0</td>
</tr>
<tr>
<td>Dedicated Irrigation</td>
<td>Uniform</td>
<td>Yes</td>
<td>1395067</td>
<td>0</td>
</tr>
<tr>
<td>Agricultural</td>
<td>Uniform</td>
<td>Yes</td>
<td>408575</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>Uniform</td>
<td>Yes</td>
<td>3312139</td>
<td>32500</td>
</tr>
</tbody>
</table>

**Total:** 21624820 2138000

Calculate: \( \frac{V}{V + M} \) = 91%

Implementation Option: Use Annual Revenue As Reported

Use 3 years average instead of most recent year

Canadian Water and Wastewater Association

Upload file:

Agency Provide Sewer Service: No

At Least As effective As: No

Exemption: No

Comments:
BMP 2.1 Public Outreach

6298 City of Napa Retail

Does your agency perform Public Outreach programs? Yes

The list of wholesale agencies performing public outreach which can be counted to help the agency comply with the BMP

*Newsletter articles on conservation* 6
*Flyers and/or brochures (total copies), bill stuffers, messages printed on bill, information packets* 18
*Website* 30
*Landscape water conservation media campaigns* 20
*General water conservation information* 32
*Email Messages* 12

**Total** 118

Did at least one contact take place during each quarter of the reporting year? Yes

<table>
<thead>
<tr>
<th>Number Media Contacts</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Articles or stories resulting from outreach</td>
<td>12</td>
</tr>
<tr>
<td>News releases</td>
<td>6</td>
</tr>
<tr>
<td>Newspaper contacts</td>
<td>12</td>
</tr>
<tr>
<td>Radio contacts</td>
<td>6</td>
</tr>
<tr>
<td>Written editorials</td>
<td>3</td>
</tr>
<tr>
<td>Online Advertisings</td>
<td>5</td>
</tr>
<tr>
<td>Editorial board visits</td>
<td>2</td>
</tr>
</tbody>
</table>

**Total** 46

Did at least one website update take place during each quarter of the reporting year? Yes

Public Information Program Annual Budget

<table>
<thead>
<tr>
<th>Annual Budget Category</th>
<th>Annual Budget Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>56500</td>
</tr>
</tbody>
</table>

**Total Amount:** 56500
## BMP 2.1 Public Outreach

<table>
<thead>
<tr>
<th>Public Outreach Additional Programs</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Displays at Public Events</td>
<td></td>
</tr>
<tr>
<td>Educational Workshops</td>
<td></td>
</tr>
<tr>
<td>Presentations to Community Groups</td>
<td></td>
</tr>
</tbody>
</table>

Description of all other Public Outreach programs

High-Efficiency Clothes Washer Rebate promotionBay-Friendly Landscaping & Gardening Coalition

Comments:

At Least As effective As: No

Exemption: No 0
## BMP 2.2 School Education Programs

**City of Napa**  
*Retail*

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes/No</th>
<th>Info Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does your agency implement School Education programs?</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>The list of wholesale agencies performing public outreach which can be counted to help the agency comply with the BMP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials meet state education framework requirements?</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Water Education Foundation (WEF) Materials</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project WET Curriculum &amp; Activity Guide, Conserve Water Educators Guide</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Week Teaching Kit (Channing Bete)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Various activity booklets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials distributed to K-6?</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>&quot;The Story of Drinking Water&quot; (AWWA)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;Conserve Water&quot; (Project WET Foundation)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;We Can Conserve Water&quot; (Channing Bete)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;My Book About Water&quot; (Channing Bete)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;About the Water Cycle&quot; (Channing Bete)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials distributed to 7-12 students?</td>
<td>Yes (Info Only)</td>
<td></td>
</tr>
<tr>
<td>WEF &quot;Project Water Science&quot; - series of hands-on exercises to teach water quality, supply, conservation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual budget for school education program:</td>
<td>5500.00</td>
<td></td>
</tr>
<tr>
<td>Description of all other water supplier education programs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Conservation Classroom Presentation, Water Treatment Plant Field Trip, free curriculum materials. The City participates in the Environmental Education Coalition of Napa County (EECNC) which produces a local teachers guide and plans Earth Day.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comments:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Budget expenditures do not include staff time.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>At Least As effective As</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Exemption</td>
<td>No</td>
<td>0</td>
</tr>
</tbody>
</table>
Baseline GPCD: 163.59

GPCD in 2014 134.93

GPCD Target for 2018: 134.10

Biennial GPCD Compliance Table

<table>
<thead>
<tr>
<th>Year</th>
<th>Report</th>
<th>% Base</th>
<th>Target GPCD</th>
<th>% Base</th>
<th>Highest Acceptable Bound GPCD</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>1</td>
<td>96.4%</td>
<td>157.70</td>
<td>100%</td>
<td>163.60</td>
</tr>
<tr>
<td>2012</td>
<td>2</td>
<td>92.8%</td>
<td>151.80</td>
<td>96.4%</td>
<td>157.70</td>
</tr>
<tr>
<td>2014</td>
<td>3</td>
<td>89.2%</td>
<td>145.90</td>
<td>92.8%</td>
<td>151.80</td>
</tr>
<tr>
<td>2016</td>
<td>4</td>
<td>85.6%</td>
<td>140.00</td>
<td>89.2%</td>
<td>145.90</td>
</tr>
<tr>
<td>2018</td>
<td>5</td>
<td>82.0%</td>
<td>134.10</td>
<td>82.0%</td>
<td>134.10</td>
</tr>
</tbody>
</table>

ON TRACK
APPENDIX J

PUBLIC NOTICE

Included in this Appendix are the following documents:

- 60-Day Plan Preparation Notice to Local Agencies
- Public Notice and Draft Plan to Local Agencies
- Public Notices in *Napa Valley Register*, August 22 and 29, 2017
- *Napa Valley Marketplace* Magazine Ad, September Issue
- *Napa Valley Marketplace* Magazine, *City of Napa News* – August and September Issues
- *City of Napa NewsWeekly* Emails, August 26 and September 1, 2017
April 21, 2016

Jason Holley
Public Works Director
City of American Canyon
4381 Broadway Street, Suite 201
American Canyon, CA 94503

Subject: City of Napa Urban Water Management Plan Preparation

Dear Mr. Holley:

This letter is official notification that the City of Napa is in the process of preparing its 2015 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 June 2011.

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
April 21, 2016

Joe Tagliaboschi
Public Works Director
Town of Yountville
6550 Yount Street
Yountville, CA 94599

Subject: City of Napa Urban Water Management Plan Preparation

Dear Mr. Tagliaboschi:

This letter is official notification that the City of Napa is in the process of preparing its 2015 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 June 2011.

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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
April 21, 2016

Steve Palmer
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. Palmer:

This letter is official notification that the City of Napa is in the process of preparing its 2015 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 June 2011.

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
April 21, 2016

Mike Kirn
Public Works Director
City of Calistoga
414 Washington Street
Calistoga, CA 94515

Subject: City of Napa Urban Water Management Plan Preparation

Dear Mr. Kirn:

This letter is official notification that the City of Napa is in the process of preparing its 2015 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 June 2011.

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
April 21, 2016

Steven E. Lederer  
Director of Public Works  
County of Napa  
1195 Third Street, Suite 101  
Napa, CA  94559

Subject: City of Napa Urban Water Management Plan Preparation

Dear Mr. Lederer:

This letter is official notification that the City of Napa is in the process of preparing its 2015 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 June 2011.

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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
April 21, 2016

John McDowell
Deputy Planning Director
County of Napa
1195 Third Street, 2nd Floor
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 2015 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 June 2011.

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,

[Signature]

Patrick Costello
Water Resources Analyst
April 21, 2016

Timothy Healy  
General Manager  
Napa Sanitation District  
1515 Soscol Ferry Road  
Napa, CA 94558

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 2015 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 June 2011.

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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,

[Signature]

Patrick Costello  
Water Resources Analyst
August 22, 2017

Jason Holley  
Public Works Director  
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. Holley:

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, September 5 at 3:30 pm in the Council Chambers, City Hall, 955 School Street, Napa, to consider Adoption of the Urban Water Management Plan (UWMP) 2015 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 2015 Update has been posted online at www.cityofnapa.org/water and hard copies made available for review at the Public Works Department, the Water Division, the City Clerk, and the Napa City-County Library. I have enclosed a separate hard copy of the Draft UWMP 2015 Update for your department. Should you or your staff have any comments on the City of Napa’s UWMP 2015 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.

In April 2016 you were sent notification that the City had begun the process of preparing this UWMP 2015 Update. Completion was delayed in order to improve the AWWA Water Audit section and to assess the impact of proposed State legislation addressing post-2020 urban water use.

Any questions regarding the City of Napa UWMP adoption process can be directed to me at (707) 257-9309 or pcostello@cityofnapa.org.

