CITY OF MORGAN HILL

2010 Urban Water Management Plan

CITY OF MORGAN HILL

RMP
Risk Management Professionals

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1 INTRODUCTION & PLAN PREPARATION

1.1 INTRODUCTION

The California State Legislature passed AB 797, the Urban Water Management Planning Act (Act) of 1983, which became effective January 1, 1984. The Act requires every urban water supplier providing water for municipal purposes to more than 3,000 customers, or supplying more than 3,000 acre-feet of water annually, to prepare and adopt an Urban Water Management Plan (UWMP). The act also requires urban water suppliers to update the UWMP in years ending in five and zero using a 20 to 25 year planning horizon. For 2010, the submission deadline was extended to July 31st, 2011 due to additional Plan requirements set forth in the Water Conservation Act of 2009. The City of Morgan Hill, a water provider, fits the defined criteria, and has prepared this UWMP addressing all the requirements set forth in the State of California Water Code Sections 10610 through 10657. The City of Morgan Hill has prepared Plans dated 1985, 1990, 1996, 2001, and 2005.

Since its passage, many amendments have been added to the Act. These changes are intended to encourage increased regional planning and the cooperative management of California's most precious commodity - water. As a result, UWMPs have evolved to become:

- Foundation documents and sources of information for Water Supply Assessments and Written Verification of Water Supply,
- Long range planning documents for water supply,
- Source data for the development of regional water plans,
- Source documents for cities and counties preparing their General Plans, and
- Key components of Integrated Regional Water Management Plans.

For the City of Morgan Hill, the benefits of updating the UWMP extend beyond legislative compliance. This document is a reference document intended to complement other UWMPs by analyzing conservation issues and the water supply available to the City of Morgan Hill. An effective UWMP aimed at developing a greater level of water conservation, awareness, and reliability requires the coordinated efforts on key tasks by the Department of Water Resources (DWR) and Santa Clara Valley Water District (SCVWD), along with the City of Morgan Hill citizens. This document also summarizes the current and proposed water management

activities performed by the City of Morgan Hill to provide dependable, adequate and safe water. The UWMP further identifies proposed projects with a description of resulting water costs, benefits, and implementation schedule.

Specifically, the goals of this plan are:

- To provide a local perspective on current and proposed water conservation programs,
- To review current conservation programs and efforts,
- To evaluate potential conservation methods and identify improvements, as appropriate to the Morgan Hill programs,
- To provide a general framework for the development of mechanisms for coping with both short-term and long-term deficiencies in regional and/or local water supplies, and
- To serve as a flexible plan that can be updated periodically to reflect changes in regional and local trends, conditions and conservation policies (at least once every five years in accordance with Section 10621 and 10644 of AB 797).

In compliance with the State mandate and accordance with the best practices of water management, Morgan Hill has prepared this UWMP. The 2010 Santa Clara Valley Water District Urban Water Management Plan is incorporated into this plan by reference.

1.2 REGULATORY CHANGES

New to the 2010 "Act" are several additions, the most important of which include:

- The Water Conservation Act of 2009 (SBx7-7)
- Assembly Bill 1420

SBx7-7 established the legislative framework to achieve Governor Schwarzenegger's call for a statewide per capita water use reduction of twenty percent by the year 2020. Urban retail water suppliers are required to report in their 2010 Plans their baseline and target per capita water use reduction values and implementation strategies to assist the state in meeting this goal.

Assembly Bill 1420 conditions a water supplier's eligibility for state-funded grants on implementation of the fourteen Demand Management Measures (DMMs). For DMMs that are not currently implemented, a schedule for implementation must be submitted, including a financing plan and budget in the grant or loan agreement. Alternatively, if a DMM is not determined to be cost-effective, documentation supporting this argument is required. The City of Morgan Hill addresses the implementation of DMMs in Section 6 of the Plan.

1.3 PLAN ORGANIZATION

The chapters in this UWMP have been organized to correspond to the outline of the California Department of Water Resources' "Guidebook to Assist Urban Water Suppliers to Prepare a 2010 Urban Water Management Plan". Additionally, the sequence used to present the information may be different from that shown in the Act in order to present the material in a manner reflecting the unique conditions within the City of Morgan Hill service area. This UWMP is organized according to the following chapters:

1 INTRODUCTION & PLAN PREPARATION

Chapter 1 describes organization of the 2010 UWMP, background related to plan preparation, stakeholder involvement and the coordination with key stakeholders.

2 SYSTEM DESCRIPTION

Chapter 2 describes the City of Morgan Hill service area, including the climate and demographics, and provides an overview of the water system facilities.

3 SYSTEM DEMANDS

Chapter 3 documents historical water use including use by sector, baseline and target per capita water use reduction values, demand projection calculations and the method used to develop these projections.

4 SYSTEM SUPPLIES

Chapter 4 outlines the sole source of water within the City of Morgan Hill – groundwater. Additionally, recycled water, graywater, desalination, and transfer and exchange opportunities are considered.

5 WATER SUPPLY RELIABILITY & WATER SHORTAGE CONTINGENCY PLANNING

Chapter 5 outlines the City of Morgan Hill's Water Shortage Contingency Plan, as well as documentation of the three dry year scenario, mandatory prohibitions, penalties or charges for excessive use, revenue and expenditure impacts, and mechanisms to determine reductions in water use.

6 DEMAND MANAGEMENT MEASURES

Chapter 6 describes the water conservation programs implemented by the City of Morgan Hill in an effort to reduce water usage in the City.

7 CLIMATE CHANGE

Chapter 7 briefly outlines the impacts of climate change on the availability of supply, as well as City strategies to minimize emissions contributing to climate change.

1.4 COORDINATION

Urban Water Management Planning Act Requirement:

10620(d)(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.

The City of Morgan Hill ensured the preparation of its 2010 Urban Water Management Plan was coordinated with the appropriate water and public agencies. The Santa Clara Valley Water District, its member retail agencies, and Santa Clara County were encouraged to participate in the development of the plan.

Urban Water Management Planning Act Requirement:

10621(b) Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city of 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.

The City of Morgan Hill sent notification letters to Santa Clara County and the Santa Clara Valley Water District approximately 90 days prior to the public hearing. Copies of the letters are available in Appendix A.

Urban Water Management Planning Act Requirement:

10635(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.

The City of Morgan Hill will provide copies of its 2010 Urban Water Management Plan Update to Santa Clara Valley Water District and Santa Clara County within 60 days of submission of the plan to the California Department of Water Resources (DWR).

Urban Water Management Planning Act Requirement:

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.

The City of Morgan Hill realizes the importance different social, cultural, and economic elements within its service area can have on the quality and success of its plan and water conservation efforts. The City encouraged all members of the public to attend the public hearing, and the City solicited written input from the public. Additionally, the City advertised, and provided a draft version of the plan on its website, along with a hardcopy on the counter of the City Hall building, to allow public review and comment.

Urban Water Management Planning Act Requirement:

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, the 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.

In addition to the website, electronic drafts of the 2010 Urban Water Management Plan Update were mailed upon request. A public notice including the time and place of the hearing was advertised in the local newspaper once per week for two consecutive weeks prior to the hearing, according to Government Code Section 6066. The hearing was held on June 1st, 2011 at 7:00 pm in the City Council Chambers, located at 17555 Peak Avenue, Morgan Hill, CA 95037. A summary of the City of Morgan Hill's coordination efforts is provided in Table 1.4.1 and Table 1.4.2.

Table 1.4.1: Coordination with Appropriate Agencies			
Agency	**Participated in UWMP**	**Commented on the Draft**	**Attended Public Meetings**
Santa Clara Valley Water District			
County of Santa Clara			
City of Morgan Hill	✓		✓

Table 1.4.2: Coordination with Appropriate Agencies				
Agency	**Contacted for Assistance**	**Received Copy of Draft**	**Sent Notice of Intention to Adopt**	**Not Involved / No Information**
Santa Clara Valley Water District	✓	✓	✓	
County of Santa Clara	✓	✓	✓	
City of Morgan Hill	✓	✓	✓	

1.5 PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

Urban Water Management Planning Act Requirement:

10621(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).

All amendments to the City of Morgan Hill's 2010 Urban Water Management Plan Update shall be adopted and filed consistent with the UWMP "Act" requirements.

Urban Water Management Planning Act Requirement:

10642 After the hearing, the plan shall be adopted as prepared or as modified after the hearing.

The plan was adopted by the City Council on June 1, 2011 as prepared. A copy of the adoption resolution is provided in Appendix B.

Urban Water Management Planning Act Requirement:

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

The City will implement the strategies set forth in the plan immediately upon adoption by the City Council. Details on the implementation of actions regarding the water supply and demand reduction are discussed in the respective sections of the plan.

Urban Water Management Planning Act Requirement:

10644(a) 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.

The City of Morgan Hill will submit copies of its 2010 Urban Water Management Plan to the following agencies within 30 days after adoption:

- The California Department of Water Resources
- The California State Library
- Santa Clara County

Additionally, any amendments or changes to the plan will be submitted to the above agencies within 30 days after adoption.

Urban Water Management Planning Act Requirement:

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.

The City of Morgan Hill will provide an electronic version of the final 2010 Urban Water Management Plan on its website for public review within 30 days of filing the plan with the California Department of Water Resources. Additionally, a hard copy will be available for review at the City Hall building.

2 SYSTEM DESCRIPTION

2.1 SERVICE AREA PHYSICAL DESCRIPTION

Urban Water Management Planning Act Requirement:

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

General Location Overview

The City of Morgan Hill is located in the Santa Clara Valley about 20 miles south of downtown San Jose and 10 miles north of Gilroy. The City consists of approximately 11 square miles with an additional 23 square miles in the Sphere of Influence. Most current development is between Highway 101 and the western foothills. The commercial core is along Monterey Road with an expanding commercial corridor along Highway 101. Beyond the core area, the development is discontinuous with residential and commercial land separated from the rest of the City, such as the Holiday Lake Estates and Jackson Oaks areas. Most of the City is on relatively flat valley land, but some development has occurred in the foothill areas both east and west of the valley. Elevations of homes range from about 350 feet on the valley floor to over 1,200 feet in the foothills.

Geologically, the City of Morgan Hill is situated on the drainage divide between the San Francisco Bay and the Monterey Bay. Coyote Creek drains from the eastern hills and flows north, while Llagas Creek drains from the western hills and flows south. All flood control for these creeks and management of the local groundwater basins are under the jurisdiction of the Santa Clara Valley Water District. The District owns and operates reservoirs on both of the major creeks. These reservoirs provide flood control from winter rains, retain runoff from winter rains for percolation during the dry summer months, and store purchased water for delivery to water suppliers to the North.

The City of Morgan Hill receives its water from two groundwater sources: The Coyote Valley subarea of the Santa Clara Subbasin and Llagas Subbasin, part of the Gilroy-Hollister Basin.. Morgan Hill is situated over both the Llagas and Santa Clara groundwater subbasins. All subbasins within Santa Clara County are managed and administered by the District. Figure

2.1.1 illustrates the City's service area, and Figure 2.1.2 depicts its relationship to the District boundaries and facilities.

Soil and Topography

The study area forms in the southern Santa Clara Valley and encompasses the eastern foothill slopes of the Santa Cruz Mountain range and the western foothill slopes of the Mt. Hamilton range, and the broad, flat alluvial plain between them. The majority of the land within the service area is flat, alluvial terrain. The level terrain is adjoined by rolling foothills and steeper slopes of the mountain ranges, both to the east and west. The dominant soil types are upland soils developed on sedimentary, basic igneous, and serpentine rock, the slow to very slow draining subsoils of alluvial fans, and the moderately well to rapid draining medium to fine textured soils of the alluvial plain. Soil cover and vegetation in the area includes a wide range of trees, thick brush, and grass.

Water System Overview

Morgan Hill provides potable water service to its residential, commercial, industrial, and institutional customers within the City limits. The City's municipal water system extracts water from the underground aquifers via a series of groundwater wells distributed along the valley floor and supplies thirteen pressure zones. Water is then pumped up to service the five higher pressure zones on both east and west sides of the valley via booster stations.

The City's water system facilities include 17 groundwater wells, 13 potable water storage tanks, 10 booster stations, and over 160 miles of pressured piping ranging from 2 to 14 inches in diameter. Gate valves and pressure-reducing valves are used to isolate or regulate flow between pressure zones. Currently, the City has an operational storage capacity equivalent to approximately 1.25 days of average water use. Tables 2.1.1, 2.1.2, and 2.1.3 provide a description of City facilities.

Table 2.1.1 Reservoirs			
Reservoirs	**Date of Construction**	**Construction Type**	**Capacity (Gallons)**
Boy's Ranch 2	1977	Steel	550,000
Boy's Ranch 3	2006	Steel	1,000,000
Nob Hill	1980	Steel	2,000,000
Llagas	1967	Steel	350,000
Woodland	1971	Steel	30,000
Glen Ayers	1979	Steel	100,000
Encino	1975	Steel	600,000
Holiday 1	1980	Concrete	500,000
Holiday 2	1962	Concrete	250,000
Jackson Oaks	1972	Steel	350,000
Hydro-Pneumatic	1979	Steel	1,000
El Toro	1966	Steel	500,000
Edmunson	2002	Steel	4,000,000

Table 2.1.2 Approximate Pumping Capacity		
Wells	**Winter GPD**	**Summer GPD**
Boys Ranch I	1,815,840	1,392,480
Boys Ranch II	732,960	483,840
Boys Ranch III	570,240	334,080
Diana I	1,333,440	1,359,360
Diana II	1,517,760	1,637,280
Diana III	581,760	492,480
Diana IV	N/A	1,152,000
Dunne I	544,320	478,080
Dunne II	735,840	722,880
Jackson I	756,000	720,000
Main Well I	N/A	1,080,000
Main Well II	1,329,120	1,393,920
Nordstrom	1,641,600	1,471,680
San Pedro	807,840	849,600
Tennant	508,320	516,960
Butterfield	639,360	606,240
Condit	288,000	288,000
Total	**13,802,400**	**14,978,880**

Table 2.1.3
Booster Stations

Booster Stations	Services in Zones
East Dunne Booster	1473
Easy St. Booster	3
El Toro Booster	7
Encino Booster	50
Glen Ayre Booster	60
Hydro-Pneumatic Booster	98
Jackson Booster	678
Llagas Booster	332
Peak & Main Booster	474
Woodland Booster	40

Figure 2.1.1 – City of Morgan Hill Service Area

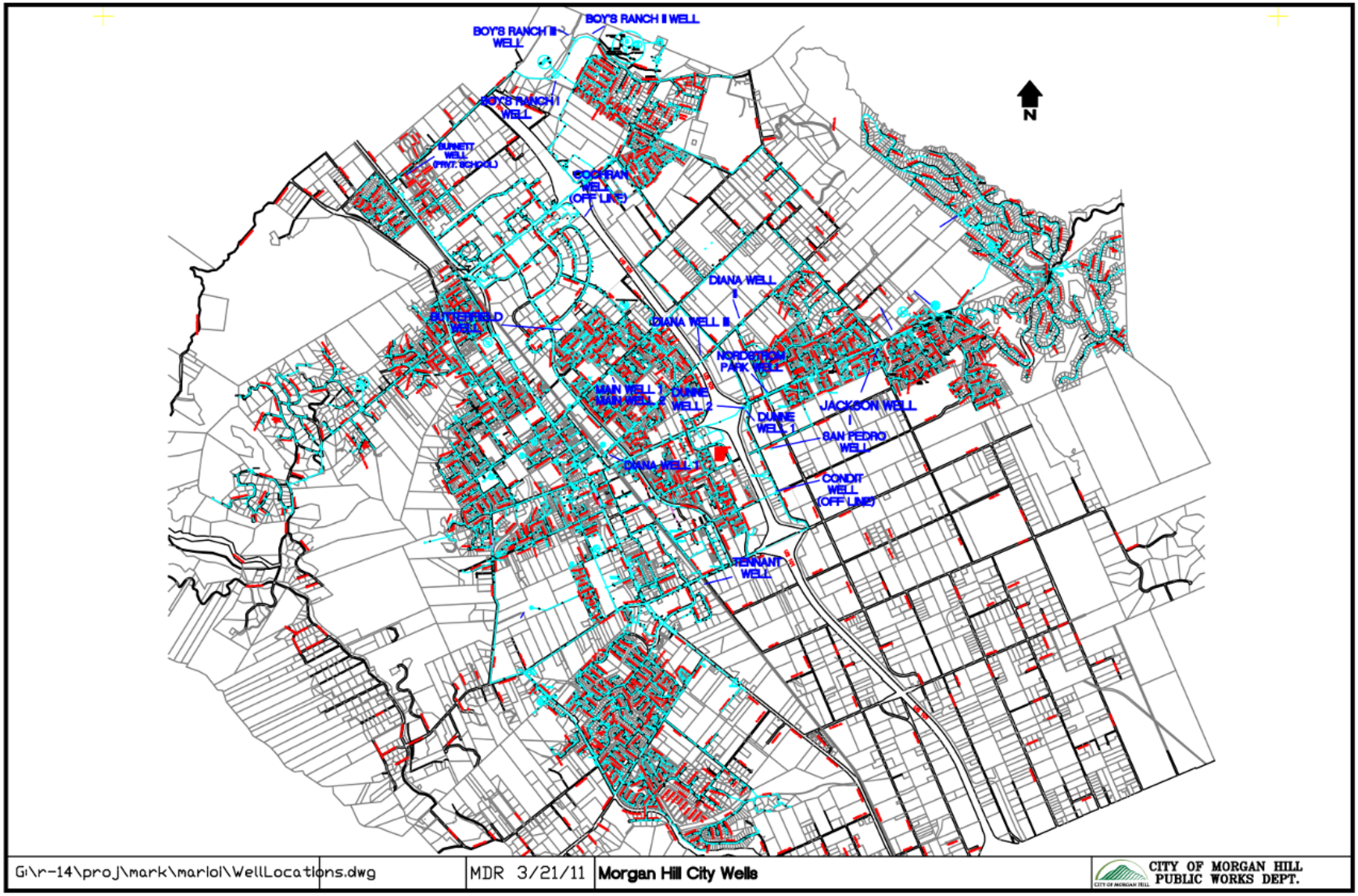
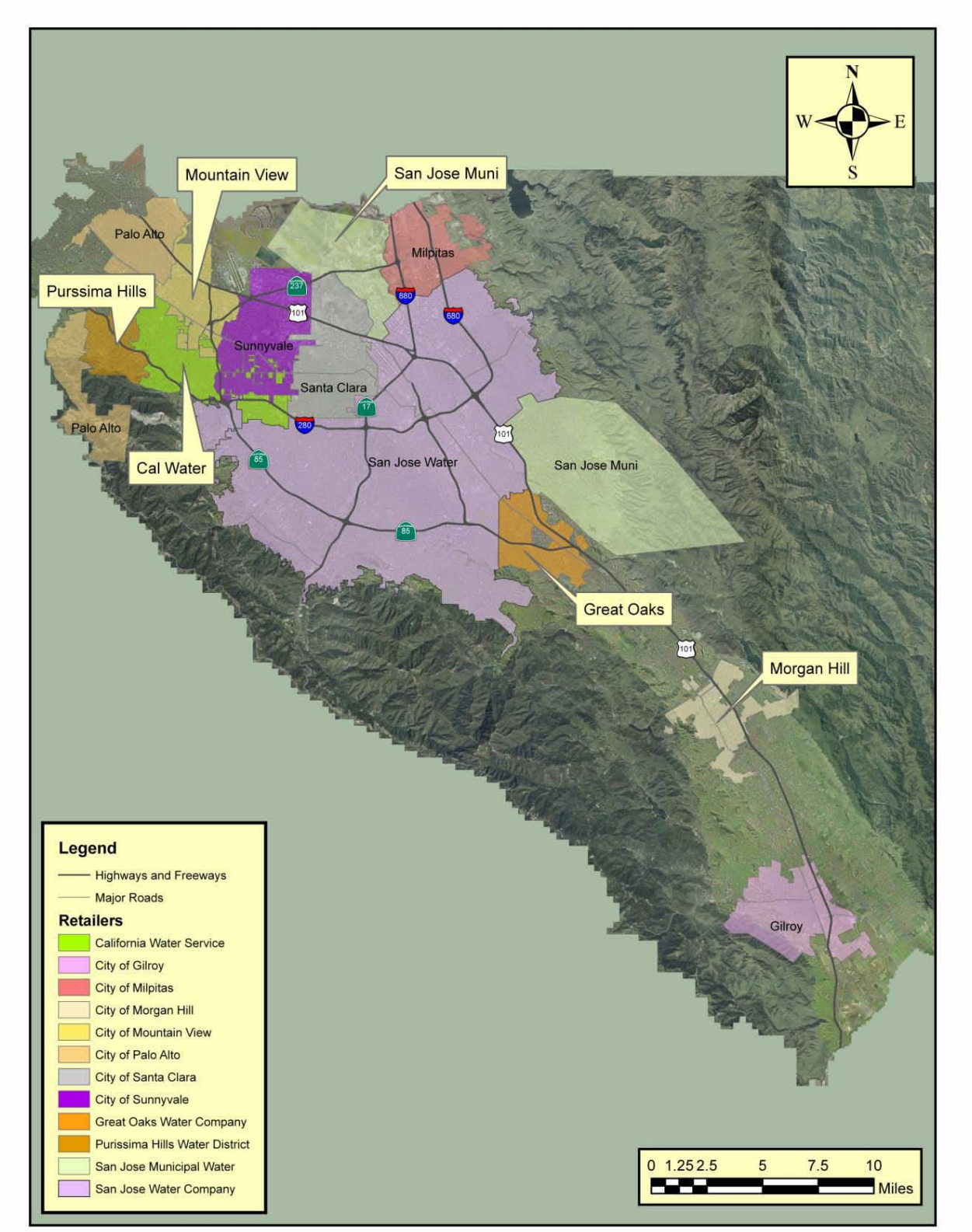


Figure 2.1.2 – Santa Clara Valley Water Retailer Service Areas



Source: Santa Clara Valley Water District 2010 UWMP Update

2.2 SERVICE AREA CLIMATE

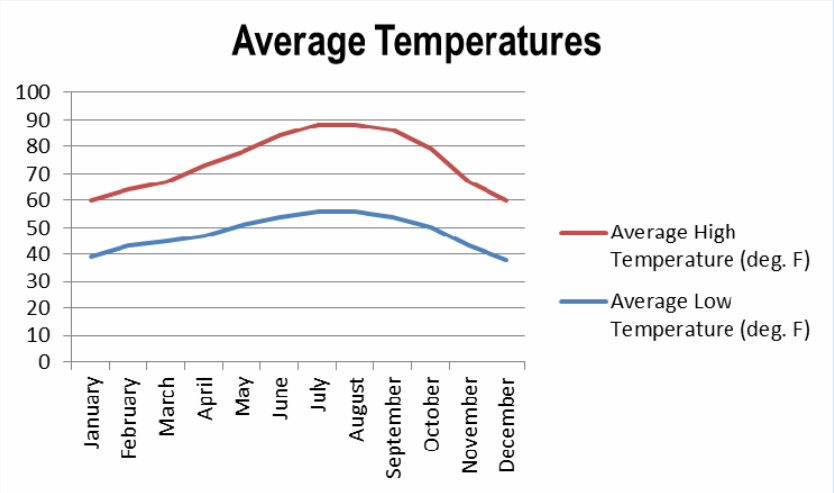
Urban Water Management Planning Act Requirement:

10631(a) Describe the service area – climate.

Temperature

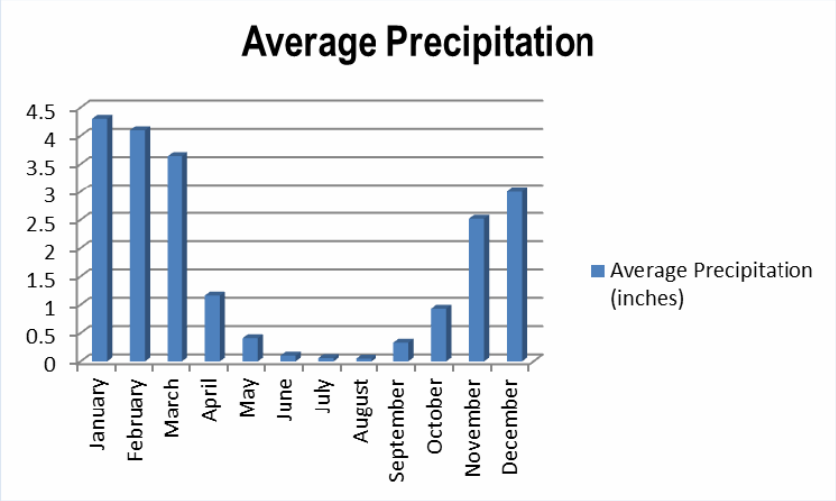
The City's Mediterranean semi-arid climate is temperate year-round, with warm and dry weather lasting from late spring through early fall. The temperature range is generally moderate as depicted in Figure 2.2.1; the maximum average high temperature is 88 °F and the minimum average annual temperature is 38 °F.

Figure 2.2.1 – Average Temperatures



Precipitation

Figure 2.2.2 – Average Precipitation



There is a 130-year rainfall record for the County and the precipitation range is from 4.8 inches annually to over 30 inches annually. In extremely wet years, runoff cannot be effectively captured for water supply. The average annual monthly precipitation in the City of Morgan Hill is presented in Figure 2.2.2.

Additionally, seasonal variations in temperature, rainfall, and evapotranspiration rate are illustrated in Table 2.2.1.

Table 2.2.1
Climate Data

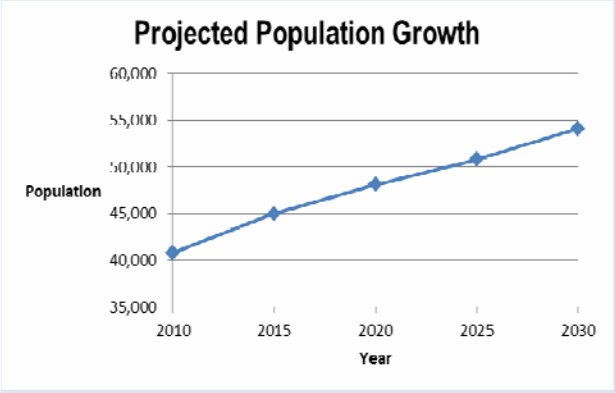
	Avg. High Temp. (F)	Avg. Low Temp. (F)	Avg. Precipitation (inches)	Avg. ETo (inches/month)
January	60	39	4.30	1.22
February	64	43	4.10	1.65
March	67	45	3.64	3.42
April	73	47	1.16	4.84
May	78	51	0.41	6.22
June	84	54	0.10	6.85
July	88	56	0.06	7.44
August	88	56	0.05	6.74
September	86	54	0.33	5.08
October	79	50	0.93	3.42
November	67	43	2.52	1.77
December	60	38	3.00	0.98

2.3 SERVICE AREA POPULATION

Urban Water Management Planning Act Requirement:

10631(a) Describe the service area – current and projected population … The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier …(population projections) shall be in five-year increments to 20 years or as far as data is available.

Figure 2.3.1 – Projected Population Growth



The City of Morgan Hill's current population is approximately 40,807, according to the California Department of Finance's "E-4 Population Estimates for Cities, Counties, and the State" reports. Population has increased dramatically since 1970 (when the City had a population of approximately 5,600). Rapid growth during the 1970s resulted in the City

adopting a growth management system, or Residential Development Control System (RDCS), passed in 1977 as Measure E. The RDCS regulates growth by limiting the number of new homes approved each year. The most recent amendment to the RDCS was in 2004, known as Measure C, and extended the growth management system through 2020, placing a population ceiling of approximately 48,000 by the year 2020. Measures that extend a growth management system further into the future are likely to be enacted by the City and are incorporated in the population projections in Table 2.3.1. Current and past population estimates for the City of Morgan Hill were obtained from the California Department of Finance's (DOF) E-4 Population Estimates reports.

Table 2.3.1
Population — Current and Projected

	2010	2015	2020	2025	2030	Data source
Service Area Population[1]	40,807	45,000	48,123	50,809	54,109	City Growth Control Measure (Measure C) and California DOF (E-4) Estimates

[1] Service area population is defined as the population served by the distribution system. See Technical Methodology 2: Service Area Population (2010 UWMP Guidebook, Section M).

2.4 OTHER DEMOGRAPHIC FACTORS

Urban Water Management Planning Act Requirement:

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

The City has become a "bedroom" community for the technology industry located in the more northern reaches of Santa Clara County and centered around the City of San Jose. According to the City's General Plan, approximately thirty percent of the population is under the age of eighteen, and 73 percent of households are families. Approximately 70 percent of the residents have attended some college, and more than half work in white collar or higher paying occupations. However, at least a quarter of the workforce is employed in lower-skilled service sector occupations, according to projections by Claritas, Inc. (prepared for the City of Morgan Hill's General Plan – Housing Element Update, 2010). The City's senior population is expected to grow quickly in the coming years as the "baby boomer" generation ages and life expectancies continue to increase. Between 2008 and 2023, the senior population is estimated to almost double to just over 10,100.

3 SYSTEM DEMANDS

3.1 WATER CONSERVATION BILL OF 2009 - BASELINES AND TARGETS

Urban Water Management Planning Act Requirement:

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

In order to improve the Sacramento-San Joaquin Delta, in 2008 Governor Schwarzenegger directed State water agencies to develop a plan to achieve a twenty percent per capita water use reduction by the year 2020. The Water Conservation Act of 2009 (Senate Bill x7-7), passed in November 2009, provides the legislative framework to implement the conservation goals, and requires retail water suppliers to detail their strategy for achieving the reduction requirement in their 2010 Urban Water Management Plan Updates. The Urban Water Management Planning Act and SBx7-7 can be found in Appendices C and D of this document, respectively.

Explicit methodologies were developed by the California Department of Water Resources (DWR) to assist retail water suppliers in complying with the Water Conservation Act of 2009, and they are detailed in the technical document, "Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use." The City of Morgan Hill utilized the DWR methods when determining its baseline, interim, and water use target values, the steps of which are described in detail in the following sections.

The methodologies laid out by DWR instruct urban water suppliers to determine their baseline and target water use values through performing four main steps, which are as follows:

- Step 1: Determine Base Daily Per Capita Water Use
- Step 2: Determine Urban Water Use Target
- Step 3: Compare Urban Water Use Target to the 5-year Baseline (verification of 95% minimum reduction requirement)

- Step 4: Determine Interim Urban Water Use Target

Water suppliers are given the option of determining their 20x2020 target values either individually, or through a regional alliance. The City of Morgan Hill has initiated discussions with other jurisdictions regarding the establishment of a regional reporting alliance. The City intends to finalize these discussions during the next two years and incorporate any potential regional alliance in the City's 2015 Urban Water Management Plan. For the 2010 Plan, the City has determined its baseline and target values individually.

3.1.1 Step 1: Determine Base Daily Per Capita Water Use

Baseline daily per capita water use is defined as an urban water supplier's estimate of its average gross water use, reported in gallons per capita per day (GPCD) and calculated over a continuous base period.

Steps 1A – 1C: Determine Supplier 10- to 15-year, and 5-year Base Periods

Urban retail water suppliers are required to choose a continuous, 10-year baseline period ending no earlier than December 31, 2004 and no later than December 31, 2010 when determining Base Daily Per Capita Water Use. The option to extend the baseline to a 15-year period is given to water suppliers if recycled water accounts for at least 10 percent of their 2008 retail water deliveries. The City of Morgan Hill does not utilize recycled water as a source of water, and therefore the 10-year baseline period beginning January 1st, 1999 and ending December 31st, 2008 was chosen.

The 5-year baseline period is used to determine the retail water supplier's minimum water use reduction, and the period must end no earlier than December 31st, 2007 and no later than December 31st, 2010. January 1st, 2003 through December 31st, 2007 was chosen as the 5-year baseline period for City of Morgan Hill. Table 3.1.1 summarizes the City of Morgan Hill's baseline period selections.

Table 3.1.1
Base Period Ranges

Base	Parameter	Value	Units
10- to 15-year base period	2008 total water deliveries	8,570	*acre-ft*
	2008 total volume of delivered recycled water	0	*acre-ft*
	2008 recycled water as a percent of total deliveries	0.00%	percent
	Number of years in base period	10	years
	Year beginning base period range	1999	
	Year ending base period range	2008	
5-year base period	Number of years in base period	5	years
	Year beginning base period range	2003	
	Year ending base period range	2007	

Units: acre-feet per year

Steps 1D – 1E: Estimate Service Area Population

The City of Morgan Hill Water Department's service area encompasses more than 95% of the City's limits. Therefore, the California Department of Finance (DOF) E-4 Population Estimates for the City of Morgan Hill were used to estimate the service area's total population for the baseline years.

Step 1F: Calculate Gross Water Use

Groundwater is the sole source of water supply for the City of Morgan Hill's service area, and it is extracted via a series of wells. Gross water use was estimated as the total volume pumped from the network of wells for each calendar year in the baseline period, and well production data were obtained through the City of Morgan Hill Public Works Department.

Steps 1G – 1I: Determine Annual and Base Daily Per Capita Water Use

Annual daily per capita water use for the City of Morgan Hill was estimated by dividing the gross water use by the service area's total population for each calendar year of the baseline period. The average of these values over the 10-year baseline was then determined, giving the Base Daily Per Capita Water use value for the City of Morgan Hill, **199 GPCD**.

Table 3.1.2 summarizes the data used to determine the Base Daily Per Capita Water Use value.

Table 3.1.2 Base Daily Per Capita Water Use — 10-Year Range				
Base period year		Distribution System Population	Daily System Gross Water se (MGD)	Annual Daily Per Capita Water Use (GPCD)
Sequence Year	Year			
Year 1	1999	31,900	6.20	194
Year 2	2000	33,586	6.71	200
Year 3	2001	34,164	6.96	204
Year 4	2002	34,721	7.09	204
Year 5	2003	34,864	6.90	198
Year 6	2004	35,625	7.24	203
Year 7	2005	36,292	7.05	194
Year 8	2006	37,061	7.14	193
Year 9	2007	38,193	7.67	201
Year 10	2008	39,042	7.65	196
			Base Daily Per Capita Water Use	199

3.1.2 Determine Urban Water Use Target

The Water Conservation Act of 2009 provides the retail water supplier the choice of four methods for determining the urban water use target value. The four methods are:

- Method 1: 80% of Base Daily Per Capita Water Use Value
- Method 2: Performance Standards
- Method 3: 95% of the Hydrologic Region 2020 Target Value
- Method 4: Water Savings (developed by DWR)

Method 1 was chosen by the City of Morgan Hill, as it effectively limits the maximum reduction an individual water supplier is required to achieve to 20 percent. The other three methods imposed reduction targets greater than the 20 percent required by Method 1 and were therefore dismissed, in order to prevent placing undue burden on the City. Thus, the City of Morgan Hill's 2020 Urban Water Use Target is **159 GPCD**.

3.1.3 Confirm Urban Water Use Target

The Water Conservation Act of 2009 sets a minimum reduction requirement the water supplier's urban water use target must meet or exceed. The minimum reduction is defined as 95 percent

of the 5-year baseline period's Base Daily Per Capita Water Use Value. Table 3.1.3 provides a summary of the 5-year baseline calculations.