Sincerely,

Patrick Costello  
Water Resources Analyst  

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August 22, 2017

Joe Tagliaboschi
Public Works Director
Town of Yountville
6550 Yount Street
Yountville, CA 94599

Subject: City of Napa Urban Water Management Plan Public Hearing

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Water Resources Analyst

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August 22, 2017

Erica Ahmann Smithies  
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 Ms. Smithies:

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, September 5 at 3:30 pm in the Council Chambers, City Hall, 955 School Street, Napa, to consider Adoption of the Urban Water Management Plan (UWMP) 2015 Update, a summary of City policies and procedures addressing water supply, demand, and conservation required by the California Department of Water Resources.

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Sincerely,

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August 22, 2017

Mike Kirn
Public Works Director
City of Calistoga
414 Washington Street
Calistoga, CA 94515

Subject: City of Napa Urban Water Management Plan Public Hearing

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Sincerely,

Patrick Costello
Water Resources Analyst
August 22, 2017

Steven E. Lederer
Director of Public Works
County of Napa
1195 Third Street, Suite 101
Napa, CA 94559

Subject: City of Napa Urban Water Management Plan Public Hearing

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Any questions regarding the City of Napa UWMP adoption process can be directed to me at (707) 257-9309 or pcostello@cityofnapa.org.

Sincerely,

Patrick Costello
Water Resources Analyst
August 22, 2017

Vin Smith  
Deputy Planning Director  
County of Napa  
1195 Third Street, 2nd Floor  
Napa, CA  94559

Subject: City of Napa Urban Water Management Plan Public Hearing

Dear Mr. Smith:

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, September 5 at 3:30 pm in the Council Chambers, City Hall, 955 School Street, Napa, to consider Adoption of the Urban Water Management Plan (UWMP) 2015 Update, a summary of City policies and procedures addressing water supply, demand, and conservation required by the California Department of Water Resources.

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Sincerely,

Patrick Costello  
Water Resources Analyst

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August 22, 2017

Timothy Healy
General Manager
Napa Sanitation District
1515 Soscol Ferry Road
Napa, CA 94558

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
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Sincerely,

Patrick Costello
Water Resources Analyst

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AUTHORIZED BY THIS ORDI-
NANCE WERE ADEQUATELY AN-
ALYZED BY PREVIOUS CEQA
ACTIONS.

(AYES: Segale, Gentry, Techel,
NOES: Mott, Inman; ABSENT:
None; ABSTAIN: None)

DATED: August 18, 2017
Signed: Dorothy Roberts, City Clerk
6/22/2017 8:09/2017

PUBLIC NOTICE
NOTICE OF PLAN AVAILABILITY
AND PUBLIC HEARING

PUBLIC NOTICE
URBAN WATER MANAGEMENT
PLAN 2015 UPDATE
NOTICE IS HEREBY GIVEN that
the 2015 Update of the Urban
Water Management Plan has been
drafted and is available for public
review beginning August 22, 2017
on the City Water Division web
page, www.ci.napa.ca.us/water,
and at the following locations: City
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Engineering, 1340 Clay Street, City
of Napa Public Works Department,
and Napa Valley Register.

620 Homes For Rent

PUBLIC NOTICE
NOTICE OF PUBLIC HEARING
To Establish a Community
Facilities District

NAPA FAIR

PUBLIC NOTICE
AUTHORIZED BY THIS ORDI-
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AND PUBLIC HEARING

PUBLIC NOTICE
URBAN WATER MANAGEMENT
PLAN 2015 UPDATE
NOTICE IS HEREBY GIVEN that
the 2015 Update of the Urban
Water Management Plan has been
drafted and is available for public
review beginning August 22, 2017
on the City Water Division web
page, www.ci.napa.ca.us/water,
and at the following locations: City
of Napa Water Administration &
 Engineering, 1340 Clay Street, City
of Napa Public Works Department,
and Napa Valley Register.

620 Homes For Rent

PUBLIC NOTICE
NOTICE OF PUBLIC HEARING
To Establish a Community
Facilities District

NAPA FAIR

PUBLIC NOTICE
AUTHORIZED BY THIS ORDI-
NANCE WERE ADEQUATELY AN-
ALYZED BY PREVIOUS CEQA
ACTIONS.

(AYES: Segale, Gentry, Techel,
NOES: Mott, Inman; ABSENT:
None; ABSTAIN: None)

DATED: August 18, 2017
Signed: Dorothy Roberts, City Clerk
6/22/2017 8:09/2017

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Engineering, 1340 Clay Street, City
of Napa Public Works Department,
and Napa Valley Register.
PUBLIC NOTICE
AUGUST 29, 2017
NAPA VALLEY REGISTER
City of Napa Public Hearing:
Urban Water Management Plan Update
Tuesday, September 5, 3:30 pm
City Council Chambers, City Hall
955 School Street, Napa

cityofnapa.org/water

DR. JEFFREY BROOKS
Board Certified and Fellowship
Trained Vascular Surgeon

VARICOSE VEINS? LEG ULCERS?
LEG PAIN? LEG SWELLING?

LEG CRAMPS? LEG HEAVINESS?
BURNING SENSATION?
SKIN COLOR CHANGES?
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3260 Beard Road, Suite 5, Napa www.NapaVascular.com
The City is hiring

The City of Napa is looking for talented, driven individuals for a variety of positions, including Building Inspector, Park Maintenance Assistant (Part-Time), Recreation Leader and Recycling Assistant (Part-Time). The City offers a competitive benefits package that includes vacation, sick leave, CalPERS retirement, employer paid medical and dental insurance, management leave and much more. Visit www.cityofnapajobs.org to view all open positions and apply online!

Stay informed...every day

Technology makes it easier than ever to stay in touch with what's happening at City Hall.

- Visit our website at www.cityofnapa.org
- Follow the City of Napa on Facebook at www.facebook.com/cityofnapa or on Twitter at @cityofnapa
- NewsWeekly e-newsletter: to sign up, send an email to info@cityofnapa.org
- Register for alerts at www.nixle.com or by texting your zip code to 888-777

Agendas and supporting documents for City Council meetings and all of the various Boards, Commissions and Committees are posted on our website.

Many meetings can be viewed live online, or watched later from the archives. Go to www.cityofnapa.org and select “Agendas and Minutes” from the Quick Links menu to get started.

Napa’s Water Quality Report now available

Have questions about our water here in Napa? The 2016 Water Quality Report is now available! Just visit www.cityofnapa.org/water to view an online copy and learn more about the stringent State and Federal health standards we must meet. If you have additional questions about our water, please call 707-257-9521. We are always happy to chat with you and address your questions or concerns.

Let us know!

Do you need to report a pothole? Is a streetlight out in your neighborhood? You can submit a request for service by visiting our website at www.cityofnapa.org and selecting “Service Center” at the top of the homepage. Your request will be routed immediately to the appropriate department.

Urban Water Management Plan Update

Date Correction: City’s Urban Water Management Plan (UWMP) public hearing has been changed to Tuesday, September 5, 2017. Dates published in previous issues of this magazine were incorrect. Draft copy of the UWMP will be available for review beginning August 21 at cityofnapa.org/water.
The City is hiring

The City of Napa is looking for talented, driven individuals for a variety of positions, including Fire Inspector, Park Maintenance Assistant (Part-Time), Recreation Leader and Recycling Assistant (Part-Time). The City offers a competitive benefits package that includes vacation, sick leave, CalPERS retirement, employer paid medical and dental insurance, management leave and much more. Visit www.cityofnapajobs.org to view all open positions and apply online!

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Urban Water Management Plan Update

Date Correction: The City of Napa’s Urban Water Management Plan (UWMP) Update is scheduled for Public Hearing at the 3:30 pm City Council Meeting on Tuesday, September 5. Draft copy is available for review at www.cityofnapa.org/water.
Costello, Patrick

From: French, Jaina
Sent: Saturday, August 26, 2017 11:00 AM
To: Everybody
Subject: Vote on the new Fuller Park playground colors and more! Napa NewsWeekly 8-26-2017

The latest from City Hall and your neighborhood.

NewsWeekly
www.cityofnapa.org

Quick Links
Agendas, Minutes & Video
Online Police Reports
Service Center
Permits and Licenses
Municipal Code
Search Public Records
Zoning and Project Information

Urban Water Management Plan 2015 Update
A draft of the City of Napa Urban Water Management Plan (UWMP) 2015 Update is review in advance of the UWMP adoption hearing at the Tuesday, September 5, 3: Meeting at City Hall, 955 School Street. The document is posted online and printed viewed at the Water Division, 1340 Clay Street, the Public Works Department, 1600 Clerk, 955 School Street, and the Napa City-County Library, 580 Coombs Street. The UWMP describes and evaluates the City's water supply, demand, and conserv years. Â The California Department of Water Resources requires that the UWMP be years. In this update reflecting data as of calendar year 2015, the City also dem compliance with the Water Conservation Act of 2009 (SBx7-7), which seeks a state daily per capita water use by 2020.

Written comments in advance of the hearing may be directed to the City Clerk at PO Box 660, Napa, CA 94559, or clerk@cityofnapa.org.

Vote on Fuller Park playground colors!
Thanks to everyone who provided feedback at the Fuller Park playground community of the public input and created a new amazing play space for the 2-5 year olds. Now picking the final colors. Please visit the survey here to see the final playground des favorite color choice. Voting will be available until Thursday, August 31, 2017 at 5:0 link on to your friends and have them vote too!