Table 3.1.3
Base Daily Per Capita Water Use — 5-Year Range

Base period year		Distribution System Population	Daily system gross water use (mgd)	Annual daily per capita water use (gpcd)
Sequence Year	Year			
Year 1	2003	34,864	6.90	198
Year 2	2004	35,625	7.24	203
Year 3	2005	36,292	7.05	194
Year 4	2006	37,061	7.14	193
Year 5	2007	38,193	7.67	201
			Base Daily Per Capita Water Use	198

The urban water use target value of 159 GPCD exceeds the minimum reduction requirement of **188 GPCD** (95% of 198 GPCD), and it is therefore confirmed as the City's Urban Water Use Target.

3.1.4 Determine Interim Urban Water Use Target

The interim urban water use target is defined as the water use goal the water supplier is to achieve and report in the 2015 UWMP Update, and equals half of the target 2020 reduction. The interim urban water use target for the City of Morgan Hill is **179 GPCD** (90% of 199 GPCD).

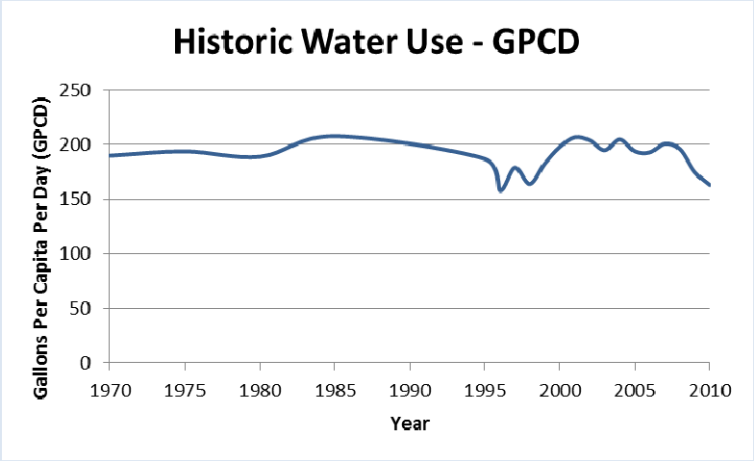
3.2 WATER DEMANDS

Urban Water Management Planning Act Requirement:

10608.20(e)(1)&(2) Quantify, to the extent records are available, past and current water use, and projected water use (over the same five-year increments described in subdivision (a)), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses: (A) Single-family residential; (B) Multifamily; (C) Commercial; (D) Industrial; (E) Institutional and governmental; (F) Landscape; (G) Sales to other agencies; (H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof; (I) Agricultural.

3.2.1 Historic Water Use

Figure 3.2.1 – Historic Water Use



The City of Morgan Hill Water System currently serves approximately 40,200 people within its service area. The Historic Water use is shown in Figure 3.2.1. In the recent past, the population of Morgan Hill increased dramatically, with growth rates between 1975 and 1980 approaching 15% per year. However, population growth in Morgan Hill has since been controlled by the "Residential Development Control System (RDCS)," enacted by the community. The RDCS limits the number of residential building allotments in any given year, based in part on current and projected populations. Due to the RDCS, the City's population is expected to grow at a more modest rate through the UWMP's planning horizon.

Usage of water per capita per day has shown significant fluctuation during the last fifteen years, as shown in Table 3.2.1. Consumption has ranged from a low 155 GPCD in 1991 at the height of a drought to a maximum of 265 GPCD in 1987 (not shown in the table). The average use per day during the period from 2000 through 2010 was 194 gallons per person.

Table 3.2.1
Historic Water Use

Year	Annual Production (Acre-Feet)	Population	Usage Per Capita Day (GPCD)
1970	1,190	5,579	190
1975	1,927	8,882	194
1980	3,587	16,924	189
1985	4,642	19,918	208
1995	5,690	27,138	187
1996	6,013	27,933	158
1997	6,808	29,246	179
1998	6,216	30,786	164
1999	6,945	31,900	194
2000	7,513	33,586	200
2001	7,802	34,164	204
2002	7,938	34,721	204
2003	7,730	34,864	198
2004	8,105	35,625	203
2005	7,896	36,292	194
2006	7,998	37,061	193
2007	8,591	38,193	201
2008	8,570	39,042	196
2009	7,803	39,813	175
2010	7,333	40,246	163

The City of Morgan Hill's past water use and number of customer connections for the 2005 calendar year are shown in Table 3.2.2, separated by water use sector.

Table 3.2.2
Water Deliveries — Actual, 2005

	2005				
	Metered		Not Metered		Total
Water Use Sectors	# of Accounts	Volume	# of Accounts	Volume	Volume
Single family	6,900	4,606	0	0	4,606
Multi-family	1,695	1,132	0	0	1,132
Commercial	714	768	0	0	768
Industrial	12	13	0	0	13
Institutional/governmental	53	68	0	0	68
Landscape	502	1,592	0	0	1,592
Agriculture	0	0	0	0	0
Other	0	0	0	0	0
Total	9,876	8,179	0	0	8,179

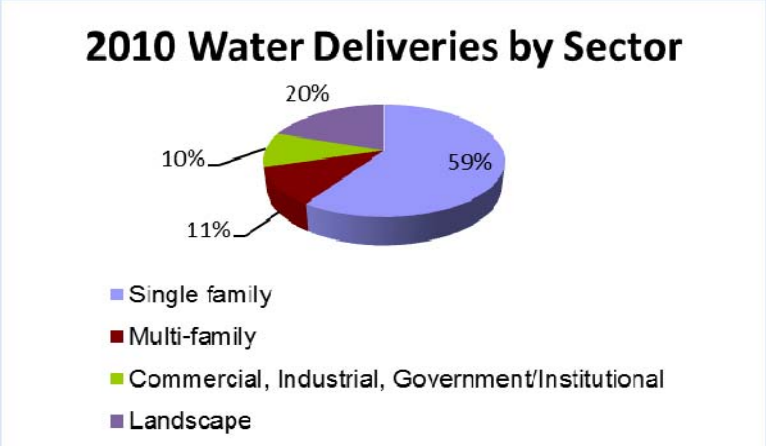
Units: acre-feet per year

3.2.2 Current and Projected Water Use by Sector

In 2010, the City used 6,778 acre-feet of water from the Llagas and Coyote Valley Subbasins as measured at metered locations throughout the City. Average water deliveries, shown in Figure 3.2.2, are broken down into the following sectors:

- Single Family Residential
- Multi-Family Residential
- Commercial & Industrial
- Government / Institutional
- Landscape

Figure 3.2.2 –Water Deliveries



Number of connections and water use are projected for the next 20 years, in five year increments, and are broken down by sector. The future estimations of water use and connections (by sector) are extrapolated based on the current (2010) values, anticipated population growth, and the Interim (2015) and Final (2020)

Target Water Use Reduction Goals.

Residential Sector

The City of Morgan Hill began separating single- and multi-family connections and water usage statistics in 2005. Current and future water demand projections for single- and multi-family residential customers are shown in Tables 3.2.3 – 3.2.6.

Commercial and Industrial Sectors

The City of Morgan Hill combines its commercial and industrial customers into a single sector when tracking water usage statistics, and adequate records to distinguish the two categories are not available for the 2010 calendar year. Therefore, current water uses of the commercial and industrial sectors are represented as a single category, shown in Table 3.2.3. Future water demand predictions, shown in Tables 3.2.4 – 3.2.6, also project commercial and industrial water uses as a single sector, as they are developed based on the current year's information.

Institutional / Governmental Sector

Historically, the City of Morgan Hill has combined its government and institutional customers into the same category with its commercial and industrial users. In 2005, the City began tracking these sectors separately. However, the City does not separate its institutional and government customers, and therefore the current and projected water demands are estimated as a single sector in the following tables.

Landscape Sector

Beginning in 2004, the City of Morgan Hill began tracking landscape and city landscape connections separately. The current and projected water demands for both sectors are shown in Tables 3.2.3 – 3.2.6.

Agricultural Sector

The City of Morgan Hill does not provide water for agricultural uses.

Table 3.2.3
Water Deliveries — Actual, 2010

	2010				
	Metered		Not metered		Total
Water use sectors	# of accounts	Volume	# of accounts	Volume	Volume
Single family	8,984	4,025	0	0	4,025
Multi-family	1,736	740	0	0	740
Commercial, Industrial, Government/Institutional	784	674	0	0	674
Landscape	628	1,339	0	0	1,339
Agriculture	0	0	0	0	0
Other	0	0	0	0	0
Total	12,132	6,778	0	0	6,778

Units: acre-feet per year

Table 3.2.4
Water Deliveries — Projected, 2015

	2015				
	Metered		Not metered		Total
Water use sectors	# of accounts	Volume	# of accounts	Volume	Volume
Single family	9,907	5,358	0	0	5,358
Multi-family	1,914	985	0	0	985
Commercial, Industrial, Government/Institutional	865	897	0	0	897
Landscape	693	1,782	0	0	1,782
Agriculture	0	0	0	0	0
Other	0	0	0	0	0
Total	13,379	9,023	0	0	9,023

Units: acre-feet per year

Table 3.2.5
Water Deliveries — Projected, 2020

	2020				
	Metered		Not metered		Total
Water use sectors	# of accounts	Volume	# of accounts	Volume	Volume
Single family	10,595	5,090	0	0	5,090
Multi-family	2,047	936	0	0	936
Commercial, Industrial, Government/Institutional	925	852	0	0	852
Landscape	741	1,693	0	0	1,693
Agriculture	0	0	0	0	0
Other	0	0	0	0	0
Total	14,307	8,571	0	0	8,571

Units: acre-feet per year

Table 3.2.6
Water Deliveries — Projected 2025 and 2030

	2025		2030	
	metered		metered	
Water use sectors	# of accounts	Volume	# of accounts	Volume
Single family	11,186	5,374	11,913	5,723
Multi-family	2,162	988	2,302	1,053
Commercial	976	899	1,040	958
Landscape	782	1,788	833	1,904
Agriculture	0	0	0	0
Other	0	0	0	0
Total	15,106	9,049	16,087	9,637

Units: acre-feet per year

3.2.3. Sales to Outside Agencies

The City of Morgan Hill does not sell wholesale water to other agencies. Table 3.2.7 is provided to quantify that Morgan Hill does not intend to sell water to other water agencies within the planning period.

Table 3.2.7
Sales to Other Water Agencies

Water Distributed	2005	2010	2015	2020	2025	2030
Not Applicable	0	0	0	0	0	0
Total	0	0	0	0	0	0

Units: acre-feet per year

3.2.4. Other Water Uses and Losses

Systems losses are tracked by the City's water billing division to ensure losses do not exceed 7% annually. Projected system losses are estimated on the City maintaining this value throughout the planning period. The system losses are summarized in Table 3.2.8.

Table 3.2.8
Additional Water Uses and Losses

Water Use	2005	2010	2015	2020	2025	2030
Saline barriers	N/A					
Groundwater recharge	N/A					
Conjunctive use	N/A					
Raw water	N/A					
Recycled water	N/A					
System losses	656	555	683	648	685	729
Other (define)	N/A					
Total	656	555	683	648	685	729

Units: acre-feet per year

3.2.5 Total Water Demands

The total past, current, and future water demands for the City of Morgan Hill are summarized in Table 3.2.9.

Table 3.2.9
Total Water Use

Water Use	2005	2010	2015	2020	2025	2030
Total water deliveries (Tables 3.2.2 to 3.2.6)	7,240	6,778	8,340	7,922	8,365	8,908
Sales to other water agencies (Table 3.2.7)	N/A	N/A	N/A	N/A	N/A	N/A
Additional water uses and losses (Table 3.2.8)	656	555	683	648	685	729
Total	7,896	7,333	9,023	8,571	9,049	9,637

Units: acre-feet per year

3.2.6 Lower Income Housing Projections

Urban Water Management Planning Act Requirement:

10631.1(a) The water use projections required by Section 10631 shall include projected water use for single-family and multi-family 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.

Table 3.2.10 summarizes the lower income water use projections for the City of Morgan Hill, and the lower income water demands are also included as part of the total residential water demand estimates and projections in Tables 3.2.3 – 3.2.6. The Housing Element of the City of Morgan Hill's General Plan was used to obtain the lower income housing data, and estimates through 2014 were provided. Demand projections beyond 2014 were estimated based on 2014 values and overall population growth to determine lower income housing needs throughout the entire UWMP planning horizon.

Table 3.2.10
Low-Income Projected Water Demands

Low Income Water Demands	2014	2015	2020	2025	2030
Single-family residential	26	27	42	57	76
Multi-family residential	11	12	18	24	33
Total	37	39	60	82	109

Units: acre-feet per year

3.3 WATER DEMAND PROJECTIONS

Urban Water Management Planning Act Requirement:

10631(k) Urban water suppliers that rely upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for the 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).

The City of Morgan Hill does not rely on a wholesale agency for a source of water, and the City does not expect to rely on a wholesale agency in the future. Table 3.3.1 is provided to quantify that Morgan Hill does not intend to purchase wholesale water within the planning period.

Table 3.3.1
Retail Agency Demand Projections Provided to Wholesale Suppliers

Wholesaler	2010	2015	2020	2025	2030
Not Applicable	0	0	0	0	0
Total	0	0	0	0	0

Units: acre-feet per year

3.4 WATER USE REDUCTION PLAN

Urban Water Management Planning Act Requirement:

CWC §10608.29 Urban wholesale water suppliers shall include in the urban water management plans … an assessment of their present and proposed future measures, programs, and policies to help achieve the water use reductions required by this part (10608.36). Urban retail water suppliers are to prepare a plan for implementing the Water Conservation bill of 2009 requirements and conduct a public meeting which includes consideration of economic impacts.

The City of Morgan Hill has implemented an economical, yet sound, water use reduction plan in order to meet the 20x2020 water use reduction requirements. Options to reduce water demand in the City include:

- Increasing public awareness regarding the 20x2020 water conservation requirements and encouraging the public to adopt efforts that can be easily implemented to conserve water.
- Potentially imposing higher water rates for residential customers in the upper tiers of household consumption.
- Implementing landscape water rates based on the Model Water Efficient Landscape Ordinance (AB 325).
- Developing a multi-phase contingency strategy for achieving compliance daily per capita water use in 2015, including additional steps to reduce the use of landscape water in the event 2015 per capita water use is not anticipated to meet the interim reduction requirements.
- Continuing to promote and expand the water conservation programs currently in place, including the fourteen Demand Management Measures outlined in Section 6.0 of this Plan.
- Implementing strict landscape restrictions on new residential and commercial developments, and approving the construction of new residential developments that contain small, efficient lot sizes to reduce landscape water use.

4 SYSTEM SUPPLIES

4.1 WATER SOURCES

Urban Water Management Planning Act Requirement:

10631 (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).

The City of Morgan Hill obtains all water supplies from groundwater. Groundwater is pumped from the Llagas Subbasin and Coyote Valley subarea of the Santa Clara Subbasin. The City of Morgan Hill is independent in the acquisition of water and no connections to other cities or water districts currently exist.

The City of Morgan Hill is a member agency of the Santa Clara Valley Water District (SCVWD). SCVWD's primary purpose is to govern the water resources of Santa Clara County; it manages 10 local surface reservoirs, associated creeks, recharge facilities, the country's groundwater basins, and three water treatment plants. SCVWD works closely with its member agencies to manage groundwater resources, identify additional sources of water, and implement and encourage water conservation measures.

The City of Morgan Hill currently has seventeen wells drawing from the Llagas Subbasin and Coyote Valley subarea with a maximum summer pumping capacity of 18,054 AF per year; however, the City pumps only a fraction of this capacity. Since the basin is not adjudicated, the total supply available to the City is its maximum pumping capacity. Although this is available to the City, Morgan Hill does not intend to pump the full capacity available, and continues to encourage water conservation to its customers. In addition to the current wells, the City of Morgan Hill is constructing a new well, with a capacity of 368 AFY. Table 4.1.1 illustrates the total water supplies available to the City, including the supplies from the new well project.

Table 4.1.1 Water Supplies — Current and Projected Capacity					
Water Supply Sources	**2010**	**2015**	**2020**	**2025**	**2030**
Wholesale Water	0	0	0	0	0
Supplier-Produced Groundwater[2] – Coyote Valley	2,476	2,476	2,476	2,476	2,476
Supplier-Produced Groundwater[2] – Llagas	15,578	15,946	15,946	15,946	15,946
Supplier-Produced Surface Water	0	0	0	0	0
Transfers In	0	0	0	0	0
Exchanges In	0	0	0	0	0
Recycled Water	0	0	0	0	0
Desalinated Water	0	0	0	0	0
Total	**18,054**	**18,422**	**18,422**	**18,422**	**18,422**

Units: acre-feet per year

Wholesale Water Supply

The City of Morgan Hill does not purchase water through any wholesale water source. The table below is provided to document that the City does not intend to utilize purchased water during the projected planning period.

Table 4.1.2 Wholesale Supplies — Existing and Planned Sources of Water					
Wholesale Sources	**Contracted Volume**	**2015**	**2020**	**2025**	**2030**
Not Applicable	0	0	0	0	0

Units: acre-feet per year

4.2 GROUNDWATER

The City of Morgan Hill utilizes groundwater as its sole source of water for distribution. Groundwater is pumped from the Coyote Valley subarea of the Santa Clara Subbasin and the Llagas Subbasin. Figures 4.2.1 and 4.2.2 show the location of the Llagas Subbasin (3-3.01) and the Santa Clara Subbasin (2-9.02) within their respective hydrologic regions. The City does not obtain groundwater from other suppliers.