Napa Police net 4 DUI arrest in DUI Saturation Patrol
The Napa Police Department Traffic Unit conducted a DUI Saturation Patrol on Fridh the operation here.
City of Napa offices closed for Labor Day holiday

Have a safe and happy Labor Day! Please note that city offices will be closed on Monday, September 4, in observance of the holiday, except for Police and Fire. This includes Las Flores Community Center and the Senior Center.

Napa to Open Cooling Centers Friday and Saturday

The City of Napa is extending hours for our two community centers to offer a place for residents to cool off during this heat wave. Las Flores Community Center will be open Friday until 5pm and open again Saturday until 9pm. The Senior Center will remain open until 9pm Friday and will open back up Saturday morning.

Water fountains will be available at both sites - bring your own water bottle, otherwise water will be available. The Napa Fire Department has also shared some tips on beating the heat:

- Heat Exhaustion or Heat Stroke?
- Safety Tips for Pets
- Car Safety During a Heat Wave - Look Before You Lock!

How to Beat the Heat - from Napa County Public Health

With temperatures expected to rise above 100 degrees in some parts of Napa County this weekend, Napa County Public Health Officer Dr. Karen Relucio encourages residents to prepare for the heat by keeping cool, stay hydrated and stay informed! Learn more here.

PG&E Issues a Flex Alert Today Until 10pm
As California prepares for the major heat event that will continue into holiday weekend, Pacific Gas and Electric Company (PG&E) has already to respond to power outages as soon as they occur. The California System Operator (ISO) which runs the state's electric grid has called for a base load need tomorrow, Friday, September 1. Californians are urged to conserve energy from 6 p.m. to 10 p.m. to help avoid power disruptions. Learn more here.

Smoke from Wildland Fires

You may have noticed the past couple of days have been quite smoky. There are multiple active fires in the state. Winds have pushed the smoke all the way to Napa and the surrounding Bay Area. Check out a map of current wildland fires in California here.

Soscol Avenue Road Paving to Continue Next Tuesday and Wednesday

We are sure you noticed City crews busy with road maintenance on Soscol Avenue. Monday and Wednesday crews will be wrapping up the project a bit ahead of schedule and leave a bit of a smoother ride when they are done. Work will be performed between 7 am and 4 pm and involve a northbound one-lane lane closure between Sousa Lane and Third Street. Please give this into consideration for your morning drive!

Urban Water Management Plan 2015 Update

A draft of the City of Napa Urban Water Management Plan (UWMP) 2015 Update is available for review in advance of the UWMP adoption hearing at the Tuesday, September 5, 3:30 PM meeting at City Hall, 955 School Street. The document is posted online and printed copies are available at the Water Division, 1340 Clay Street, the Public Works Department, 1600 Fourth Street, the City Clerk, 955 School Street, and the Napa City-County Library, 580 Coombs Street. The UWMP describes and evaluates the City's water supply, demand, and conservation activities for 2035. The California Department of Water Resources requires that the UWMP be updated every five years. In this update reflecting data as of calendar year 2015, the City also demonstrates compliance with the Water Conservation Act of 2009 (SBx7-7), which seeks a statewide 20% reduction in per capita water use by 2020. Written comments in advance of the hearing may be directed to the City Clerk at PO Box 660, Napa, CA 94558, or email clerk@cityofnapa.org.

Napa Sanitation invites you to their upcoming Open House

Napa Sanitation District will be hosting an Open House on Saturday, September 9 from 10 am to 2 pm. Come check out equipment demos, kids' activities and enjoy refreshments. NapaSan is located at 1515 Soscol Ferry Road. For more information, call 707-258-6000 or visit www.napasan.com.

City Council Agendas and Minutes - all in one place!

Interested in seeing what's on the agenda for the next City Council meeting? You can view agendas and minutes for City Council meetings, as well as for Boards, Commissions and Committees - all in one place! Don't feel like reading? You can also listen to audio of all prior City Council meetings. Have a look and get informed! Visit www.cityofnapa.org and click on "City Council Agendas and Minutes" under the Quick Links or click here.

Help fill the shelves for Napa County teachers!

Please help fill the shelves for Napa County teachers. Find out where you can drop off materials through September 15 - check out the flyer here! HELPING TEACHERS HELP KIDS IN NAPA COUNTY: Teacher Resource Center of the Napa County Education Foundation (TRCNB) is a local nonprofit organization that provides teachers in Napa County with basic teaching supplies, free of charge, to enhance students' educational and creative experiences.

Know what's happening - get urgent alerts
APPENDIX K

CITY COUNCIL ADOPTION

Included in this Appendix are the following documents:

- City Council Meeting Agenda, September 5, 2017
- Staff Report, September 5, 2017
- Public Hearing Presentation Slides, September 5, 2017
- City Council Meeting Minutes, September 5, 2017
- Resolution Adopting the UWMP 2015 Update
- Adopted Plan to the Department of Water Resources
- Adopted Plan to the California State Library
- Adopted Plan to Local Agencies
REGULAR MEETING AGENDA
FOR THE CITY COUNCIL OF THE CITY OF NAPA

Tuesday, September 5, 2017

3:30 PM Afternoon Session
6:30 PM Evening Session

City Hall Council Chambers
955 School Street
Napa, CA 94559
www.cityofnapa.org

CITY COUNCIL
Mayor Jill Techel
Vice Mayor Juliana Inman
Councilmember Doris Gentry
Councilmember Peter Mott
Councilmember Scott Sedgley

See last pages of agenda for information regarding meeting procedures
Vea las últimas páginas de esta agenda para información sobre juntas del poder legislativo
3:30 P.M. AFTERNOON SESSION

1. CALL TO ORDER:

1.A. Roll Call:

2. AGENDA REVIEW AND SUPPLEMENTAL REPORTS:

3. SPECIAL PRESENTATIONS:

3.A. 1001-2017 Recognition of Paul Hicks, Civil Service Commission

Recommendation: Present a Certificate of Appreciation to Paul Hicks for his work on the Civil Service Commission.

4. PUBLIC COMMENT:

5. CONSENT CALENDAR:

5.A. 1058-2017 City Council Meeting Minutes

Recommendation: Approve the August 15, 2017 Regular City Council Meeting Minutes.

Attachments: ATCH 1 - Regular Meeting Minutes DRAFT

5.B. 922-2017 Monthly Budget and Investment Statement


Attachments: ATCH 1 - June 2017 Budget and Inv Report

5.C. 1024-2017 Third Street Water Main Replacement (WD16PW10)

Recommendation: Authorize the Public Works Director to award a construction contract to the lowest and best bidder, Northern Pacific Corporation, for the Third Street Water Main Replacement in the bid amount of $836,440, and authorize the Public Works Director to execute the contract, amendments and change orders on behalf of the City within the amount of the Project budget of $1,006,440, and determine that the actions authorized by this item are exempt from CEQA.

5.D. 1068-2017 Maintenance Contract with Intergraph Corporation

Recommendation: Adopt a resolution authorizing the Police Chief to sign a three-year Maintenance Contract with Intergraph Corporation, doing business as Hexagon Safety Infrastructure, for maintenance support for the Computer Aided Dispatch system (CAD), Police Records Management system (RMS), and Mobile Data Computing (MDC) systems.
5.E. 1061-2017  
Classification Specification and Salary Range for the New Classification of Senior Scale House Attendant, and Classification Specification Changes for Scale House Attendant

**Recommendation:** Adopt a resolution amending the City Classification Plan by adopting the classification specification and Salary Range for the new classification of Senior Scale House Attendant, and revising the Classification Specification for Scale House Attendant.

**Attachments:**
- ATCH 1 - Resolution
- ATCH 2 - Agreement
- EX A - Scale House Attendant - DRAFT
- EX B - Senior Scale House Attendant - DRAFT

5.F. 1062-2017  
Classification Specification Changes for the Class of Water Quality Supervisor

**Recommendation:** Adopt a resolution amending the City Classification Plan by adopting the revised classification specification for the classification of Water Quality Supervisor, including a change in the name of the classification to Water Quality Laboratory Supervisor, and amending the Budget Staffing Plan.

**Attachments:**
- ATCH 1 - Resolution
- EX A - Water Quality Supervisor Description

5.G. 1060-2017  
Classification Specification Changes for the Class of Fire Division Chief

**Recommendation:** Adopt a resolution amending the city classification plan by adopting the revised classification specification for the Fire Division Chief.

**Attachments:**
- ATCH 1 Resolution
- EX A - Job Description

6. CONSENT HEARINGS:

6.A. 1070-2017  
CalPERS Contract Amendment for Tiered Additional Cost Share for Napa City Firefighters Association

**Recommendation:** Adopt a Resolution of Intent to approve an amendment to the contract between the Board of Administration of the California Public Employees Retirement System (CalPERS) and the City Council of the City of Napa; and approve the first reading and introduction of an ordinance amending the contract between the Board of Administration of the California Public Employees Retirement System (CalPERS) and the City Council of the City of Napa.