Figure 4.2.1: Central Coast Hydrologic Region

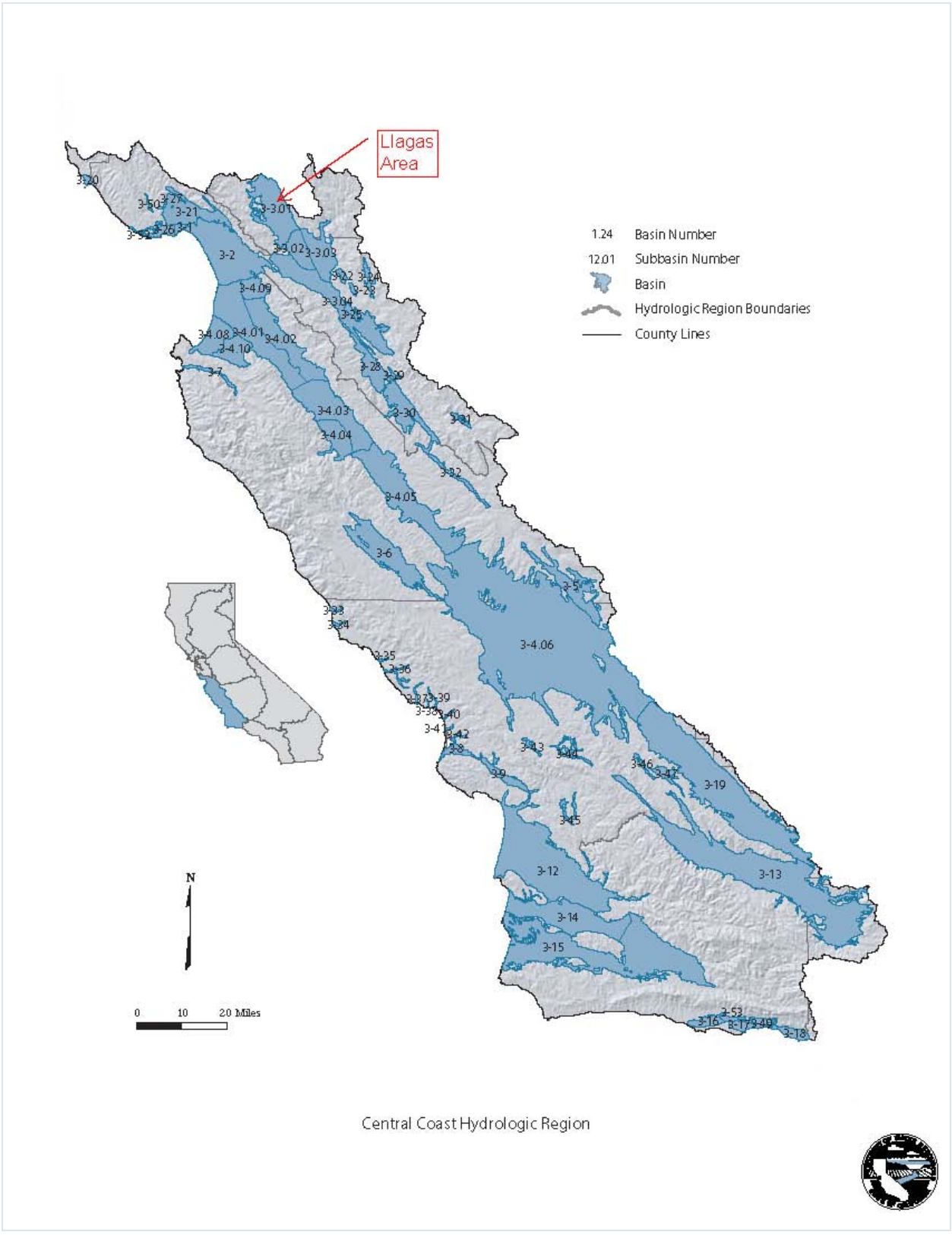
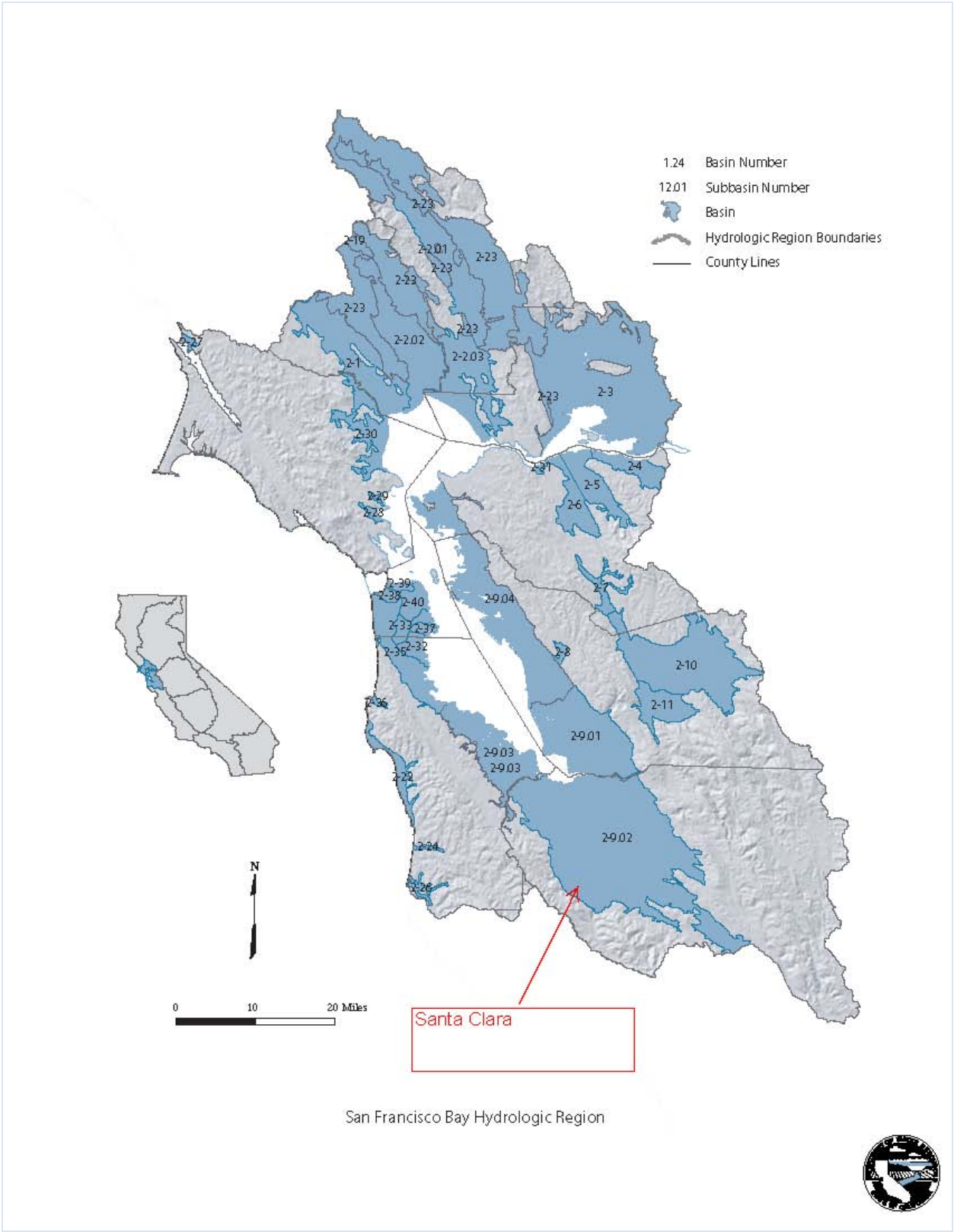


Figure 4.2.2: San Francisco Bay Hydrologic Region



San Francisco Bay Hydrologic Region

Urban Water Management Planning Act Requirement:

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

The SCVWD has managed the groundwater basin in Santa Clara County since the early 1930s. SCVWD works in conjunction with local retailers, the Regional Water Quality Control Board, and other agencies to ensure a safe and healthy supply of groundwater. SCVWD's objectives related to groundwater management are to recharge the groundwater basin, conserve water, increase water supply, and to prevent waste or diminution of the water supply. An electronic copy of the Santa Clara Valley Water District Groundwater Management Plan can be found on the attached CD.

Urban Water Management Planning Act Requirement:

10631 (b)(2) If groundwater is identified as an existing or planned course of water available to the supplier provide…a description of any groundwater basin or basins from which the urban water supplier pumps groundwater.

As mentioned above, the City of Morgan Hill pumps its water from the Llagas Subbasin and the Coyote Valley subarea of the Santa Clara Valley Subbasin. These two subbasins are each part of different basins in Santa Clara County.

Coyote Valley Subarea – Santa Clara Subbasin

The Coyote Valley subarea is part of the Santa Clara Subbasin. The Santa Clara Subbasin, one of four subbasins of the Santa Clara Valley Basin, is divided into two subareas: the Coyote Valley and the Santa Clara Plain. Although part of the same Subbasin, the Coyote Valley and Santa Clara Plain subareas are distinguished from each other because they are located in different groundwater charge zones.

The Coyote Valley subarea is approximately 7 miles long and 2 miles wide, with a corresponding surface area of about 15 square miles, and contributes groundwater through the Coyote Narrows into the Santa Clara subbasin, which covers a total surface area of 225 square miles. A groundwater divide at Cochrane Road separates northerly flow toward San Francisco

Bay from water in the Llagas subbasin which drains to the south toward the Pajaro River and eventually Monterey Bay.

It is estimated by the Santa Clara Valley Water District that the total storage capacity of the Coyote Valley subbasin is around 23,000 to 33,000 acre-feet, and that the average depth to the water is about 23.5 feet, measured from the Palm Avenue Index Well over the last 60 years.

A complete description of the Santa Clara Subbasin, which includes the Coyote Valley subarea, is provided by the Department of Water Resources (DWR) in Bulletin 118. A copy of this can be found in Appendix E.

Llagas Subbasin

The Llagas Subbasin is the source of approximately 75 percent of Morgan Hill's water supply. It extends from Cochrane Road, in the City of Morgan Hill, to the County's southern boundary. The subbasin is hydraulically connected to the Bolsa subbasin of the Hollister Basin and bounded on the south by a prescribed boundary at the Pajaro River. The Llagas subbasin is approximately 15 miles long, 3 miles wide along its northern boundary, and 6 miles wide along the Pajaro River; it has a total area of approximately 74 square miles. A series of interbedded clay layers form an aquitard, which extends north of the Pajaro River.

The Llagas Subbasin is divided into three general areas: a forebay area, a confined area, and the Uvas Creek area. Groundwater in the forebay and Uvas Creek areas is unconfined and semi-confined, while groundwater is confined in the southern portion of the subbasin. The City of Morgan Hill overlies the forebay area, which is composed of four alluvial horizons, consisting of sandy gravel to cobbly basin fill materials. These horizons are interlayered with clay horizons that pinch-out toward the subbasin boundaries, causing locally-confined to semi-confined conditions. There appear to be two relatively continuous aquifers in the confined area, each of which overlies a lacustrine clay zone. The Uvas Creek area acts as another forebay area and is composed of an unconfined aquifer overlying a lacustrine clay zone 50 to 100 feet thick.

It is estimated that the capacity of the subbasin is between 150,000 and 165,000 acre-feet, with both the long-term natural groundwater recharge yield and the multiple dry year recharge yield at 19,000 acre-feet per year.

A complete description of the Llagas Subbasin is provided by the Department of Water Resources (DWR) in Bulletin 118. A copy of this can be found in Appendix E.

Groundwater Recharge

To maintain the groundwater level in the Santa Clara County Basins and minimize the potential for basin overdraft, a recharge system was developed. In addition to the natural groundwater

recharge, which is not controlled by SCVWD, "facility" recharge accounts for over 60% of the total recharge to the basins managed by SCVWD. Facility recharge is controlled by SCVWD, and includes imported raw water and water stored in local reservoirs. Water from local reservoirs is stored from wet weather events and water seepage. This, in addition to imported raw water from the Sacramento – San Joaquin River Delta make up 71 off-stream recharge ponds to recharge the Santa Clara Plain, Coyote Valley, and Llagas Subbasin. The artificial recharge sources provided an additional 102,600 AF in 2009 to the groundwater basins that supply the County; compared to the reported natural value of 60,300 AF during an average water year.

The SCVWD's Groundwater Management Plan contains additional details regarding the Groundwater Recharge Program. The Groundwater Management Plan can be found on the attached CD. In addition, the City of Morgan Hill has written a summary of groundwater recharge efforts that take place within the City. The most recent summary, which includes water recharge rates for 2010, can be found in Appendix H.

Urban Water Management Planning Act Requirement:

10631 (b)(2) For those basins for which a court or the board has adjudicated the rights to pump groundwater, provide a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree.

The Santa Clara Valley Basin is not adjudicated.

Urban Water Management Planning Act Requirement:

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

Overdraft conditions are characterized by low groundwater levels and poor water quality. The 2003 Bulletin 118 update did not identify the Santa Clara Valley Basin as being in a condition of overdraft. Furthermore, reports on the water quality and level released by the Santa Clara Valley Water District as recent as January 2011 do not suggest that the basin is in a condition of overdraft.

Groundwater levels are not expected to drop based on the precautions taken by the City of Morgan Hill, as well as the Santa Clara Valley Water District. However, it should be noted that the groundwater level in the both the Llagas Subbasin and the Coyote Valley subarea have been recorded to be strongly dependent on the annual rainfall. Groundwater levels drop sharply and recover quickly during dry and wet periods. Precautions taken by the City and SCVWD to manage groundwater levels include constant groundwater level monitoring, groundwater quality monitoring, and water conservation efforts throughout the District. For more information, refer to Chapter 5: Water Supply Reliability and Water Shortage Contingency Planning, which describes the conservation efforts taken by the City and SCVWD.

Urban Water Management Planning Act Requirement:

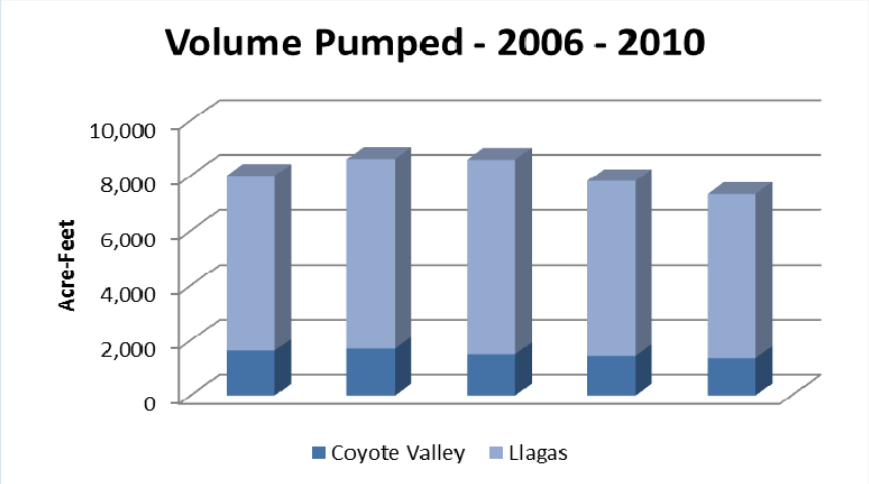
10631 (b)(3) (Provide a) detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic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

Table 4.2.1 and Figure 4.2.3 illustrate the amount of groundwater pumped from each of the subbasins in the last five years, according to the DWR's Public Water System Statistics for the City of Morgan Hill.

Table 4.2.1 Groundwater — Volume Pumped						
Basin name(s)	**Metered or Unmetered[1]**	**2006**	**2007**	**2008**	**2009**	**2010**
Coyote Valley – Santa Clara Valley Subbasin	Metered - volumetric	1,630	1,702	1,497	1,441	1,361
Llagas Subbasin	Metered - volumetric	6,368	6,889	7,073	6,363	5,972
Total groundwater pumped		7,998	8,591	8,570	7,804	7,333
Groundwater as a percent of total water supply		100%	100%	100%	100%	100%

Units: acre-feet per year

Figure 4.2.3: Groundwater – Volume Pumped (2006-2010)



In the years from 2006-2010, all of the water pumped from the Coyote Valley Subarea and Llagas Subbasin by the City of Morgan Hill was sufficient for the needs of the City, as the total amount available for use by the City of Morgan Hill is significantly larger than the actual amount used.

Urban Water Management Planning Act Requirement:

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

The City of Morgan Hill intends to continue using groundwater pumped from the Llagas Subbasin and the Coyote Valley subarea as the sole supply for the City of Morgan Hill water demand. The projected amount of water to be pumped from the subbasins is shown in Table 4.2.2 below. The total amounts reported are based on the historical water use as well as the 20x2020 water conservation goals. However, the numbers reported for the individual subbasins in Table 4.2.2 are an estimate, based on the average past usage amounts. Historically, the City of Morgan Hill has pumped approximately 23% of the groundwater supply from Coyote Valley subarea, and the remaining 77% from the Llagas Subbasin, as illustrated in Figure 4.2.4. Although the percentage numbers varied from as much as 30% to as low as 17% from the Coyote Valley subarea, using an average of 23% provides a reasonable estimate of the total amount of water required from each Subbasin. The addition of the new well, with a capacity of 368, as detailed in Section 4.6, is not likely to affect the supply percentages substantially. The numbers reported in Table 4.2.2 are based on the total demand as described in Chapter 2: Water Demand, including reaching the ultimate target use of 159 GPCD by 2020.

Figure 4.2.4 – Historic Average Pumping Percentages by Subbasin

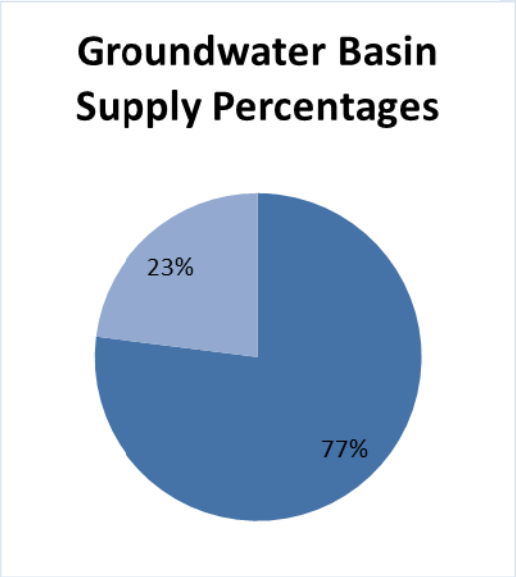


Table 4.2.2 Groundwater — Volume Projected to be Pumped				
Basin name(s)	**2015**	**2020**	**2025**	**2030**
Llagas Subbasin	6,948	6,600	6,968	7,420
Santa Clara Subbasin – Coyote Valley Subarea	2,075	1,971	2,081	2,217
Total groundwater pumped	9,023	8,571	9,049	9,637
Percent of total water supply	100%	100%	100%	100%

Units: acre-feet per year

4.3 TRANSFER OPPORTUNITIES

Urban Water Management Planning Act Requirement:

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

There are currently no short-term or long-term transfer opportunities available to the City of Morgan Hill.

Table 4.3.1 Transfer and Exchange Opportunities			
Transfer Agency	**Transfer or Exchange**	**Short-Term or Long-Term**	**Proposed Volume**
Not Applicable	0	0	0
Total	**0**	0	0

Units: acre-feet per year

4.4 DESALINATED WATER OPPORTUNITIES

Urban Water Management Planning Act Requirement:

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

The City of Morgan Hill is part of the Santa Clara Valley Water District. SCVWD, in cooperation with four other water agencies in the San Francisco Bay Area, is currently working on a project to determine the feasibility of using desalinated water as a long-term water supply source for its member agencies. Due to the proximity of the Pacific Ocean, this is considered a reasonable venture for a new long-term water supply source for the water agencies in the San Francisco Bay Area.

Water desalination is not a viable option for the City of Morgan Hill or SCVWD. However, SCVWD supports the venture as it could provide an additional source of water to the San Francisco Bay Area water retailers. Some of these retailers share similar water sources with SCVWD, such as the San Francisco Public Utilities Commission (SFPUC). Increasing the supply available to SFPUC through the use of desalinated water would increase the potable water supply available to SCVWD and its member agencies, including the City of Morgan Hill. Use of desalinated water would increase the reliability of water sources available from SFPUC and the State Water Project (SWP).

Currently, the project is scheduled for construction in 2015, according to the Santa Clara Valley Water District 2010 UWMP. The feasibility for the City of Morgan Hill to develop desalinated water as a supply can be analyzed upon completion of the test plant planned by the Santa Clara Valley Water District and the San Francisco Bay Area water agencies.

4.5 RECYCLED WATER OPPORTUNITIES

Urban Water Management Planning Act Requirement:

10633 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.

The City of Morgan Hill does not utilize recycled water, nor does it have treatment plants within City limits. However, wastewater is pumped from the City of Morgan Hill to the South County Regional Wastewater Authority's (SCRWA) Waste Water Treatment Plant (WWTP) near Gilroy, CA. Recycled water produced from this plant is only used around the City of Gilroy, as it would not be economically feasible to pump the water back to the City of Morgan Hill for use.

In 2004, the Santa Clara Valley Water District released a Recycled Water Master Plan that described the opportunity for recycled water throughout SCVWD, including potential customers in the City of Morgan Hill. The identified customers in the City of Morgan Hill included government facilities (police station, street medians, civic center, etc.) as well as parks, and schools of the Morgan Hill Unified School District. A total of twenty-one customers were identified as potential recycled water users, including the American Institute of Mathematics Golf Course. The combined use of these facilities was estimated at 769 AFY. However, it was determined not economically feasible to construct a pipeline from the SCRWA WWTP to the potential recycled water customers for this amount of water, as the capital and maintenance costs could not be made up with sales of 769 AFY at a price competitive with the current distribution system.

Urban Water Management Planning Act Requirement:

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

Wastewater is collected from the City of Morgan Hill and transported to the SCRWA WWTP in Gilroy. The WWTP reports an average daily flow of 6.46 MGD in 2010, up from 6.01 MGD in

2009. Of this, roughly 44% (2.85 MGD in 2010 and 2.67 MGD in 2009) can be attributed to flow from the City of Morgan Hill. All wastewater from the City of Morgan Hill is sent to the SCRWA WWTP for treatment and recycling.

Table 4.5.1 illustrates the projected wastewater flow from the City of Morgan Hill and the associated level of treatment at the SCRWA WWTP. Wastewater treated to the tertiary level is utilized for irrigation and the remaining wastewater is treated to the secondary effluent level.

Table 4.5.1
Recycled Water — Non-Recycled Wastewater Disposal

Method of Disposal	Treatment Level	2010	2015	2020	2025	2030
SCRWA WWTP	Secondary Effluent	944	1161	1103	1165	1241
SCRWA WWTP	Tertiary	105	129	123	129	137
	Total	1129	1049	1290	1226	1294

Units: million gallons per year

Urban Water Management Planning Act Requirement:

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

Although not in the City of Morgan Hill service area, a portion of the wastewater produced in the City of Morgan Hill is treated to the tertiary level and is then supplied for irrigation purposes around the City of Gilroy. Approximately 700 AFY of recycled water is distributed by the SCRWA. Table 4.5.2 illustrates the volume of wastewater collected in the City of Morgan Hill, as well as the volume that is treated to meet the recycled water standards.

Table 4.5.2
Recycled Water — Wastewater Collection and Treatment

Type of Wastewater	2005	2010	2015	2020	2025	2030
Wastewater collected & treated in service area	1129	1049	1290	1226	1294	1378
Volume that meets recycled water standard	113	105	129	123	129	137

Units: million gallons per year

Urban Water Management Planning Act Requirement:

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

Recycled water is currently not used within the service area of the City of Morgan Hill.

Urban Water Management Planning Act Requirement:

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

The 2004 Recycled Water Master Plan discusses several potential recycled water use customers in the City of Morgan Hill. A total of 21 customers with an annual usage of 769 AFY were identified. The customer types, along with the potential recycled water requirements are listed below in Table 4.5.3.

Table 4.5.3
Recycled Water — Potential Future Use

User type	Description	Feasibility	2015	2020	2025	2030
Agricultural irrigation						
Landscape irrigation	Morgan Hill Unified School District, Medians, Police Station and Parks	No	389	389	389	389
Commercial irrigation[3]						
Golf course irrigation	AIM Golf Course	No	380	380	380	380
Wildlife habitat						
Wetlands						
Industrial reuse						
Groundwater recharge						
Seawater barrier						
Geothermal/Energy						
Indirect potable reuse						
	Total	No	769	769	769	769

Units: acre-feet per year

Although customers using a total of 769 AFY of water in the City of Morgan Hill were identified, further analysis of this shows that distribution of this water is not feasible. A cost analysis considering the pipeline distribution system from the Gilroy wastewater treatment plant to the City of Morgan Hill customers was conducted by the SCVWD. The Preliminary WSIMP Project Benefits and Cost Summary Report shows that capital costs and maintenance would result in a cost of approximately $2,710 per AF of recycled water. At this time, use of recycled water in the City of Morgan Hill is not feasible. Future analyses may be completed to identify options for making recycled water available at an economical price to customers.

Urban Water Management Planning Act Requirement:

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

The 2005 UWMP identified similar concerns for the use of recycled water as have been addressed in this section. The main concern is that the recycled water use in the City of Morgan Hill is too low to justify expanding the Gilroy WWTP recycled water system. As a result, the 2005 UWMP update did not identify any potential for recycled water use in 2005. Although the 2004 Recycled Water Master Plan identified possible customers in the area of the City of Morgan Hill, it was not feasible to deliver water to these customers. Table 4.5.4 identifies the required comparison.

Table 4.5.4
Recycled Water — 2005 UWMP Use Projection Compared to 2010 Actual

Use type	2010 Actual Use	2005 Projection for 2010
Agricultural irrigation	0	0
Landscape irrigation	0	0
Commercial irrigation	0	0
Golf course irrigation	0	0
Wildlife habitat	0	0
Wetlands	0	0
Industrial reuse	0	0
Groundwater recharge	0	0
Seawater barrier	0	0
Geothermal/Energy	0	0
Indirect potable reuse	0	0
Total	0	0

Units: acre-feet per year

Urban Water Management Planning Act Requirement:

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

At this time, financial incentives cannot be provided to encourage the use of recycled water within the City of Morgan Hill as recycled water is not available and not an economically feasible option.

Table 4.5.5 is provided to illustrate that the City of Morgan Hill is not offering financial incentives to use recycled water, since the use of recycled water within the service area is not economically feasible in the foreseeable future.

Table 4.5.5
Methods to Encourage Recycled Water Use

Actions	Projected Results				
	2010	2015	2020	2025	2030
Financial Incentives	0	0	0	0	0
Total	0	0	0	0	0

Units: acre-feet per year

Urban Water Management Planning Act Requirement:

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

At this time, the City of Morgan Hill does not distribute recycled water within its service area. Further studies will have to be conducted to identify more customers or alternative options for the treatment of wastewater and distribution of recycled water within City limits for recycled water to become a feasible source of water.

4.6 FUTURE WATER PROJECTS

Urban Water Management Planning Act Requirement:

10631 (h) (Describe) all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635.

The City of Morgan Hill recently constructed the Diana I Well pursuant to the recommendations of the 2001 Water Master Plan. This well was brought online in 2010 and produces approximately 900 gallons per minute, or 21,600 GPD. Additionally, the City plans to construct an additional well in 2013/2014, which will be capable of producing approximately 700-900 gallons per minute. Table 4.6.1 provides an overview of the increased supply available as part of the implementation of the additional well.

Table 4.6.1
Future Water Supply Projects

Project Name	Start & End Date	Potential Project Constraints	Normal -year supply	Single-dry year supply	Multiple -dry year first year supply	Multiple -dry year second year supply	Multiple -dry year third year supply
Well Construction – Project # 601000	2013 - 2014	None	368	368	368	368	368
Total		None	368	368	368	368	368

Units: acre-feet per year

4.7 GRAYWATER

In addition to the above sources of water, the City of Morgan Hill has considered implementing graywater use. Graywater is wastewater that has not undergone any treatment processes, but still can be reused for irrigation purposes. Graywater includes water collected from showers,

bathtubs, and washing machines. Water that could potentially be contaminated with harmful materials, such as feces or harmful bacteria, is referred to as blackwater and is not considered reusable without treatment. Blackwater, not allowed to be connected with a graywater system, comes from toilets, kitchen sinks, and dishwashers.

Graywater systems can be installed at residences or businesses with potential for use either indoor (e.g. toilets) or outdoor (irrigation), reducing the need for potable water. However, for indoor use, the graywater must go through some kind of filtering process to reduce the concentration of organic material. In addition, graywater cannot sit for periods longer than 24 hours. When allowed to sit, graywater, which has high levels of organic material, can accumulate bacteria. These bacteria can multiply and quickly reach levels that may cause harm to human health, turning the graywater into blackwater.

The State has made an effort to encourage the use of graywater through Senate Bill 1258 (SB 1258), which modifies the current plumbing code to reduce the complexity of the permitting process required to install a graywater system. Although the State encourages the use of graywater, the City of Morgan Hill does not anticipate that graywater will be a major source of water within its service area. After analyzing the feasibility of graywater projects within the City, it was found that graywater systems were not an economically viable option and therefore would result in limited response from the community. Installation and maintenance costs of graywater systems are likely to far outweigh the small potable water cost savings. Additionally, the City anticipates that the risk of chemicals that can harm plant life during irrigation, such as soaps, will further deter the community from accepting graywater as standard practice. The City of Morgan Hill is also considering implementing more stringent regulations on the use of graywater systems within the City for sanitary and health reasons.

5 WATER SUPPLY RELIABILITY & WATER SHORTAGE CONTINGENCY PLANNING

5.1 Water Supply Reliability

Urban Water Management Planning Act Requirement:

10620(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.

Water supply reliability includes both the availability of the groundwater and the distribution and storage facilities that make up the City's water system. The City of Morgan Hill is dependent upon groundwater and currently has no need to import water from other regions for its regular water supply. To ensure the local supplies are maximized to meet demands, the City of Morgan Hill monitors population growth and associated demands and implements a capital improvement program to construct additional wells, as necessary, to utilize the additional groundwater supplies available.

Urban Water Management Planning Act Requirement:

10631(c)(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.

Currently, the only source of water that the City of Morgan Hill utilizes is supplier-pumped groundwater. Legal factors do not impact the availability of the water supply, since the Santa Clara Subbasin and Llagas Subbasin are not adjudicated. Additionally, no environmental factors limit the availability of supply. The factors that do affect the reliability of the water supply from these two groundwater basins are summarized in Table 5.1.1, which includes water quality

and climactic factors, which are described in detail below. Both factors affecting the reliability of water supply can have impacts at the Llagas Subbasin supply and the Coyote Valley supply. Therefore, both supplies are discussed simultaneously.

Table 5.1.1
Factors Resulting in Inconsistency of Supply

Water Supply Sources	Legal	Environmental	Water Quality	Climatic	Additional information
Llagas			✓	✓	
Coyote Valley			✓	✓	

Water Quality

Water quality reliability issues include water contamination due to biological and chemical factors. Specifically, the City of Morgan Hill potential water quality impacts are related to perchlorate and hexavalent chromium contamination. A detailed review of water quality issues is provided in Section 5.3.

Climatic

It has been observed that the groundwater levels in the Santa Clara and Llagas subbasins are highly dependent on rainfall levels and tend to be very dynamic in years of high or low amounts of rainfall. Inconsistency in water levels due to drought is a short-term event that can significantly impact the water supply to the City of Morgan Hill. Currently, the Santa Clara Valley Water District, in conjunction with the City of Morgan Hill and its other member agencies, has several preventative measures in place to mitigate the effects a drought may have on the overall water supply. These effects include:

- Maintaining a groundwater recharge system. SCVWD imports raw water and manages a recharge system to maintain groundwater levels. Droughts may reduce the amount of raw water available to supplement natural recharge (which will also decrease with decreased rainfall during a drought), which has been shown to reduce groundwater levels.
- Maintaining a surplus supply. A surplus of water is necessary for SCVWD to ensure that a reliable water source is available. During drought, decreased groundwater and

imported water with increasing demand puts strain on the surplus. As the surplus dwindles, the outlook for future water supplies becomes less reliable and alternate, usually more expensive and less reliable, sources must be considered.

- Maintaining water connections for imported water. SCVWD supplies water provided through other districts and programs such as the SWP. As the effects of droughts increase, potable water from these additional sources must be rationed to meet the needs of a much larger population than just the SCVWD.

For more information on the mitigating the effects of a drought, see Section 5.4: Drought Planning, which identifies the water reliability during normal, single dry, and multiple dry years.

5.2 Water Shortage Contingency Planning

Urban Water Management Planning Act Requirement:

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

Catastrophic failures that put the water supply at risk include fires and earthquakes that could damage the infrastructure to the water distribution system. In the event of a catastrophic event that prevents the City of Morgan Hill from obtaining water for distribution, the Santa Clara Valley Water District (SCVWD) implements actions and methods to continue supplying water to customers of its member agencies. Among these methods to ensure that water is continually supplied to the customers include stockpiling emergency pipeline repair materials, the addition of groundwater wells and line valves, and working with state, county, and local personnel in the event of a catastrophic emergency. Furthermore, effects from earthquakes and power outages are considered in the City of Morgan Hill's Water Shortage Contingency Plan.

Currently, the City's water storage facilities contain water reserves equivalent to approximately 1.25 days of average water use in the event of a catastrophic event. The City is considering the construction of additional reservoirs to address the need for added capacity under these scenarios, as well as operational and fire reserve requirements, consistent with APWA guidelines.

The City of Morgan Hill has an Emergency Response Plan that serves to address the City's catastrophic water supply interruption response(s) in the following areas:

Regional Power Outage

In order to mitigate the impacts of a regional power outage, the City of Morgan Hill ensures that backup generators are easily accessible or transportable to wellheads to ensure continuous pumping into the water distribution system. In the case of a power outage, emergency generators are to be placed on-line to provide minimum water pressure to the system and disinfectant residual to be increased to prevent potential contamination. The City of Morgan Hill has 22 backup generators available for use in maintaining the water supply during a power outage.

Earthquake

In order to mitigate the impacts associated with a large-scale earthquake, the City of Morgan Hill identifies specific emergency actions to implement, including facility inspections and repairs. A large scale earthquake has the potential to damage water supply lines resulting in leaks. The following specific actions are taken to maintain a reliable supply of water:

- Leaks – Increase system disinfectant residual, determine locations of leaks and make temporary repairs, isolate leaks by turning off power or flow if required for repair or replacement, prioritize repairs by maximum system population service lines, and disinfect all repairs.
- Low Pressure or Service Interruption – Increase production to provide maximum system output, and increase disinfectant residual as a precaution against potential contamination.

In addition to damage to the City of Morgan Hill system, a major earthquake would have the potential to affect the statewide water supply by damaging the San Francisco Bay Delta. If the levee system was damaged, the impacts would be catastrophic. Apart from the resulting flooding, the ineffective levee system would cut off the supply of water to millions of people within the State of California. Throughout California, water supplies would be reduced to using groundwater supplies and surplus storage.