**Attachments:**
- ATCH 1 - Resolution of Intent
- EX A to Resolution - Amendment to Contract
- ATCH 2 - Ordinance Amending Contract NCFA Tiers
- EX A to Ordinance - Amendment to Contract
7. ADMINISTRATIVE REPORTS:

7.A. 1042-2017  Napa Creek Condos Affordable Housing Alternative Equivalent Proposal

**Recommendation:** Deny the request from the Applicant of the Napa Creek Condos Project (a 48-unit condominium project at 1701 D Street) to approve an alternative equivalent proposal to pay $540,000 in affordable housing impact fees, in lieu of the 2011 Project conditions of approval requiring the construction of eight affordable housing units.

**Attachments:**
- ATCH 1 - Council Resolution R2001 27, Napa Creek Condos
- ATCH 2 - Applicant Correspondence
- ATCH 3 - Applicant Project Description
- ATCH 4 - 2011 Staff report for Napa Creek Condos

8. PUBLIC HEARINGS/APPEALS:


**Recommendation:** Adopt a resolution adopting the Urban Water Management Plan 2015 Update, a summary of City policies and procedures addressing water supply, demand, and conservation required by the State Department of Water Resources, and determining that the actions authorized by this resolution are exempt from CEQA.

**Attachments:**
- ATCH 1 - Resolution of UWMP Adoption
- ATCH 2 - UWMP 2015 Draft
8.B. **976-2017**

Community Facilities District 2017-1, Gasser Soscol Gateway:

Public Hearing to Establish a Community Facilities District

Public Hearing to Incur Bonded and Indebtedness

**Recommendation:**

1. Adopt a resolution forming the "City of Napa Community Facilities District No. 2017-1 (Gasser Soscol Gateway)"
2. Adopt a resolution determining necessity to incur bonded indebtedness and other debt for the "City of Napa Community Facilities District No. 2017-1 (Gasser Soscol Gateway)"
3. Adopt a resolution calling a Special Election for the levy of a special tax, the incurring of bonded indebtedness and other debt and the establishment of the appropriations limit for the "City of Napa Community Facilities District No. 2017-1 (Gasser Soscol Gateway)"
4. Adopt a resolution declaring the results of the Special Election for the City of Napa Community Facilities District No. 2017-1 (Gasser Soscol Gateway) and directing the recordation of a Notice of Special Tax Lien.
5. Adopt a resolution authorizing the issuance and sale of special tax bonds, and approving and authorizing related documents and actions for the "City of Napa Community Facilities District No. 2017-1 (Gasser Soscol Gateway)"
6. Approve the first reading and introduction of an ordinance levying special taxes within the "City of Napa Community Facilities District No. 2017-1 (Gasser Soscol Gateway)"; and determining that the actions authorized by this ordinance were adequately analyzed by previous CEQA actions.

**Attachments:**

ATCH 1 - Resolution Forming CFD with EXS "A" and "B"
ATCH 2 - Resolution Determining Necessity
ATCH 3 - Resolution Special Election
ATCH 4 - Resolution Declaring Results
ATCH 5 - Resolution Auth Issuance
ATCH 6 - Ordinance
ATCH 7 - CFD Report
9. COMMENTS BY COUNCIL OR CITY MANAGER:

CITY COUNCIL RECESS

6:30 P.M. EVENING SESSION

10. CALL TO ORDER:

10.A. Roll Call:

11. PLEDGE OF ALLEGIANCE:

12. AGENDA REVIEW AND SUPPLEMENTAL REPORTS:

13. PUBLIC COMMENT:
14. PUBLIC HEARINGS/APPEALS:

14.A. **975-2017**

**Recommendation:**
Adopt a resolution to determine the necessity to acquire property by eminent domain for the State Route 29 Northbound First Street Ramps and California Boulevard Roundabouts Project; to authorize commencement of litigation to acquire property by eminent domain; to seek an order of possession (Code of Civil Procedure Section 1245.220); and to determine that the actions authorized by this resolution were adequately analyzed by a previous CEQA action; for each of the following eight properties:

1. Portions of the property located at 2420 First Street (APN 002-141-002; the "Napa ES Hotel Property," commonly known as Embassy Suites).

2. Portions of the property located at 2489 Second Street (APN 004-491-026; the "McDaniel Property," commonly known as Advanced Auto Body Center).


4. Portions of the property located at 935 California Blvd and 2410 Second Street (APN 004-491-009 and 004-491-021; the "Arata Property," commonly known as Storck's Garage).

5. Portions of the property located at 829 and 837 California Blvd (APN 004-491-012 and 004-491-013; the "Boutique Resorts Property," commonly known as Bel Abri Napa Valley Inn).

6. Portions of the property located at 800 California Blvd (APN 004-493-001; the "Elm House Property," commonly known as Best Western Plus Elm House Inn).

7. Portions of the property located 2337 Second Street (APN 004-493-002; the "Kearns Property," single family residence).

8. The property located at 920 California Blvd and 2349 First Street (APN 004-492-001 and 004-492-012; the "V Hospitality Partners Property," vacant land).
15. COMMENTS BY COUNCIL OR CITY MANAGER:

16. ADJOURNMENT:

The next regularly scheduled meeting of City of Napa City Council of the City of Napa is September 19, 2017.

I hereby certify that the agenda for the above stated meeting was posted at a location freely accessible to members of the public at City Hall, 955 School Street, on Friday, September 1, 2017 at 5:00 p.m.

Dorothy Roberts, City Clerk
MEETING DATES:
The City Council meets regularly on the first and third Tuesday of each month; additional meetings may be scheduled as needed.

INFORMATION AVAILABLE FOR CITY COUNCIL MEETINGS:
Information and documents related to items on this agenda are available on the City’s website at www.cityofnapa.org; you may also contact the City Clerk for information by email at clerk@cityofnapa.org; by calling (707) 257-9503; or in person at 955 School Street, Napa. Any documents related to an agenda item that are provided to a majority of the City Council after distribution of the agenda packet are reported by the City Clerk at the meeting under “Supplemental Reports and Communications,” and are available for public inspection.

CITY POLICY TO FACILITATE ACCESS TO PUBLIC MEETINGS:
The City of Napa complies with all applicable requirements of the Americans with Disabilities Act and California law, and does not discriminate against any person with a disability. If any person has a disability and requires information or materials in an appropriate alternative format (or any other reasonable accommodation), contact the City Clerk at (707) 257-9503 or email at clerk@cityofnapa.org. For TTY/ Speech-to-Speech users, dial 7-1-1 for the California Relay Service, for text-to-speech, speech-to-speech, and Spanish-language services 24 hours a day, 7 days a week.

In making any request to the City for assistance, please provide advance notice of at least three business days prior to the meeting.

TRADUCCIONES EN ESPAÑOL / SPANISH-LANGUAGE TRANSLATIONS:
Esta agenda identifica los asuntos que serán considerados en una junta del poder legislativo. Todas las juntas del poder legislativo están abiertas al público, y se invita a los miembros del público a asistir y dirigirse directamente ante el poder legislativo. Si usted desea recibir una copia de esta agenda o información relacionada en español, por favor póngase en contacto con la Secretaria de la Ciudad al 707-257-9503 o por correo electrónico a Clerk@cityofnapa.org.

CONDUCT OF CITY COUNCIL MEETINGS:
Meetings are conducted in accordance with the requirements of state law (the “Ralph M. Brown Act,” California Government Code Sections 54950, et seq.) and the City’s Rules of Order (Council Policy Resolution 19).

Members of the public may address the Council at designated times and are expected to conduct themselves with courtesy and respect. Speakers should direct comments to the Mayor and City Councilmembers, not the audience. Speakers are expected to yield the floor when the time limit is identified and comply with the City’s Rules of Order. Speaking times are limited to no more than three minutes per person, with the exception of certain hearings and appeals, or at the discretion of the Mayor or City Council.

PUBLIC COMMENT (INCLUDING CONSENT CALENDAR AND ADMINISTRATIVE REPORTS):
The public may directly address the City Council on any subject within the Council’s subject matter jurisdiction, including any matter that is not on the agenda. Speaking time is limited to no more than three (3) minutes per person, unless modified at the discretion of the Mayor or City Council.

If the matter is not on the agenda, or if the matter is on the Consent Calendar, or is an Administrative Report, submit a speaker card or request to speak during the Public Comment portion of the meeting.

Speaker cards are not required if the speaker otherwise makes a clear and timely request to address the Council, but do promote the efficient and orderly progress of the meeting. Information on Speaker Cards is subject to disclosure under the California Public Records Act.

CONSENT CALENDAR:
These items are considered routine and may be approved by a single vote. Only the Mayor or a majority of the City Council may authorize public input after the consent calendar is introduced.
ADMINISTRATIVE REPORTS
Only the Mayor or a majority of the City Council may authorize public input after an administrative report item is introduced.

CONSENT HEARINGS:
These items are considered routine and may be approved by a single vote; however, any member of the public or City Council may remove an item for consideration during the public hearing portion of the agenda.

PUBLIC HEARINGS/APPEALS
During any public hearing or appeal, any person may directly address the City Council. 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 3 minutes.

CLOSED SESSION
The City Council is authorized to meet in closed session, without attendance by the public, on limited confidential topics such as pending litigation, real property negotiations, or personnel or labor matters.

CALIFORNIA ENVIRONMENTAL QUALITY ACT:
The California Environmental Quality Act (“CEQA”) is the state law that requires the City to evaluate and document the potential environmental consequences of discretionary decision. (See, California Public Resources Code Sections 21000 - 21189.3; and the “CEQA Guidelines” at California Code of Regulations Title 14, Division 6, Chapter 3, Sections 15000 - 15387). For each item that requires a CEQA determination by City Council, there is a reference to that determination on this agenda, and more information regarding the CEQA analysis is included in the documents that accompany this Agenda. To the extent that City staff determines that particular items are not subject to CEQA, there will be no indication of a CEQA action on this Agenda.

CHALLENGES TO DECISIONS MADE BY THE CITY COUNCIL:
If a person wishes to file a legal challenge to any decision made by the City Council, you may be limited to raising only those issues which you or someone else raised during the meeting, or in a written communication received by the City Clerk prior to or during the meeting. In addition, a legal challenge may be limited or barred where the interested party has not sought and exhausted all available administrative remedies. The time limit to commence any legal challenge may be subject to strict timing requirements, and failure to comply with applicable timing requirements may result in a legal challenge being barred. Any lawsuit or legal challenge to any quasi-adjudicative decision made by the City Council 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 City Council must be filed no later than the 90th day following the date on which such decision becomes final.
RECOMMENDED ACTION:
Adopt a resolution adopting the Urban Water Management Plan 2015 Update, a summary of City policies and procedures addressing water supply, demand, and conservation required by the State Department of Water Resources, and determining that the actions authorized by this resolution are exempt from CEQA.

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 (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, population and future water demand, demand management measures (conservation), water shortage response strategies, and 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 UWMP provisions since the Act’s inception, submitting its previous UWMP to DWR for 2010. Legislative amendments to the Act since 2010 created three new requirements for this UWMP 2015 Update. Standardized data tables must be used and submitted to DWR electronically using their online UWMP submittal tool. Narratives
describing and quantifying water demand management measures implemented over the previous five years (2010-2015) must be included. Also, the UWMP must quantify and report on 2015 distribution system water losses using a standardized water balance methodology developed by the American Water Works Association (AWWA). The original deadline for UWMP 2015 adoption was July 1, 2016; however, completion of the City’s update was delayed in order to improve the AWWA Water Loss Audit section and to assess the impact of proposed State legislation addressing post-2020 urban water use. City staff has kept DWR informed during this update process.

A key component of the UWMP 2015 Update is documentation of the City’s interim compliance with the Water Conservation Act of 2009 (SB X7-7), which seeks a statewide 20% reduction in daily per capita water use by 2020. While service area population numbers have been updated using new California Department of Finance data incorporating the 2010 U.S. Census, the City’s SB X7-7 Urban Water Use Target for 2020 remains at 132 gallons per capita per day (GPCD). The City’s Interim Urban Water Use Target of 149 GPCD for 2015 was easily met, with actual use just 115 GPCD during that drought year.

Prior to the recent statewide drought, the City water system had shown a downward trend in per capita water use since the late 1990’s. UWMP years 2000 (15,370 AF), 2005 (14,364 AF), 2010 (13,877 AF), and 2015 (12,034 AF) even show decline in total water use, despite increases in the City’s population and commercial activity. In this UWMP 2015 Update, demand projections through 2035 employ a per capita water use methodology acknowledging a post-drought rebound capped at 132 GPCD, with Napa Pipe project demands added in separately over time. On the supply side, local reservoir yield assumptions from the 2050 Napa Valley Water Resources Study and the most recent State Water Project (SWP) reliability data from DWR were used to project through 2035. For the most critical single-dry year scenario however, the City assumed just a 5% SWP allocation based on actual 2014 conditions, but incorporated Advance Table A water, a new option for the City arising from settlement of the “Area of Origin” case in 2012. Overall, the UWMP 2015 Update projects reliable water service for the next 20 years, with no shortfalls projected for normal, single-dry year, or multiple-dry year periods.

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, August 22, 2017 and Tuesday, August 29, 2017. Print copies of the draft UWMP 2015 Update were made available for public inspection at the Public Works Department, the Water Division, the City Clerk, and the Napa City-County Library. An electronic version was posted on the City web site for wider public access.

The benefits of the UWMP 2015 Update are not simply to comply with State law and help ensure the efficient use of California water resources. The UWMP may support the next update 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 Proposition 84 grants that are providing nearly $700,000 in support for local water conservation rebate programs.

FINANCIAL IMPACTS:
Submission of a complete UWMP to DWR ensures continued eligibility for State grants and loans for water projects.
Future water demand projections in UWMP 2015 are associated with SB X7-7 compliance, and actual demands may end up even lower as post-2020 urban water use regulations arise from the Governor’s Executive Order B-37-16. Lower demands do not equitably correspond to reduced costs to operate and maintain the water system however. Most system expenses are fixed and are unaltered by reduced daily consumption and conservation practices. The City is completing a Cost of Service Water Rate Analysis in 2017 that proposes a modified rate structure that includes a higher fixed cost component and lower variable cost component. This change is vital to ensure consistent investment in the aging system to maintain reliable service, and if approved, will put the Water Enterprise in a more financially sustainable operating position in this post-drought era of lower GPCD and reduced urban water use.

CEQA:
City staff recommends that the City Council determine that the Recommended Action is exempt from CEQA pursuant to California Water Code Section 10652, which exempts the preparation and adoption of urban water management plans from the requirements of CEQA.

DOCUMENTS ATTACHED:
ATCH 1 - Resolution
ATCH 2 - UWMP 2015 Draft

NOTIFICATION:
Urban Water Management Plan
- Framework for long-term water resources planning (20 years)
- Supply, demand, conservation, drought contingencies, recycled water, etc.

It’s the Law
- Urban Suppliers: >3,000 customers or >3,000 AF
- Submit Complete Plan to State DWR every 5 years
- Eligibility for State water grant and loans (e.g., Prop 84)

Special Requirements for UWMP 2015:
- SB X7-7 Interim Target Compliance (“20% by 2020”)
- 2015 Distribution System Water Losses (AWWA)
- DWR Standardized Tables for electronic submittal

Public Notice: CA Government Code Section 6066
UWMP 2015 originally due July 1, 2016. Completion of Napa plan extended for 3 reasons:

- **CA-NV-AWWA Water Loss Technical Assistance (SB 555)**
  ✓ Chapter 4 and Appendix C: Apparent and Real Losses

- **Governor’s Executive Order B-37-16**
  Implementation of post-2020 urban water use targets
  ✓ Draft legislation informs Chapters 4 and 9

- **Common Statewide Standards for Water Shortage Contingency Plans**
  (also part of Executive Order B-37-16)
  ❖ Still awaiting legislation, will affect UWMP 2020

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**Development and Coordination**

- ABAG Projections 2013
- General Plan
- 2050 Study
- SWP Delivery Capability 2015
- UWMP 2010
- UWMP 2015
- UWMP 2015 Update
System Water Use
Prior UWMPs: Overestimated Future Demands

Water Conservation Act of 2009
SB X7-7

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

UWMP 2015 Chapter 5 and Appendix D
- Revised Calculations from UWMP 2010
- Reconfirmed 2020 Urban Water Use Target

<table>
<thead>
<tr>
<th>Time Period</th>
<th>GPCD</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020 Target</td>
<td>132</td>
</tr>
<tr>
<td>2015 Interim Target</td>
<td>149</td>
</tr>
<tr>
<td>Actual 2015</td>
<td>115</td>
</tr>
</tbody>
</table>

Complied with 2015 Interim Target!
Trend: More Efficient Water Use

SBx7-7 Compliance

GPCD Path to 2020

Demand Projections (Chapter 4)

- Per capita water use methodology
- Napa Pipe demands layered in separately
- Normal Year conditions

<table>
<thead>
<tr>
<th>Category</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Area Population (w/o Napa Pipe)</td>
<td>89,515</td>
<td>91,615</td>
<td>93,915</td>
<td>96,515</td>
</tr>
<tr>
<td>GPCD</td>
<td>132</td>
<td>132</td>
<td>132</td>
<td>132</td>
</tr>
<tr>
<td>Gross Water Use (AF)</td>
<td>13,272</td>
<td>13,546</td>
<td>13,886</td>
<td>14,271</td>
</tr>
<tr>
<td>Napa Pipe Project (AF)</td>
<td>17</td>
<td>270</td>
<td>270</td>
<td>270</td>
</tr>
<tr>
<td>Agricultural Irrigation (AF)</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td>Other Agencies (AF)</td>
<td>600</td>
<td>600</td>
<td>600</td>
<td>600</td>
</tr>
<tr>
<td>Projected City Demand (AF)</td>
<td>14,189</td>
<td>14,716</td>
<td>15,056</td>
<td>15,441</td>
</tr>
</tbody>
</table>
System Supplies (Chapter 6, 7)