It was estimated by the DWR that reservoir supplies could last at most 36 months, with extreme conservation methods in place. However, this would also require the excessive use of groundwater (where available to suppliers) which has the potential to overdraft groundwater basins to dangerously low conditions. Some basins may even be unavailable, due to initial seawater intrusion upon levee failure. In this event, the State would be required to enact the most stringent conservation methods and to ensure that water is carefully and strategically rationed to mitigate the effects. It is estimated that initial repairs to the levee system would take

15 months, and only be able to restore a portion of the water service. If this were to occur, SCVWD would lose a significant portion of its water supply from the SWP. To make up for this, SCVWD would resort to groundwater supplies from the Santa Clara Basin and Llagas Subbasin. Specific to Morgan Hill, this would put strain on the groundwater basins used to make-up for the lost water imported by SCVWD, creating a potential for seawater intrusion (due to flooding and overdraft) and resulting in diminished water supplies and quality.

The State has acknowledged that the best method to mitigate the effects of a catastrophic earthquake on the Sacramento – San Joaquin River Delta system is to prevent the levee failure. The State has initiated and is currently overseeing repairs to the levee system in hopes to prevent damage during an earthquake.

The California Department of Water Resources has conducted extensive studies and models on the events that may occur following catastrophic damage to the Delta levee system. Please see the DWR website for more information, as well as the statewide Water Shortage Contingency Plan that may be enacted in the event of a levee failure.

Rationing Stages During a Water Shortage

With population growth, energy shortages, earthquakes, and the threat of terrorism experienced by California; maintaining the gentle balance between water supply and demand is a complicated task that requires planning and forethought. In the event that a water shortage occurs, simple measures can be implemented to conserve the water supply at a public level. Below, stages are discussed during which various conservation measures will be imposed by the City of Morgan Hill.

Table 5.2.1
Water Shortage Contingency — Rationing Stages to Address Water Supply Shortages

Stage No.	Water Supply Conditions	% Shortage
Level 0- Permanent Restrictions	Water conservation requirements are effective at all times and are permanent.	0 – 10%
Level 1	A Level 1 Water Supply Shortage exists when the City Council determines, in its sole discretion, that due to drought or other water supply conditions, a water supply shortage or threatened shortage exists and an 11% - 20% consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions.	11-20%

Level 2	A Level 2 Water Supply Shortage exists when the City Council declares, in its sole discretion, that due to drought or other water supply conditions, a water supply shortage or threatened shortage exists and a 21% - 35% consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions.	21-35%
Level 3	A Level 3 Water Supply Shortage is referred to as a Water Shortage Emergency. A Level 3 condition exists when the City Council declares, in its sole discretion, a water shortage emergency and notifies its residents and businesses that a greater than 35% reduction in consumer demand is necessary to maintain sufficient water supplies for public health and safety, pursuant to Water Code Section 350 et seq.	> 35%, including 50% reduction

Urban Water Management Planning Act Requirement:

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

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

In the event of a significant reduction of water supply, the City of Morgan Hill has several stages of actions to take and policies to implement to minimize the impacts of water shortage, prepare for an increase in shortage, and attempt to conserve water to prevent further shortage. The City has adopted Ordinance No. 1932 in May of 2009, which describes the measures to take in the event of a water shortage. The plan consists of permanent water use restrictions and three additional levels of conservation measures to take in the case of a shortage of supply. The level of conservation is determined by the percent shortage. Tables 5.2.2 and 5.2.3 provide an overview of the mandatory prohibitions and the consumption reduction methods the City will implement to compensate for the water shortage. A copy of City Ordinance 1932 is in Appendix F.

Table 5.2.2 Water Shortage Contingency — Mandatory Prohibitions	
Examples of Prohibitions	**Stage When Prohibition Becomes Mandatory**
No use of Non-Recirculating Water for Fountains or Decorative Water Features	Level 0 – Permanent Restrictions
Restaurants to Serve Water Only Upon Request	Level 0 – Permanent Restrictions
No Installation of Single Pass Cooling Systems	Level 0 – Permanent Restrictions
No Installation of Non-Recirculating Commercial Car Wash and Laundry Systems	Level 0 – Permanent Restrictions
Restaurants must use water conserving dishwasher spray valves	Level 0 – Permanent Restrictions
No Washing Down Hard or Paved Surfaces	Level 1
No Watering or Irrigating	Level 3
No New Annexations	Level 3

Table 5.2.3 Water Shortage Contingency — Consumption Reduction Methods		
Consumption Reduction Methods	**Stage When Method Takes Effect**	**Projected Reduction (%)**
Limits on Watering Days	Level 1	20%
Obligation to Fix Leaks, Breaks, or Malfunctions	Level 1	20%
Limits on Filling Ornamental Lakes or Ponds	Level 2	35%
Limits on Washing Vehicles	Level 2	35%
Limits on Filling Residential Swimming Pools & Spas	Level 2	35%
Limits on New Potable Water Service	Level 3	50%
Limits on Building Permits	Level 3	50%

Level 0 – Permanent Restrictions on Water Use

The following water conservation requirements, as described in Ordinance 1392, are effective at all times in the City of Morgan Hill and are permanent. These actions contribute to an estimated water use reduction of up to ten percent.

- **Limits on Watering Hours**: Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited between the hours of 9:00 a.m. and 5:00 p.m.

Pacific Standard/Daylight Savings Time on any day, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.

- **Limit on Watering Duration**: Watering or irrigating of lawn, landscape or other vegetated area with potable water using a landscape irrigation system or a watering device that is not continuously attended is limited to no more than fifteen (15) minutes watering per day per station. This subsection does not apply to landscape irrigation systems that exclusively use very low-flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour and weather based controllers or stream rotor sprinklers that meet a 70% efficiency standard.
- **No Excessive Water Flow or Runoff**: Watering or irrigating of any lawn, landscape or other vegetated area in a manner that causes or allows excessive water flow or runoff onto an adjoining sidewalk, driveway, street, alley, gutter or ditch is prohibited.
- **No Washing Down Hard or Paved Surfaces**: Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, is prohibited except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device, a low-volume, high-pressure cleaning machine equipped to recycle any water used, or a low-volume high-pressure water broom.
- **Obligation to Fix Leaks, Breaks or Malfunctions**: Excessive use, loss or escape of water through breaks, leaks or other malfunctions in the water user's plumbing or distribution system for any period of time after such escape of water should have reasonably been discovered and corrected and in no event more than ten (10) days of receiving written notice from the City, is prohibited.
- **Recirculating Water Required for Water Fountains and Decorative Water Features**: Operating a water fountain or other decorative water feature that does not use recirculated water is prohibited.
- **Limits on Washing Vehicles**: Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not is prohibited, except by use of a hand-held bucket or similar container or a hand-held hose equipped with a positive self-closing water shut-off nozzle or device. This subsection does not apply to any commercial car washing facility.

- **Drinking Water Served Upon Request Only**: Eating or drinking establishments, including but not limited to a restaurant, hotel, cafe, cafeteria, bar, or other public place where food or drinks are sold, served, or offered for sale, are prohibited from providing drinking water to any person unless expressly requested.
- **Commercial Lodging Establishments Must Provide Guests Option to Decline Daily Linen Services**: Hotels, motels and other commercial lodging establishments must provide customers the option of not having towels and linen laundered daily. Commercial lodging establishments must prominently display notice of this option in each bathroom using clear and easily understood language.
- **No Installation of Single Pass Cooling Systems**: Installation of single pass cooling systems is prohibited in buildings requesting new water service.
- **No Installation of Non-recirculating Commercial Car Wash and Laundry Systems**: Installation of non-recirculating water systems is prohibited in new commercial conveyor car wash and new commercial laundry systems.
- **Restaurants Required to Use Water Conserving Dishwasher Spray Valves**: Food preparation establishments, such as restaurants or cafes, are prohibited from using non-water conserving dishwasher spray valves.
- **Commercial Car Wash Systems**: All commercial conveyor car wash systems must have installed operational recirculating water systems, or must have secured a waiver of this requirement from the City.

Level 1 Water Supply Shortage (11% - 20% reduction)

The following mandatory water conservation requirements, in addition to the prohibited uses of water for water waste reduction, apply during such time that the Level 1 Water Supply Shortage is in effect per Ordinance 1932:

- **Limits on Watering Days**. Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to three to five days per week (as necessary to achieve reductions as determined in the discretion of the superintendent) on a schedule established and posted by the City. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one day per week on a schedule established and posted by the City. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2)

gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.

- **Obligation to Fix Leaks, Breaks or Malfunctions**. All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within seventy-two (72) hours of notification by the City unless other arrangements are made with the City.
- **No Washing Down Hard or Paved Surfaces**. Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, is prohibited except when necessary to alleviate safety or sanitary hazards, and then only by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device, a low-volume, high-pressure cleaning machine equipped to recycle any water used, or a low-volume high-pressure water broom.

Level 2 Water Supply Shortage (21% - 35% reduction).

The following mandatory water conservation requirements, in addition to the prohibited uses of water for reducing water waste and Level 1 actions, apply during such time that the Level 2 Water Supply Shortage is in effect per Ordinance 1932:

- **Watering Days.** Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to two days per week (as necessary to achieve reductions as determined in the discretion of the superintendent) on a schedule established and posted by the City. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one day per week on a schedule established and posted by the City. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.
- **Obligation to Fix Leaks, Breaks or Malfunctions.** All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within

forty-eight (48) hours of notification by the City unless other arrangements are made with the City.

- **Limits on Filling Ornamental Lakes or Ponds.** Filling or re-filling ornamental lakes or ponds with potable water is prohibited, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a supply shortage level under this section.
- **Limits on Washing Vehicles.** Using water to wash or clean a vehicle, including but not limited to, any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not, is prohibited except at a commercial car washing facility that utilizes a recirculating water system to capture or reuse water.
- **Limits on Filling Residential Swimming Pools & Spas.** Re-filling of more than one foot and initial filling of residential swimming pools or outdoor spas with potable water is prohibited.

Level 3 Water Supply Shortage – Emergency Condition (Greater than 35% reduction)

The following mandatory water conservation requirements, in addition to the prohibited uses of water for reducing water waste and Level 1 and Level 2 actions, apply during such time that the Level 3 Water Supply Shortage is in effect per Ordinance 1932:

- **No Watering or Irrigating.** Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited. This restriction does not apply to the following categories of use, unless the City has determined that recycled water is available and may be applied to the use:
    - Maintenance of vegetation, including trees and shrubs, that are watered using a hand-held bucket or similar container, hand-held hose equipped with a positive self–closing water shut-off nozzle or device;
    - Maintenance of existing landscape necessary for fire protection;
    - Maintenance of existing landscape for soil erosion control;
    - Maintenance of plant materials identified to be rare or essential to the well-being of protected species;
    - Maintenance of landscape within active public parks and playing fields, day care centers, golf course greens, and school grounds, provided that such irrigation does not exceed two (2) days per week for no more than fifteen (15) minutes

watering per day per station and is prohibited between the hours of 9:00 a.m. and 5:00 p.m. Pacific Standard/Daylight Savings Time, according to the schedule established in subsection D(1) of Ordinance 1932 or this section.

  - Actively irrigated environmental mitigation projects.

- **Obligation to Fix Leaks, Breaks or Malfunctions.** All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within twenty-four (24) hours of notification by the City unless other arrangements are made with the City.
- **Limits on New Potable Water Service**: Upon declaration of a Level 3 Water Shortage Emergency condition, the City may limit the issuance of new potable water services, temporary meters and/or statements of immediate ability to serve or provide potable water service (such as, will-serve letters, certificates, or letters of availability), except under the following circumstances:
  - A valid, unexpired building permit has been issued for the project;
  - The project is necessary to protect the public health, safety, and welfare; or
  - The applicant provides substantial evidence of an enforceable commitment that water demands for the project will be offset prior to the provision of a new water meter(s) to the satisfaction of the City.
  - This provision does not preclude the resetting or turn-on of meters to provide continuation of water service or the restoration of service that has been interrupted for a period of one year or less.
- **Limits on Building Permits**. Upon declaration of a Level 3 Water Supply Shortage Emergency condition, the City Manager is authorized to implement a program in his or her discretion to limit or withhold the issuance of building permits which require new or expanded water service, except to protect the public health, safety and welfare, or in cases which meet the City's adopted conservation offset requirements.
- **Discontinue Service**. The City, in its sole discretion, may discontinue service to consumers who willfully violate provisions of this section.
- **No New Annexations**. Upon the declaration of a Level 3 Water Supply Shortage condition, the City may suspend consideration of annexations to its service area. This subsection does not apply to boundary corrections and annexations that will not result in any immediate increased use of water.

County Measures

In addition to the City Ordinance, the City of Morgan Hill has worked with the SCVWD and its other member agencies to prepare a County-wide Water Shortage Contingency Plan to be implemented in the event of a severe water shortage. It was created since many of the county's water agencies share similar water conservation goals. The Contingency Plan offers actions to be taken by water suppliers to encourage (and in some cases require) water conservation methods to be undertaken by their customers. The full Draft Water Shortage Contingency Plan for the SCVWD and provided to its member agencies, including the City of Morgan Hill, can be found in Appendix G.

Urban Water Management Planning Act Requirement:

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

In the case of a water supply shortage, violators of Ordinance 1932 can face a maximum of fine of $1,000 or imprisonment for no more than 30 days. Table 5.2.4 describes the penalties associated with single and recurring violations, which are outlined in the ordinance. This includes a first warning, and subsequent fines increasing from $100, and, on the fourth violation, a notice of intent to install a flow restrictor.

Table 5.2.4
Water Shortage Contingency — Penalties and Charges

Penalties or Charges	Stage When Penalty Takes Effect	Amount
First Violation of Water Ordinance	All Stages	Written Warning
Second Violation of Water Ordinance within a 12-Month Period	All Stages	$100
Third Violation of Water Ordinance within a 12-Month Period	All Stages	$200
Subsequent Violations of Water Ordinance within a 12-Month Period	All Stages	$500 and subject to a water flow restrictor device of approximately 1 gpm

Urban Water Management Planning Act Requirement:

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

During a water shortage, revenue is expected to decrease due to a reduction in water sales. Furthermore, expenditures would be expected to increase due to the necessary marketing of water conservation methods to reduce water use. In the event that expenditures significantly outweigh revenue, the City has an emergency fund that could be used to provide funds; however, these funds would need to be replenished through additional water sales following any kind of emergency situation. The City also has the authority to increase water use rates during times of drought. The results of this would be two-fold: bringing in additional revenue with similar sales while simultaneously discouraging water waste. These options allow the City to respond quickly to funding issues accompanied with a drought situation.

Urban Water Management Planning Act Requirement:

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

Ordinance No. 1932, which describes the actions to be taken in case of a water shortage, can be found in Appendix F. The SCVWD Water Shortage Contingency Plan, which describes countywide actions to be taken during a water shortage can be found in Appendix G.

5.3 Water Quality

Urban Water Management Planning Act Requirement:

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 urban water management strategies and supply reliability.

The City of Morgan Hill obtains all water supplies from groundwater; the main concern regarding water quality is the contamination of the water from the wells. Contamination of concern generally includes waste, toxic chemicals, and sewage. Causes of water quality issues are examined more in detail below. The City of Morgan Hill has adopted policies as listed in the *Morgan Hill General Plan* outlining the necessary precautions to protect the quality of the groundwater. The following actions have been adopted by the City of Morgan Hill, as described in the General Plan, to ensure safe potable water:

1. Evaluate water quality to ensure compliance with community standards and applicable State and federal provisions.
2. Develop standards requiring minimization of sediment and hydrocarbon runoff to streams.
3. Require wetland delineation and mitigation as part of the environmental review of future development.
4. Coordinate with jurisdictional agencies, as required, as part of the environmental review process for development projects.

For the City's system, water quality is assured at each wellhead. Chlorine residual is maintained and bacteria presence is detected through the monitoring of residual levels. If a well tests positive for bacteria, the pump is shut down. The City's Emergency Response Plan (ERP) speaks to the system it has in place in case of such an occurrence, which includes, but is not limited to, having the following notifications already developed for broadcasts if/when needed:

- Boil Water Order
- Unsafe Water Alert

- Do Not Drink Notice

The ERP provides details on what unsafe water quality condition(s) must exist to warrant the notification.

Table 5.3.1 below indicates the potential effects of water quality on the supply to the City. Since the City pumps only groundwater, water quality due to water quality contamination is most likely at a single well. To estimate the impacts that this would have on the total water supply, the production of the largest capacity well is assumed to be no longer available, assuming that it becomes contaminated. In addition, it is assumed that the well is lost during the summer, when well flows are expected to peak. As described in Chapter 4, this would not severely impact the water supply, however, as Morgan Hill pumps only a fraction of its full capacity. Even if the largest well were to become contaminated and unavailable, the City would still be able to provide the total estimated demand.

Table 5.3.1
Water Quality — Current and Projected Water Supply Impacts

Water source	Description of condition	2010	2015	2020	2025	2030
Groundwater	Contamination of the Nordstrom well	1,650	1,650	1,650	1,650	1,650

Units: acre-feet per year

Chemical Contamination

Water quality is affected by the chemicals that are used in the population's everyday life. Runoff of chemicals such as pesticides, oils, and industrial solvents have the potential to enter the groundwater system and reduce the overall quality of the water pumped by the City of Morgan Hill. To prevent potentially contaminated water from entering the supply system, the City of Morgan Hill ensures with thorough water quality monitoring and testing that its water meets the federal and state water standards.

Perchlorate

Of particular interest to the City of Morgan Hill is the contamination of perchlorate, which has been detected in several wells. The source of perchlorate, a chemical used in manufacturing explosives, was identified to be a highway safety flare plant operated by Olin Chemical Corporation near the City of Morgan Hill, which caused a ten-mile long plume of perchlorate in groundwater.