- **Lake Hennessey**
  - 31,000 AF Storage

- **Milliken Reservoir**
  - 1,390 AF Storage/700 AF Yield

- **State Water Project**
  - 21,900 AF Table A Entitlement
    - “Area of Origin” Settlement (2013)
      - North of Delta Allocation
      - Advanced Table A

- Reliable City Supplies in 2035:
  - Normal Year: 31,778 AF
  - Multiple-Dry Year: 18,801 AF
  - Single-Dry Year: 16,867 AF

Supply vs. Demand (Chapter 7)

Normal Year

Includes NSD Recycled Water for customers within City service area
- 650 AF (2020), 855 AF (2025), 1,095 AF (2030, 2035)

<table>
<thead>
<tr>
<th>Year</th>
<th>Supply</th>
<th>Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>33,428</td>
<td>14,839</td>
</tr>
<tr>
<td>2025</td>
<td>33,633</td>
<td>15,571</td>
</tr>
<tr>
<td>2030</td>
<td>33,873</td>
<td>16,151</td>
</tr>
<tr>
<td>2035</td>
<td>33,873</td>
<td>16,536</td>
</tr>
</tbody>
</table>
Supply vs. Demand (Chapter 7)

**Multiple-Dry Years (starting 2035)**

Includes NSD Recycled Water for customers within City service area
650 AF (2020), 855 AF (2025), 1,095 AF (2030, 2035)

<table>
<thead>
<tr>
<th>Year (AF)</th>
<th>2035</th>
<th>2036</th>
<th>2037</th>
<th>2038</th>
<th>2039</th>
<th>2040</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply</td>
<td>16,536</td>
<td>16,536</td>
<td>16,536</td>
<td>16,536</td>
<td>16,536</td>
<td>16,536</td>
</tr>
<tr>
<td>Demand</td>
<td>19,896</td>
<td>19,896</td>
<td>19,896</td>
<td>19,896</td>
<td>19,896</td>
<td>19,896</td>
</tr>
</tbody>
</table>

**Single-Dry Year**

Includes NSD Recycled Water for customers within City service area
650 AF (2020), 855 AF (2025), 1,095 AF (2030, 2035)

<table>
<thead>
<tr>
<th>Year (AF)</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply</td>
<td>17,722</td>
<td>16,151</td>
<td>17,962</td>
<td>16,536</td>
</tr>
<tr>
<td>Demand</td>
<td>17,517</td>
<td>15,571</td>
<td>17,962</td>
<td>16,536</td>
</tr>
</tbody>
</table>
Water Shortage Contingency Planning (Chapter 8 and Appendices G, H)

- Derived from 1992 Plan, with 2014-15 changes to Moderate Water Shortage Regulations
- Drought Conditions: Resolution to Declare a Water Shortage Emergency
- 5-Stage Plan of Action
- Water Waste Penalties/Fines
- Potential Allocations for individual customer classes, special rates or surcharges

> To be updated in UWMP 2020 to meet new State standard requirements (e.g., 6 Stages)

<table>
<thead>
<tr>
<th>Stage</th>
<th>Demand Reduction Goal</th>
<th>Type of Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10%</td>
<td>No Action</td>
</tr>
<tr>
<td>2</td>
<td>15%</td>
<td>Voluntary</td>
</tr>
<tr>
<td>3</td>
<td>20%</td>
<td>Mandatory</td>
</tr>
<tr>
<td>4</td>
<td>35%</td>
<td>Mandatory</td>
</tr>
<tr>
<td>5</td>
<td>50%</td>
<td>Mandatory</td>
</tr>
</tbody>
</table>

Demand Management Measures (Chapter 9 and Appendix I)

- New Development Water Efficiency
  - High Performance Building Regulations
  - Water Efficient Landscape Ordinance
  - Water Offset Requirement

- Permanent Water Waste Ordinance
  - Awaiting State Water Board prohibitions
  - SB 407 (indoor retrofits), SB 555 (Water Loss)

- Recycled Water Conversions
  - 1998 Agreement w/Napa Sanitation District
    - 437 AF savings in 2015
    - Expected to grow to 1,000 AF

- Conservation Incentives and Education

Conservation/Efficiency Dilemma:
Water System Costs are mostly Fixed (e.g., infrastructure) and do not go down as water use is reduced!
Recommended Action
September 5, 2017

• Adopt Resolution adopting the UWMP 2015 Update, a summary of City policies and procedures addressing water supply, demand, and conservation required by the State Department of Water Resources, and determining that the actions authorized by this resolution are exempt from CEQA.

➢ Water Division to file Final UWMP 2015 with DWR, State Library, and local agencies within 30 days of Adoption, make available for Public Review.
1. CALL TO ORDER: 3:31 P.M.

1.A. Roll Call:

Present: 5 - Councilmember Gentry, Councilmember Mott, Councilmember Sedgley, Vice Mayor Inman, and Mayor Techel

2. AGENDA REVIEW AND SUPPLEMENTAL REPORTS:

City Clerk Roberts announced a request filed by the applicant this date to continue Item 7A, Napa Creek Condos Affordable Housing Alternative Equivalent Proposal, to the September 19th Regular City Council Meeting.

A motion was made by Vice Mayor Inman, seconded by Councilmember Sedgley, to continue Item 7A to the September 19, 2017 Regular City Council meeting. The motion was carried unanimously.

City Clerk Roberts announced the following supplemental information: Items 8A and 8B: PowerPoint presentations by city staff.

3. SPECIAL PRESENTATIONS:

3.A. 1001-2017 Recognition of Paul Hicks, Civil Service Commission

Mayor Techel presented a Certificate of Appreciation to Paul Hicks for his work on the Civil Service Commission from August of 2010 to June of 2017. Mr. Hicks commented briefly and thanked the Mayor and Council.

4. PUBLIC COMMENT:

James Hinton, resident, commented on various issues including federal
immigration policies, declaring the City of Napa a Sanctuary City, and the negative aspects portrayed by the artwork at the Hatt Building outdoor fountain.

In response, Vice Mayor Inman stated that the artwork was not funded or owned by the City of Napa. Mayor Techel added that the City Clerk had on file a response from representatives of the Hatt Building, which explained that the artwork was not an endorsement of marginalization, but a reminder that the past must be remembered accurately. In response to the comments about immigration, she stated she had signed this date the US Mayor’s Letter to Congress urging them to quickly pass bipartisan legislation to continue the DACA (Deferred Action for Childhood Arrivals) program.

5. CONSENT CALENDAR:

Approval of the Consent Agenda

A motion was made by Councilmember Mott, seconded by Vice Mayor Inman, to approve the Consent Agenda. Councilmember Mott recused from the vote on Item 5.C. based on his ownership of real property within 500 feet of the project boundaries (per FPPC Regulation Section 18702.2). The motion carried by the following vote:

Aye: 5 - Gentry, Mott, Sedgley, Inman, and Techel

5.A. 1058-2017 City Council Meeting Minutes

Approved the August 15, 2017 Regular City Council Meeting Minutes.

5.B. 922-2017 Monthly Budget and Investment Statement

Received and filed the Monthly Budget and Investment Statement as of June 30, 2017.

5.C. 1024-2017 Third Street Water Main Replacement (WD16PW10)

Councilmember Mott recused (see motion to approve Consent Calendar).

Authorized the Public Works Director to award a construction contract to the lowest and best bidder, Northern Pacific Corporation, for the Third Street Water Main Replacement in the bid amount of $836,440, and authorized the Public Works Director to execute the contract, amendments and change orders on behalf of the City within the amount of the Project budget of $1,006,440, and determine that the actions authorized by this item are exempt from CEQA.

5.D. 1068-2017 Maintenance Contract with Intergraph Corporation

Adopted Resolution R2017-111 authorizing the Police Chief to sign a three-year Maintenance Contract with Intergraph Corporation, doing business as Hexagon Safety Infrastructure, for maintenance support for the Computer Aided Dispatch
system (CAD), Police Records Management system (RMS), and Mobile Data Computing (MDC) systems.


Adopted Resolution R2017-112 amending the City Classification Plan by adopting the classification specification and Salary Range for the new classification of Senior Scale House Attendant, and revising the Classification Specification for Scale House Attendant.

5.F. 1062-2017 Classification Specification Changes for the Class of Water Quality Supervisor

Adopted Resolution R2017-113 amending the City Classification Plan by adopting the revised classification specification for the classification of Water Quality Supervisor, including a change in the name of the classification to Water Quality Laboratory Supervisor, and amending the Budget Staffing Plan.

5.G. 1060-2017 Classification Specification Changes for the Class of Fire Division Chief

Adopted Resolution R2017-114 amending the city classification plan by adopting the revised classification specification for the Fire Division Chief.

6. CONSENT HEARINGS:


Mayor announced the item and called for public testimony; there being none, the hearing was opened and closed without comment.