As of 2010, the SCVWD identified that only eight wells within the County had perchlorate levels above the threshold 6 ppb, down from over 150 wells in 2004; none of the eight wells identified are in the City of Morgan Hill. This is due to the Cleanup and Abatement issued to the Olin Chemical Corporation to ensure a cleanup is performed and alternate water supplies are available to affected wells. Additionally, in January 2011, the California Office of Environmental Health Hazard Assessment (OEHHA) released a draft public health goal (PHG) of 1 part per billion (ppB), reduced from 6 pbb, for perchlorate in drinking water, further emphasizing the importance treating the water contaminated with perchlorates.

Hexavalent Chromium

While currently there is no drinking water standard for hexavalent chromium (chromium-VI), the OEHHA established a draft PHG for hexavalent chromium in drinking water. The draft proposes a PHG of 0.02 pbb hexavalent chromium in drinking water. However, the development of the PHG is indicative of future potential requirements for a drinking water standard. The City of Morgan Hill currently has well sites which have detected hexavalent chromium. In order to meet a future drinking water standard for hexavalent chromium the City may be required to implement additional treatment facilities.

Biological

Without proper treatment, water may be infected with possible biological contaminants. Biological contamination can arise from improperly treated wastewater and the decay of once living plants and animals. Biological pollutants include bacteria, viruses, protozoans and parasitic worms that use water as a means of transportation to a host (i.e. humans).

The City has not reported any significant issues regarding the water quality of its wells regarding biological factors. Currently the City of Morgan Hill has stringent water quality standards considering biological contamination.

5.4 Drought Planning

Urban Water Management Planning Act Requirement:

10631(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.

All groundwater basins used by the City of Morgan Hill are managed ultimately by the Santa Clara Valley Water District. The basins that are managed by the SCVWD in Santa Clara County are used by other water retailers in the county, including the City of Gilroy, the City of San Jose, and privately-owned wells. The Water supply reliability will be based on the total capacity available to the City of Morgan Hill through existing wells. It should be noted that the demand is significantly less than the total pumping capacity. Regardless of contamination or drought, ensuring that wells will be available to pump potable water for the City's water needs increases the overall reliability of the supply and mitigates the impacts in the event that a single or multiple wells are unable to provide potable water.

The following table identifies the normal, single dry, and multiple dry water years chosen to represent the water supply for the City of Morgan Hill, as identified by rainfall data available from the California Department of Water Resources.

Table 5.4.1
Basis of Water Year Data

Water Year Type	Base Year(s)
Average Water Year	2002
Single-Dry Water Year	1977
Multiple-Dry Water Years	1988-1990

During these years, the supply that was available to the public for use decreases. During dry events, other water retailers in the Santa Clara County are likely to become more dependent on groundwater as opposed to imported water. When other retailers must rely on groundwater more heavily, it reduces the groundwater available for the City of Morgan Hill for longer term droughts. Since the City of Morgan Hill considers its groundwater reliability to be based on imported water supplies available to other water retailers during dry events, the reliability of imported water available to the SCVWD is reported in Table 5.4.2.

Table 5.4.2 Supply Reliability — Historic Conditions				
Average / Normal Water Year (2002)	Single Dry Water Year (1977)	Multiple Dry Water Years		
		Year 1 (1988)	Year 2 (1989)	Year 3 (1990)
301,470	183,730	210,750	210,750	210,750
Percent of Average/Normal Year:	61%	70%	70%	70%

Units: acre-feet per year

Urban Water Management Planning Act Requirement:

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

In the event of a water supply shortage, the City of Morgan Hill has in place several stages of action to take. These are listed above in the Water Shortage Contingency Plan Section.

Urban Water Management Planning Act Requirement:

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

The table below shows the minimum water supply available during the next three years with a multiple year hydrology as defined by the 1988-1990 water years, the driest three consecutive years of the multiple dry year period identified in Table 5.4.2. It can be seen that water supplies for the next three years are expected to be able to meet 100% of the demand for the City of Morgan Hill. This is due to the total pumping capacity available to the City.

Table 5.4.3 Supply Reliability — Current Water Sources				
Water supply sources	**Average / Normal Water Year Supply**	**Multiple Dry Water Year (1988)**	**Multiple Dry Water Year (1989)**	**Multiple Dry Water Year (1990)**
		Year 2011	**Year 2012**	**Year 2013**
Llagas	2,476	2,476	2,476	2,476
Coyote Valley	15,578	15,578	15,578	15,578
Percent of normal year:		100%	100%	100%

Units: acre-feet per year

The numbers reported in Table 5.4.3 represent the total pumping capacity for the City of Morgan Hill. The City has anticipated solely using groundwater to provide water for its customers.

Although the supplies are great enough to be met for the next three years in the event of a drought, continuing to pump such quantities from the basins outweighs the water replenished by rainfall and groundwater recharge. This could potentially result in overdraft conditions of the basins. In this event, the City of Morgan Hill would have to reduce demand by implementing the water conservation measures described above in the Water Shortage Contingency Plan Section to prevent overdraft. Implementation of these measures would be determined by monitoring the groundwater recharge and groundwater levels. The City of Morgan Hill also will work closely with the Santa Clara Valley Water District to ensure that the basins are not over pumped, resulting in overdraft conditions.

Urban Water Management Planning Act Requirement:

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

Under normal water supply conditions, potable water production figures are recorded monthly.

During water shortages, figures will be read monthly, or more frequently as necessary, from the wellhead meters and reported to the City Manager. A comparison of the monthly production to the target monthly production will verify that the reduction goal is being met. Monthly reports will be presented to the City Council at the discretion of the City Manager if reduction goals are not

met so that corrective action can be taken. As necessary, production will be monitored by sector and consumer.

In the event of an emergency shortage, daily production figures will be collected and reported to the City Manager. In addition, if deemed necessary, off-line wells with high, yet safe, perchlorate levels may be put back on-line.

Urban Water Management Planning Act Requirement:

10635(a) Every urban water management supplier shall include, as part of its urban water management plan, an assessment of the reliability of it 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.

The supply available to the City remains constant, as the total supply available to the City is equal to the pumping capacity. During drought years, the demand projections will be slightly higher than predicted and described in Chapter 3, due to a higher need for water for irrigation and agriculture arising from longer growing years, an increase in average temperature, and less natural precipitation. The increase in demand was estimated by calculating the evapotranspiration (ETo) from climatic data available from the DWR. A correlation relating the climatic data and existing ETo data from the DWR's California Irrigation Management Information System (CIMIS) was made and the ETo for normal, single dry, and multiple dry years was calculated. The agricultural demand increase during single and multiple dry years was projected by comparing the ETo increase during single dry and multiple dry years to that of the normal, 2002 year. The estimated ETo values and corresponding agricultural demand are shown in Table 5.4.4.

Table 5.4.4
Demand Increase Projections

	Average / Normal Water Year (2002)	Single Dry Water Year (1977)	Multiple Dry Water Year (1988)	Multiple Dry Water Year (1989)	Multiple Dry Water Year (1990)
ETo (in/month)	4.37	4.93	4.89	4.71	4.77
Demand Increase	0%	13%	12%	8%	9%

The following tables, 5.4.5 through 5.4.7, compare the total supply and demand as identified in Chapters 3 and 4 for normal, single dry, and multiple dry years. It can be seen that the supply available to the City is well above the total demand, even during multiple dry years. However, continued pumping at rates which exceed the total groundwater recharge can be harmful to the basins. For this reason, during dry and multiple dry years, the City and the SCVWD are committed to monitoring groundwater levels and implementing water conservation strategies *before* water levels become dangerously low.

During single dry and multiple dry years, the overall demand for the Santa Clara County may decrease as a result of conservation efforts, as shown in Table 5.4.2. However, during these years, the larger demands could be met, if conservation efforts were not implemented. Tables 5.4.6 and 5.4.7 indicate the maximum supply and demand anticipated, without the reduction of use due to conservation efforts. However, described in the previous sections, the City of Morgan Hill and the SCVWD monitor groundwater levels to determine when conservation efforts need to be encouraged and/or mandated.

Table 5.4.4
Supply and Demand Comparison — Normal Year

	2015	2020	2025	2030
Supply Totals	15,946	15,946	15,946	15,946
Demand Totals	9,023	8,571	9,049	9,637
Difference	6,923	7,375	6,897	6,309
Difference as % Of Supply	43%	46%	43%	40%
Difference as % Of Demand	77%	86%	76%	65%

Units are in acre-feet per year.

Table 5.4.5
Supply and Demand Comparison — Single Dry Year

	2015	2020	2025	2030
Supply Totals	15,946	15,946	15,946	15,946
Demand Totals	9,255	8,791	9,281	9,885
Difference	6,691	7,155	6,665	6,061
Difference as % of Supply	42%	45%	42%	38%
Difference as % of Demand	74%	83%	74%	63%

Units are in acre-feet per year.

Table 5.4.6
Supply and Demand Comparison — Multiple Dry-Year Events

		2015	2020	2025	2030
Multiple-dry year first year supply	**Supply Totals**	15,946	15,946	15,946	15,946
	Demand Totals	9,237	8,774	9,264	9,865
	Difference	6,709	7,172	6,682	6,081
	Difference as % of Supply	42%	45%	42%	38%
	Difference as % of Demand	74%	84%	74%	63%
Multiple-dry year second year supply	**Supply Totals**	15,946	15,946	15,946	15,946
	Demand Totals	9,166	8,706	9,192	9,789
	Difference	6,780	7,240	6,754	6,157
	Difference as % of Supply	43%	45%	42%	39%
	Difference as % of Demand	75%	84%	75%	64%
Multiple-dry year third year supply	**Supply Totals**	15,946	15,946	15,946	15,946
	Demand Totals	9,183	8,723	9,210	9,808
	Difference	6,763	7,223	6,736	6,138
	Difference as % of Supply	42%	45%	42%	38%
	Difference as % of Demand	75%	84%	74%	64%

Units are in acre-feet per year.

6 DEMAND MANAGEMENT MEASURES

6.1 DEMAND MANAGEMENT MEASURE IMPLEMENTATION

Urban Water Management Planning Act Requirement:

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

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

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

10631 (g) An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following: (1) take into account economic and noneconomic factors, including environmental, social, health customer impact,

and technological factors; (2) Include a cost-benefit analysis, identifying total benefits and total costs; (3) Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost; (4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation

The City of Morgan Hill works with the Santa Clara Valley Water District (SCVWD) to implement water conservation techniques to reduce the total demand of water throughout the City and Santa Clara County. Together, the City and SCVWD implement the 13 required Demand Management Measures (DMMs) within the City (DMM 10 is not required as the City is not a wholesale agency). Although the City is not a member of the California Urban Water Conservation Council (CUWCC) and has not signed the Memorandum of Understanding (MOU), the City does recognize the importance of implementing the DMMs to encourage water conservation throughout the community. SCVWD is a member of the CUWCC and has subscribed to the implementation of the Best Management Practices (BMPs). Since the City is a member agency of SCVWD, SCVWD assists the City in the implementation of the BMPs to improve water conservation. The following table summarizes the BMPs/DMMs:

Table 6.1.1
CUWCC BMP Organization and Names (2009 MOU) and UWMP DMMs

Type	Category	BMP #	BMP Name	DMM #	DMM Name
Foundational	Operations Practices	1.1.1	Conservation Coordinator	12	Water Conservation Coordinator
		1.1.2	Water Waste Prevention	13	Water Waste Prohibition
		1.1.3	Wholesale Agency Assistance Programs	10	Wholesale Agency Programs
		1.2	Water Loss Control	3	System Water Audits, Leak Detection, and Repair

Table 6.1.1
CUWCC BMP Organization and Names (2009 MOU) and UWMP DMMs

Type	Category	BMP #	BMP Name	DMM #	DMM Name
		1.3	Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections	4	Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections
		1.4	Retail Conservation Pricing	11	Conservation Pricing
	Education Programs	2.1	Public Information Programs	7	Public Information Programs
		2.2	School Education Programs	8	School Education Programs
Programmatic	Residential	3.1	Residential Assistance Program	1	Water Survey Programs for Single-Family Residential and Multi-Family Residential Customers
				2	Residential Plumbing Retrofit
		3.2	Landscape Water Survey	1	Water Survey Programs for Single-Family Residential and Multifamily Residential Customers
		3.3	High-Efficiency Clothes Washing Machine, Financial Incentive Programs	6	High-Efficiency Washing Machine Rebate Programs

Table 6.1.1
CUWCC BMP Organization and Names (2009 MOU) and UWMP DMMs

Type	Category	BMP #	BMP Name	DMM #	DMM Name
		3.4	WaterSense Specification (WSS) toilets	14	Residential Ultra-Low-Flush Toilet Replacement Programs
	Commercial, Industrial, and Institutional	4	Commercial, Industrial, and Institutional	9	Conservation Programs for Commercial, Industrial, and Institutional Accounts
	Landscape	5	Landscape	5	Large Landscape Conservation Programs and Incentives

6.2 OPERATIONS PRACTICES

6.2.1 Water Conservation Coordinator (DMM 12)

The City has appointed an employee who is responsible for water conservation. Currently, the duties of the Water Conservation Coordinator do not require a full-time position, and therefore it is part of the duties of another full-time employee. Duties for the Water Conservation Coordinator include:

- Coordination and oversight of conservation programs and DMM implementation.
- Keeping a log of conservation practices conducted throughout the City and point person(s) assigned to each area.
- Acting as the point-of-contact to the Public for general inquiries and requests for information.
- Communication and promotion of water conservation issues to City senior management, and coordination of City conservation programs with operations and planning staff.

The person responsible for Water Conservation for the City is Mr. Anthony Eulo. His contact information is below:

Name: Anthony Eulo

Title: Program Administrator

Address: 17575 Peak Ave., Morgan Hill, CA 95037

Phone: (408) 778-6480

E-mail: Anthony.Eulo@morganhill.ca.gov

The City has historically had a part-time Water Conservation Coordinator. The below table outlines the staff allocations and actual/projected expenditures the City will allocate for their conservation coordinator duties through 2015.

Table 6.2.1
Water Conservation Coordinator Staff Time and Expenditure

Year	2006	2007	2008	2009	2010
Number of Part-Time Staff	0.31	0.31	0.31	0.31	0.31
Actual Expenditures	$61,800	$85,800	$95,800	$119,700	$113,600
Year	**2011**	**2012**	**2013**	**2014**	**2015**
Number of Part-Time Staff	0.31	0.31	0.31	0.31	0.31
Projected Expenditures	$100,000	$100,000	$100,000	$100,000	$100,000

6.2.2 Water Waste Prohibition (DMM 13)

There are specific water waste prohibitions already stipulated in the City's Municipal Code Section 13.04.330; this can be found in Appendix J. The City has also prepared a "Model Resolution for Mandatory Reductions In and Specified Prohibitions of Water Use" so that it is prepared in the case of drought or water shortage, which can be found in Appendix K.

SCVWD has also developed a set of model water use restrictions. In 2009, SCVWD worked with cities and member agencies to develop a model Drought Response and Water Waste Ordinance which can be found in Appendix L.

Together, these three documents support the conservation of water and reduction of waste water, with tips and laws to prevent unnecessary water waste. These documents also work with

the Water Shortage Contingency plan to reduce water waste during in times of drought. For more information about the Water Shortage Contingency Plan, see Chapter 5: Water Supply Reliability and Water Shortage Contingency Plan.

6.2.3 Wholesale Agency Programs (DMM 10)

This DMM is not required as the City is not a wholesale agency.

6.2.4 System Water Audits, Leak Detection, and Repair (DMM 3)

The City has implemented a system water audit to determine if leaks in the supply and distribution system exist and a method for repair in the event that the leaks become significant. The system audit is performed by tracking the actual metered water use, which can be compared to total well production. Production is tracked monthly, and reviewed annually to determine if the system exhibits significant losses.

As part of this program, the City's Maintenance Department handles physical audits and repairs. When losses become significant, the Maintenance Department determines specifically where leaks exist. Discovered leaks are then slated for repairs. A record of the discovery of leaks and details of the repair are kept.

Documentation of each incidence and/or detected leak will be kept along with the date repairs are made. Once a repair is made, a minimum of one year's follow up of well production versus use data will be tracked to determine the total amount of water savings through said repair.

An auditing system was developed in 2007 and annual reviews have been conducted since then. Using 2010 data, verifiable use as a percent of total production is calculated comparing actual metered sales (6,778 AF) against total supply into the system as measured at the wellhead meters (7,333 AF). Based upon this data, the City has approximately 7% loss in their system.

6.2.5 Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections (DMM 4)

Part of DMM 4 includes the retrofitting of existing metered connections. The City estimates that there are no unmetered connections within the City limits since there has never been a flat rate charged for water use within any sector. Therefore, no program for retrofitting existing unmetered connections is identified.

The City adopted an Ordinance that requires separate meters installed at multi-unit residences and in multi-use developments. Research shows that water users paying for their own water use an average of 15% less water than they would if they were not metered separately. By requiring separate water meters, the City expects to see a marked decrease in water use at these locations.

As part of this effort, SCVWD offers rebates for installation of submeters. This program gives a rebate of $100 for every water submeter installed at multi-family housing complexes, such as mobile home parks and condominium complexes. During the pilot program in 2001, 1,187 rebates were distributed by SCVWD. From 2007-2011, 160 submeter rebates have been given to the City.

6.2.6 Conservation Pricing (DMM 11)

The City uses an inverted water rate structure to provide incentives to customers to reduce water use. This type of structure effectively resulted in a 32% reduction of water use between 1987 and 1991. Considering the historical success of using such a structure, this type of structure has been in use for nearly 25 years and encourages a mind-set for conservation with its customers. The table below shows the current rate structure. Note that 1 unit is equivalent to 748 gallons.