A motion was made by Vice Mayor Inman, seconded by Councilmember Sedgley, to adopt Resolution of Intent R2017-115 amending the contract between the Board of Administration of the California Public Employees Retirement System (CalPERS) and the City Council of the City of Napa; and approve the first reading and introduction of an ordinance amending the contract between the Board of Administration of the California Public Employees Retirement System (CalPERS) and the City Council of the City of Napa. The motion carried by the following vote:

Aye: 5 - Gentry, Mott, Sedgley, Inman, and Techel

7. ADMINISTRATIVE REPORTS:

7.A. 1042-2017 Napa Creek Condos Affordable Housing Alternative Equivalent Proposal

Continued to the September 19, 2017 Regular City Council meeting (see motion under Item 2 - Agenda Review and Supplemental Reports).

8. PUBLIC HEARINGS/APPEALS:
8.A. 783-2017

Urban Water Management Plan Update

Patrick Costello, Water Resources Analyst, explained that the city annually develops an Urban Water Management Plan in accordance with state requirements. He provided reports on the city's sources of water, future water supply and demand, conservation measures, and strategies to address future water shortages.

Mayor Techel called for public comments; no one came forward.

A motion was made by Councilmember Mott, seconded by Vice Mayor Inman, to close the Public Hearing. The motion carried unanimously.

City Council discussion and questions ensued, which included discussion on the lower water demand model.

A motion was made by Councilmember Sedgley, seconded by Vice Mayor Inman, to adopt Resolution R2017-116 adopting the Urban Water Management Plan 2015 Update, a summary of City policies and procedures addressing water supply, demand, and conservation required by the State Department of Water Resources, and determining that the actions authorized by this resolution are exempt from CEQA. The motion carried by the following vote:

Aye: 5 - Gentry, Mott, Sedgley, Inman, and Techel

8.B. 976-2017

Community Facilities District 2017-1, Gasser Soscol Gateway:
Public Hearing to Establish a Community Facilities District
Public Hearing to Incur Bonded and Indebtedness

Mayor Techel explained the process for the item.

Tim Wood, Sr Civil Engineer, provided the staff report and explained the process that began in April; including the necessary adoption the Resolution of Intention adopting Community Facilities District No 2017-1 (Gasser Soscol Gateway), and the ordinance that created a new chapter in the Napa Municipal Code entitled "Mello Roos Community Facilities Act Taxes". He reviewed the properties that were to be included in the Gasser Master Plan, and briefly described the related improvements which would result from the development.

Mayor Techel called for public testimony; no one came forward. She then called for Protest Letters; no protest letters were submitted.

A motion was made by Councilmember Mott, seconded by Vice Mayor Inman, to close the public testimony. The motion was carried unanimously.
Councilmember Sedgley stated he supported the Gasser Master Plan but in order to be consistent with his previous votes he would vote no on the proposed resolutions.

Vote on 3 Resolutions after Call for Protest Letters:

A motion was made by Vice Mayor Inman, seconded by Councilmember Mott, to adopt:

1) Resolution R2017-117 forming the "City of Napa Community Facilities District No. 2017-1 (Gasser Soscol Gateway)"

2) Resolution R2017-118 determining necessity to incur bonded indebtedness and other debt for the "City of Napa Community Facilities District No. 2017-1 (Gasser Soscol Gateway)"

3) Resolution R2017-119 calling a Special Election for the levy of a special tax, the incurring of bonded indebtedness and other debt and the establishment of the appropriations limit for the "City of Napa Community Facilities District No. 2017-1 (Gasser Soscol Gateway)"

Aye: 4 - Gentry, Mott, Inman, and Techel

No: 1 - Sedgley

Vote on 2 Resolutions and 1 Ordinance introduction after Election Results

A break was taken to review ballots received.

After Council reconvened, City Clerk Roberts certified and read the following results: 39 "YES" votes and 0 "NO" votes from 42 qualified landowners.

Mayor Techel announced that the results being unanimously in favor of the levy of the special taxes, the establishment of the appropriations limit and the incurring of bonded and other indebtedness, the Council could now proceed with considering the adoption of the Resolutions Declaring Results, the Resolution the authorization of the Issuance and Sale of Special Tax Bonds and related documents, and the introduction of the ordinance levying special taxes within the Community Facilities District No 2017-1 (Soscol Gateway).

A motion was made by Vice Mayor Inman, seconded by Councilmember Mott to adopt:

4) Resolution R2017-120 declaring the results of the Special Election for the City of Napa Community Facilities District No. 2017-1 (Gasser Soscol Gateway) and directing the recordation of a Notice of Special Tax Lien.

5) Resolution R2017-121 authorizing the issuance and sale of special tax bonds,
and approving and authorizing related documents and actions for the "City of Napa Community Facilities District No. 2017-1 (Gasser Soscol Gateway)"

6) Approve the first reading and introduction of an ordinance levying special taxes within the "City of Napa Community Facilities District No. 2017-1 (Gasser Soscol Gateway)"; and determining that the actions authorized by this ordinance were adequately analyzed by previous CEQA actions.

Aye: 4 - Gentry, Mott, Inman, and Techel
No: 1 - Sedgley

9. COMMENTS BY COUNCIL OR CITY MANAGER:

Councilmember Sedgley asked for clarification on conflicts of interests. City Attorney Barrett responded and advised Council to contact him prior to meetings if any feel that he or she may have a conflict of interest.

Councilmember Mott then stated the master planning of the former Cinedome was being completed, and suggested looking more closely at the Oxbow District as a catalyst site.

Mayor Techel asked the Pro Tem City Manager Weiss to look at options for City Council.

CITY COUNCIL RECESS

6:30 P.M. EVENING SESSION

10. CALL TO ORDER: 6:30 P.M.

10.A. Roll Call:

Present: 5 - Councilmember Gentry, Councilmember Mott, Councilmember Sedgley, Vice Mayor Inman, and Mayor Techel

11. PLEDGE OF ALLEGIANCE:

12. AGENDA REVIEW AND SUPPLEMENTAL REPORTS:

City Clerk Roberts announced the following supplemental information:

Item 14 A:
PowerPoint presentation by city staff
Letter from Jeff Dodd, Dickenson, Peatman & Fogerarty concerning the Arata property.

13. PUBLIC COMMENT:

Saaen Kerson, resident, asked that the City assure that all fees are
updated regarding Accessory Dwelling Units; and that the city assure
the fees are properly aligned with current state guidelines.

Jerry Kirkpatrick, spoke about various personal issues.

14. PUBLIC HEARINGS/APPEALS:

14.A. 975-2017 Acquisition of Real Property Needed for the State Route 29 Northbound First Street Ramps and California Boulevard Roundabouts Project (City Project No. ST14PW02)

Mayor Techel announced the next item.

Both Vice Mayor Inman and Councilmember Mott announced as they
had in previous discussions on this item a financial conflict due to their respective ownership of real property within 500 feet of the project boundaries (per FPPC Regulation Section 18702.2).

City Attorney stated that the item before Council requires a 4/5 vote. In November of 2016 when the item was last heard by City Council, the City Clerk conducted randomly selected a councilmember due to the Rule of Necessity, so that one of the recused members could vote. Councilmember Inman was randomly selected to participate in the discussion and vote, and Councilmember Mott recused. City Attorney Barrett stated in accordance with FPPC regulations, the same recusal standards would be applied, and Councilmember Mott would need to recuse.

Councilmember Mott left the room at 6:45 PM.

Mayor Techel called for any applicable Council disclosures; there were no disclosures provided.

Mayor Techel reviewed the hearing process.

The staff report was provided by Jeff Freitas, Property Manager and John Ferons, Senior Civil Engineer. Mr. Freitas provided information about the project history, status, the public interest and necessity for the project, which included safety and traffic concerns on both the city streets involved and also on state owned SR29. He stated that the necessary offers of compensation were provided to each owner and are in continued negotiations with all property owners. John Ferons, Senior Civil Engineer provided further details regarding the scope of the project, the public interest and necessity for the project, and the discussions staff has had with the various owners of the properties involved.
Mayor Techel called for any general comments from the public regarding the project. There were no comments provided. She then called for public comment on each individual property as follows:

1. Portions of the property located at 2420 First Street (APN 002-141-002; the “Napa ES Hotel Property,” commonly known as Embassy Suites).

No comment.

2. Portions of the property located at 2489 Second Street (APN 004-491-026; the “McDaniel Property,” commonly known as Advanced Auto Body Center).

No comment.

3. Portions of the property located at 951 California Blvd (APN 004-491-025; the “Andrews Property,” commonly known as Andrews & Thornley Construction).

The owner of the property stated he and his wife were supportive of the project, and they looked forward to continued negotiations with the city during the process.

4. Portions of the property located at 935 California Blvd and 2410 Second Street (APN 004-491-009 and 004-491-021; the “Arata Property,” commonly known as Storck’s Garage).

Jeff Dodd, attorney representing the Aratas stated they were supportive of project; he stated he noted some potential issues with the deed, a small portion that may be private and not public property.

5. Portions of the property located at 829 and 837 California Blvd (APN 004-491-012 and 004-491-013; the “Boutique Resorts Property,” commonly known as Bel Abri Napa Valley Inn).

No comment.

6. Portions of the property located at 800 California Blvd (APN 004-493-001; the “Elm House Property,” commonly known as Best Western Plus Elm House Inn).

Mrs. Kerns, property owner stated city officials have been responsive, she stated she and her husband support the project; she detailed the impacts to their business, and stated there will be staging equipment
immediately next to their hotel and her objective was to preserve a good experience for her guests and her staff.

7. Portions of the property located 2337 Second Street (APN 004-493-002; the “Kearns Property,” single family residence).

No comment.

8. The property located at 920 California Blvd and 2349 First Street (APN 004-492-001 and 004-492-012; the “V Hospitality Partners Property,” vacant land).

No comment.

End of public testimony by property owners.

City Council questions and comments ensued regarding temporary easements, compensation, Napa Creek and sensitive habitat areas, zoning, lessening impacts to private businesses, and the process.

A motion was made by Councilmember Gentry, seconded by Councilmember Sedgley, to adopt Resolutions to determine the necessity to acquire property by eminent domain for the State Route 29 Northbound First Street Ramps and California Boulevard Roundabouts Project; to authorize commencement of litigation to acquire property by eminent domain; to seek an order of possession (Code of Civil Procedure Section 1245.220); and to determine that the actions authorized by this resolution were adequately analyzed by a previous CEQA action; for each of the following eight properties:

1. Resolution R2017-122 for Portions of the property located at 2420 First Street (APN 002-141-002; the “Napa ES Hotel Property,” commonly known as Embassy Suites).

2. Resolution R2017-123 for Portions of the property located at 2489 Second Street (APN 004-491-026; the “McDaniel Property,” commonly known as Advanced Auto Body Center).


4. Resolution R2017-125 for Portions of the property located at 935 California Blvd and 2410 Second Street (APN 004-491-009 and 004-491-021; the “Arata Property,” commonly known as Storck’s Garage).

5. Resolution R2017-126 for Portions of the property located at 829 and 837 California Blvd (APN 004-491-012 and 004-491-013; the “Boutique Resorts Property,” commonly known as Bel Abri Napa Valley Inn).

6. Resolution R2017-127 for Portions of the property located at 800 California Blvd (APN 004-493-001; the “Elm House Property,” commonly known as Best
7. Resolution R2017-128 for Portions of the property located 2337 Second Street (APN 004-493-002; the “Kearns Property,” single family residence).

8. Resolution R2017-129 for The property located at 920 California Blvd and 2349 First Street (APN 004-492-001 and 004-492-012; the “V Hospitality Partners Property,” vacant land).

the motion was carried by the following vote:

Aye: 4 - Gentry, Sedgley, Inman, and Techel

Recused: 1 - Mott

15. COMMENTS BY COUNCIL OR CITY MANAGER:

None.

16. ADJOURNMENT: 7:36 P.M.

____________________________
Dorothy Roberts, City Clerk
RESOLUTION R2017-116

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF
NAPA, STATE OF CALIFORNIA, ADOPTING THE URBAN
WATER MANAGEMENT PLAN 2015 UPDATE, A SUMMARY
OF CITY POLICIES AND PROCEDURES ADDRESSING
WATER SUPPLY, DEMAND, AND CONSERVATION
REQUIRED BY THE STATE DEPARTMENT OF WATER
RESOURCES, AND DETERMINING THAT THE ACTIONS
AUTHORIZED BY THIS RESOLUTION ARE EXEMPT FROM
CEQA

WHEREAS, California's Urban Water Management Planning Act requires urban
water suppliers providing water for municipal purposes to more than 3,000 customers or
supplying more than 3,000 acre-feet annually to prepare 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 2015 Update has been
drafted to address all changes in the Urban Water Management Planning Act since 2010,
including incorporation of distribution system water loss data and documentation of 2015
interim compliance with the Water Conservation Act of 2009 (SB X7-7); and

WHEREAS, public notification of the completion and availability of the Urban Water
Management Plan 2015 Update was completed pursuant to Section 6066 of the
Government Code; and

WHEREAS, a Public Hearing was held by the City Council on September 5, 2017
to receive public comments regarding the Urban Water Management Plan 2015 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 any
supporting reports by City Staff, and any 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 actions authorized by this
Resolution are exempt from CEQA pursuant to California Water Code Section 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 2015 Update of the City of Napa and authorizes and directs the Public Works Director to file the Urban Water Management Plan 2015 Update with the State Department of Water Resources and the California 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 5th day of September, 2017, by the following vote:

AYES: Sedgley, Inman, Gentry, Mott, Techel

NOES: None

ABSENT: None

ABSTAIN: None

ATTEST: Dorothy Roberts
City Clerk

Approved as to form:

Michael W. Barrett
City Attorney
September 11, 2017

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

Subject: City of Napa Urban Water Management Plan 2015

Dear Coordinator:

On September 5, 2017, the Napa City Council passed Resolution R2017-116 adopting the 2015 update of the City’s Urban Water Management Plan (UWMP). As required under Water Code Section 10644(a), the City of Napa hereby files this UWMP 2015 update with the Department of Water Resources. One bound hard copy is enclosed, and an electronic version and required tables have been submitted via the WUEdata online tool. 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

Enclosure
September 11, 2017

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 2015

Dear Coordinator:

On September 5, 2017, the Napa City Council passed Resolution R2017-116 adopting the 2015 update of the City's Urban Water Management Plan (UWMP). As required under Water Code Section 10644(a), the City of Napa hereby files this UWMP 2015 update with the California State Library. One bound hard copy is enclosed. An additional hard copy and 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
September 11, 2017

Jason Holley
Public Works Director
City of American Canyon
4381 Broadway Street, Suite 201
American Canyon, CA 94503

Subject: ADOPTED City of Napa Urban Water Management Plan 2015

Dear Mr. Holley:

On September 5, 2017, the Napa City Council passed Resolution R2017-116 adopting the 2015 update of the City’s Urban Water Management Plan (UWMP). As required under Water Code Sections 10635(b) and 10644(a), the City of Napa hereby files this UWMP 2015 update with the City of American Canyon. One bound hard copy is enclosed. An electronic version is posted on our website, www.cityofnapa.org/water.

This adopted version of UWMP 2015 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
September 11, 2017

Joe Tagliaboschi
Public Works Director
Town of Yountville
6550 Yount Street
Yountville, CA 94599

Subject: ADOPTED City of Napa Urban Water Management Plan 2015

Dear Mr. Tagliaboschi:

On September 5, 2017, the Napa City Council passed Resolution R2017-116 adopting the 2015 update of the City’s Urban Water Management Plan (UWMP). As required under Water Code Sections 10635(b) and 10644(a), the City of Napa hereby files this UWMP 2015 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 2015 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
September 11, 2017

Erica Ahmann Smithies
Director of Public Works
City of St. Helena
1480 Main Street
St. Helena, CA 94574

Subject: ADOPTED City of Napa Urban Water Management Plan 2015

Dear Ms. Smithies:

On September 5, 2017, the Napa City Council passed Resolution R2017-116 adopting the 2015 update of the City’s Urban Water Management Plan (UWMP). As required under Water Code Sections 10635(b) and 10644(a), the City of Napa hereby files this UWMP 2015 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 2015 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
September 11, 2017

Mike Kirn
Public Works Director
City of Calistoga
414 Washington Street
Calistoga, CA 94515

Subject: ADOPTED City of Napa Urban Water Management Plan 2015

Dear Mr. Kirn:

On September 5, 2017, the Napa City Council passed Resolution R2017-116 adopting the 2015 update of the City's Urban Water Management Plan (UWMP). As required under Water Code Sections 10635(b) and 10644(a), the City of Napa hereby files this UWMP 2015 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 2015 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
September 11, 2017

Steven E. Lederer
Director of Public Works
County of Napa
1195 Third Street, Suite 101
Napa, CA  94559

Subject: ADOPTED City of Napa Urban Water Management Plan 2015

Dear Mr. Lederer:

On September 5, 2017, the Napa City Council passed Resolution R2017-116 adopting the 2015 update of the City’s Urban Water Management Plan (UWMP). As required under Water Code Sections 10635(b) and 10644(a), the City of Napa hereby files this UWMP 2015 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 2015 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
September 11, 2017

Vin Smith
Deputy Planning Director
County of Napa
1195 Third Street, 2nd Floor
Napa, CA 94559

Subject: ADOPTED City of Napa Urban Water Management Plan 2015

Dear Mr. Smith:

On September 5, 2017, the Napa City Council passed Resolution R2017-116 adopting the 2015 update of the City’s Urban Water Management Plan (UWMP). As required under Water Code Sections 10635(b) and 10644(a), the City of Napa hereby files this UWMP 2015 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 2015 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,

[Signature]

Patrick Costello
Water Resources Analyst

Enclosure
September 11, 2017

Timothy Healy
General Manager
Napa Sanitation District
1515 Soscol Ferry Road
Napa, CA 94558

Subject: ADOPTED City of Napa Urban Water Management Plan 2015

Dear Mr. Healy:

On September 5, 2017, the Napa City Council passed Resolution R2017-116 adopting the 2015 update of the City's Urban Water Management Plan (UWMP). As required under Water Code Sections 10635(b) and 10644(a), the City of Napa hereby files this UWMP 2015 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 2015 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