Table 6.2.2
Current Residential Rate Structure

User Class	Tier 1 (1-10 Units)	Tier 2 (11-30 Units)	Tier 3 (31+ Units)
City Residents	$1.17/Unit	$2.34/Unit	$3.51/Unit
County Residents	$1.76/Unit	$3.52/Unit	$5.26/Unit

6.3 EDUCATION PROGRAMS

6.3.1 Public Information Programs (DMM 7)

The City and SCVWD work together to raise public awareness regarding many different issues regarding water and water supply. These issues include information pertaining to runoff pollution, water quality, and water conservation. The City and SCVWD have several ways of educating the public about these broad topics that ultimately pertain to water use by the City customers.

The City promotes water conservation to local residents and business in the following ways:

- Literature Rack: A rack containing water conservation literature has been in the City Hall lobby since 1999.
- Bill Inserts: The City's utility bills have included a minimum of one insert annually on water conservation.
- New Resident Orientation: each new utility customer is sent information about the City's water conservation program and offered additional literature and water-saving devices.
- Demonstration Gardens: The City has three Demonstration Garden Sites to inform residents how to maintain their gardens in ways that still conserve water and improve water quality.
- Newspaper Columns and Newsletters: The City's Water Conservation Coordinator has written numerous newspaper columns promoting water conservation during the past decade. In addition, the topic has been featured in the City's newsletter and in the City's Consumer Confidence Report.
- Special Events: For the past several years, City Staff have attended community festivals and exhibitions to promote water conservation.

In addition to these educational outreach programs provided by the City, the City also works with SCVWD to develop and market conservation techniques through various types of media, including radio, television and the internet.

One such campaign spearheaded by SCVWD and supported by the City encouraged all water users in the Santa Clara Valley County to "Save 20 gallons." The 20 gallon reduction goal was developed by SCVWD and its member agencies as a significant reduction in water use per person. The campaign focused on influencing residents' daily habits involving water use and

identifying where water can be conserved. Among advertising this campaign on television, radio, and the internet (save20gallons.org), SCVWD also provided fliers posters, signs, bookmarks and other material to remind residents to be constantly aware of their water use. The "Save 20 gallons" campaign is a year-long campaign. Updates on the success and actual conservation are done on a District wide basis, and available through SCVWD.

The table below shows the implementation schedule and actual/projected expenditures of certain of the above-listed conservation efforts through 2015:

Table 6.3.1
Public Information Actual Expenditures

Program	2006	2007	2008	2009	2010
Bill Inserts/Newsletters/Brochures	X	X	X	X	X
Demonstration Gardens	X	X	X	X	X
Special Events/Media Events	X	X	X	X	X
Program to Coordinate with other government agencies, industry and public interest groups and media	X	X	X	X	X
Actual Expenditures	$6,517	$2,958	$1,436	$8,979	$2,355

Table 6.3.2 Public Information Projected Expenditures					
Program	**2011**	**2012**	**2013**	**2014**	**2015**
Bill Inserts/Newsletters/Brochures	X	X	X	X	X
Demonstration Gardens	X	X	X	X	X
Special Events/Media Events	X	X	X	X	X
Program to Coordinate with other government agencies, industry and public interest groups and media	X	X	X	X	X
Projected Expenditures	$1,500	$1,500	$1,500	$1,500	$1,500

6.3.2 School Education Programs (DMM 8)

In 1995, SCVWD hired a full-time, fully-credentialed educator who holds life-time teaching and Administrative Services credentials to coordinate the school education programs. This included developing school programs, contracting with the Youth Science Institute for additional instructors, and supervising university student interns as classroom assistants.

SCVWD has been continuously active in the area of youth education by providing free classroom presentations, puppet plays, and tours of District facilities within the County. The objective is to teach students about water conservation, water supply, watershed stewardship, and flood protection. SCVWD also provides school curricula to area educators, including workbooks and videos as well as hands-on training for teachers. In 2010, over 11,200 kindergarten through 6th grade students and 221 7th grade through 12th grade students were reached. SCVWD completed 476 classroom presentations, with over 10,600 students attending. The annual budget for FY 2010 was $215,000. The goal of the program is to reach 12,000 students this year, ranging from pre-kindergarten through college.

Materials distributed to students included topical lessons, all of which meet state education framework requirements and are grade-level appropriate. All students who participated in the program received materials.

6.4 RESIDENTIAL PROGRAMS

6.4.1 Water Survey Programs for Residential Customers (DMM 1)

The City works with SCVWD to administer residential water survey programs to its single-family and multi-family residential customers. Since 1998, SCVWD has conducted Water Wise House Calls that include the following components:

- Educating the customer on how to read a water meter
- Checking flow rates of showerheads, faucet aerators, and toilets
- Checking for leaks
- Installing low-flow showerheads, aerators and/or toilet flappers
- Checking the irrigation system for efficiency, including leaks
- Measuring landscaped area
- Developing an efficient irrigation schedule for the different seasons,
- Providing the customer with evaluation results, water savings recommendations, and other educational materials

The Water Survey Programs are promoted countywide through a summer media campaign which typically includes television, radio, and print ads. SCVWD plans to continue the program to meet the region's long-term water conservation goals.

Since the program started, SCVWD has administered approximately 29,600 audits and since 2005, 297 were performed within the City.

Table 6.4.1
Water Wise House Call Summary for Single and Multi-Families

Year	FY 05-06	FY 06-07	FY 07-08	FY 08-09	FY 09-10
Surveys Completed	20	27	82	104	64

6.4.2 Residential Plumbing Retrofit (DMM 2)

The City offers free water-saving showerheads and faucet aerators to all City residents as mechanisms to achieve in-home water savings. This is done with SCVWD as part of its Residential Plumbing Retrofit strategy. SCVWD also distributes high-quality, low-flow showerheads and faucet aerators to single-family and multi-family residents through the water retailers and public events. Since program inception in 1992, more than 296,000 low-flow showerheads and aerators have been distributed throughout the county, including more than 22,000 in FY 2010. Since 2005, 700 water-saving showerhead retrofits have been completed for the City.

6.4.3 High Efficiency Washing Machine Rebate Programs (DMM 6)

SCVWD has a high-efficiency washing machine rebate program that serves the customers of the City. Currently SCVWD partners with Pacific Gas and Electric (PG&E) to provide a total rebate of $125 to residents who purchase a washer rated as a Tier 3 according to the Consortium for Energy Efficiency. Of this total rebate, PG&E contributes $50 per washer and SCVWD contributes the remaining $125. A high-efficiency washer will save approximately 6,500 gallons of water per year for an average household. Since 1995, 1948 washing machine rebates were given to residents of the City of Morgan Hill.

Table 6.4.2
High-Efficiency Washing Machine Rebate Summary

Year	FY 05-06	FY 06-07	FY 07-08	FY 08-09	FY 09-10
Rebates Given	268	303	234	451	494

6.4.4 Residential ULFT Replacement Programs (DMM 14)

The City has a program for ULFT replacement through SCVWD. SCVWD has completed the required water savings by retrofitting approximately 244,000 toilets in the County with ULFTs since the program started in 1992.

In 2004, SCVWD shifted towards offering High-Efficiency Toilets (HETs), which offer additional water savings of about 20%. The current program offers rebates only for WaterSense HETs. Single-family and multi-family accounts are eligible for the $125 rebate upon purchase of a HET.

Multi-family residential units are also eligible for installation. SCVWD has already given out rebates for 7,700 single-family HETs and 8,000 multi-family HETs. SCVWD plants to continue this program to increase water conservation. Since 2005, 549 ULFTs were installed through this program in the City of Morgan Hill.

Table 6.4.3
High-Efficiency Toilet Rebate Summary

Year	FY 05-06	FY 06-07	FY 07-08	FY 08-09	FY 09-10
Rebates Given	1	13	149	178	208

6.5 COMMERCIAL, INDUSTRIAL, AND INSTITUTIONAL PROGRAMS

6.5.1 Commercial, Industrial, and Institutional Programs (DMM 9)

SCVWD has initiated programs for Commercial, Industrial and Institutional (CII) incentives for water conservation. SCVWD offers comprehensive CII surveys – including cost-benefit analysis for all recommendations – to businesses within Santa Clara County. Since 2008, SCVWD has completed approximately 220 CII Water Use Surveys; 13 of these surveys have been completed for CII customers in the City.

The City and SCVWD also encourages water conservation through rebate programs for newer, more water efficient technologies. Among these technologies offered for businesses are commercial ultra-low flush toilets and urinals, commercial clothes washers, efficient pre-rinse spray valves, and submeter rebates.

In 1994, SCVWD began offering rebates to businesses who replaced inefficient toilets with ULFT. This program changed in 2000, when SCVWD began offering direct installation of ULFT, as opposed to offering rebates as incentive for businesses to replace existing toilets. Since the program started in 1994, more than 8,700 ULFTs have been installed through District funded programs.

In addition to the ULFT rebate, SCVWD also offers rebates to businesses that replace inefficient washers with new high-efficiency washers. This program began in 1999, and offered rebates to Laundromats within the County only. In 2000, the program was expanded to include multi-family housing complexes and other commercial operations including hotels, schools, churches and other CII customers. In July 2010, the program was modified so that only the highest tier of

water conservation washers is eligible for rebates. This is consistent with SCVWD's long-term water conservation goals.

SCVWD also offers free low-flowing pre-rinse sprayers and high-efficiency faucet aerators to businesses. The pre-rinse sprayers offered flow at 1.15 gallons per minute, and the faucet aerators flow at 0.5 gallons per minute. These are available through SCVWD website and offer significant savings (approximately $1,000 per year for local businesses). Since 2005, 1500 aerators and 37 pre-rinse sprayers were retrofitted in the City.

6.6 LANDSCAPE PROGRAMS

6.6.1 Large Landscape Conservation Programs and Incentives (DMM 5)

Water-Wise Landscaping

The City is currently implementing three demonstration gardens using "Water-Wise" landscaping that serve as models for both public and private water conservation practices. These gardens include hardscaping mixed with native plants. The watering systems designed for planted areas are beneath the surface for increased efficiency. Additional information on demonstration gardens is also provided under DMM 7: Public Information.

The Weather Based Irrigation Controller (WBIC) Rebate program, a financial incentive for commercial, industrial, and institutional sites, to purchase and install WBICs from the District's approved list is available to sites that have a minimum of a half acre (21,780 sq ft) of irrigated landscape. The sites must also participate in a pre-installation landscape survey. 19 WBIC rebates were given to the City since 2005.

Landscape Survey Program

The Landscape Survey Program (LSP) provides technical assistance to property owners and managers with greater than one acre of irrigated landscape. Based on a thorough evaluation of the entire irrigation system, including checking system efficiencies and distribution uniformity, participants receive customized efficiency recommendations and an annual watering schedule/budget. Since 2005, 36 landscape surveys have been completed for the City.

City Ordinance

A City Ordinance stipulates was adopted in 2006 landscape water conservation standards and requirements for irrigation system management and maintenance. The Ordinance includes inspection, monitoring, and enforcement practices.

Irrigation System Hardware Rebate Program

SCVWD's Irrigation System Hardware Rebate Program (ISHRP) is a rebate program that has been developed to assist the Landscape Survey Program participants in implementing their site-specific hardware upgrade recommendations. The program offers a rebate of 50 percent of the water efficient hardware cost up to $4,000 per site. This program launched in December 2005 and since then, 26 rebates have been given to the City.

Residential Water Efficient Landscape Rebate Program (WELRP)

The Residential WELRP program which began in December 2005 provides rebates to assist homeowners in converting high water using plants to low water using plants or permeable hardscape. The rebate amount is $75 per 100 square feet or a maximum of $1,000, whichever is lower for residents in Santa Clara County. The City of Morgan Hill, being a cost sharing partner, provides City of Morgan Hill residents an additional $75 per 100 square feet for a total of $150 per 100 square feet, or a maximum of $2,000.

Reduced City Maintenance Areas

In an effort to both advance the water conservation efforts of municipal operations and reduce the amount of required maintenance in low-use park areas, the City has implemented a "Fringe Area Turf Reduction Program." In these low-use park areas, watering of turf has been ceased and is instead allocated solely to sustaining tree and shrub growth. Wood chips replace the turf once it dies. Signs have been or will be posted at these areas to inform the public of the transition period, as shown in Figure 6.6.1:

Figure 6.6.1 – Example of a Reduced Maintenance Area

There are currently seven parks within the City that are impacted by this program:

- Civic Center Park
- Community Park
- Diana Park
- Galvan Park
- Jackson Park
- Nordstrom Park
- Paradise Park

As a long-term program, a significant reduction in water use is expected. Additional information on the reduced maintenance areas may be found on the City's website or through inquiry with the City's Water Conservation Coordinator.

7 CLIMATE CHANGE

7.1 INTRODUCTION

Although not specifically included in the UWMP Act, the City of Morgan Hill has opted to address the potential impacts of climate change on the water system. It is noted in the *Guidebook to Assist Urban Water Suppliers to Prepare a 2010 Urban Water Management Plan* that "inclusion of potential climate change impacts in a water supply planning document is consistent with other water supply programs and environmental requirements being implemented in California."

Due to the fact that this section does not require specific information or topics to be discussed (as previous sections of the Morgan Hill UWMP do), the following topics will be covered:

- General Overview of Climate Change
- Effects of Climate Change
- Minimizing the Effects of Climate Change

Each of these sections will discuss the long term impact (outside of the 20 year scope identified in the prior sections).

7.2 CLIMATE CHANGE OVERVIEW

Although there is still some debate about the causes and effects of climate change, and even whether or not it exists, the general consensus among the scientific community is that climate change is a threat to our global climate. Climate change is a major environmental threat that is expected to result in a multitude of long-term weather changes and short term weather events. The specific impacts of climate change vary greatly by region and current climate. Due to the unpredictable nature of climate change, general statements will be made in accordance with recent observations and predictions made by climate scientists.

It is generally accepted that the leading factor resulting in climate change is the emissions of greenhouse gases (GHGs). GHGs include nitrous oxides, chlorofluorocarbons, carbon oxides, and methane, among many others. Due to the large amounts of carbon dioxide emitted in

electricity production by coal and transportation based on combustion of petroleum, effects and trends of carbon dioxide levels in the atmosphere on climate characteristics are studied heavily.

An increase in GHGs is expected to lead to climate change through a process called the Greenhouse Gas Effect. As radiation from the sun is emitted to earth, a portion of it is absorbed; the rest bounces off the surface and, in a natural process, is emitted to space. The Greenhouse gas effect describes the process where the radiation that would typically be emitted back to space is reabsorbed in the atmosphere by the chemicals known as Greenhouse Gases. When the radiation is reabsorbed, it is consequently reemitted back to the earth. This additional radiation that would have otherwise been emitted to space is generally accepted as the source of what we know as climate change. The GHGs emitted by the population serve as a "blanket" that holds in the suns radiation, and ultimately causes heat to become trapped with long term impacts on the climate.

7.3 EFFECTS OF CLIMATE CHANGE

Climate change is expected to have a wide variety of both short and long term impacts. These impacts will vary greatly based on geographical location and current climate. Some areas are expected to see decreases in average temperature and an increase in rainfall, while others are expected to experience the opposite. There is some debate about where the State of California will fall in these patterns; however it has been observed that average temperatures are increasing and weather events are becoming more intense. The Department of Water Resources has done extensive studies on climate change and what impacts it may have on the water supply. Some of the findings about what has been already observed as a possible result of climate change, as well as what is expected in the coming years is summarized below.

Wet Weather Events

Two extremes are expected, and have been observed, when looking at the possibility of climate change. The first of these extremes is the occurrence of wet weather events such as storms and floods. These are expected to increase in both intensity and frequency. This not only impacts the water supply by overwhelming storage, it can impact infrastructure as well. California has a series of natural and manmade flood barriers that serve to protect the population and infrastructure while simultaneously assisting to help store some of the runoff water. However, as floods increase in intensity, due partially to the increased rate of melting snow (a large, natural water source for California's water), flood protection can be overwhelmed.

In addition to floods, severe storms are likely to be an effect of climate change. While these

pose similar threats to the water supply and infrastructure as floods by cause large amount of water flow at one time, they also increase the likelihood of events such as mudslides that are known to cause high property damage and, in some cases, loss of life.

Dry Weather Events

In the long term, dry weather events are likely to have the most impact on the lives of California residents. Droughts are a natural occurrence in the State of California, characterized by short term (approximately 1-3 years) of warmer than average temperatures and reduced rainfall. Droughts have a devastating impact on the water supply reliability. Furthermore, as water storage is continually tapped at a rate higher than water replenishment is available, decreasing availability of a clean source of water becomes a threat. The general populations' lives are directly impacted by these events, requiring normal water use patterns to decrease sharply.

In additional to a reduction in water supply, droughts are also known to cause an increase in water demand due to warmer temperatures and extended growing seasons. These water demands, in addition to a growing population (as summarized in Chapter 3) are likely to cause additional strain on the already dwindling resources.

Decreased Snowpack

Among the effects that a drought is expected to have on the overall water supply, the possibility of decreased Sierra Nevada snowpack is a long term water supply issue. The Sierra Nevada snowpack is the largest water "reservoir" for the State, providing an annual average of 15 million AF of water. The snowpack is released as temperatures increase in the spring and summer months and melt the snow. Climate change affects this process in two ways. First, the snowpack is reduced due to warming temperatures causing less snow to fall. Instead, the precipitation is released as rain, and potentially cannot be captured and stored in reservoirs. Precipitation as water reduces the total stored water as snow in the Sierra Nevada and available to California. The DWR predicts a 25% to 40% decrease in snowpack in the Sierra Nevada by 2050. Furthermore, as temperatures rise, the snow that is stored is released at an accelerated pace. The DWR notes that water infrastructure was designed to handle the predicted the pace of the snowmelt. However, as snowmelt rates increase, water may overwhelm the system and be lost.

Sea level rise

The melting of the ice caps is a strong contributing factor to the increasing level in the rising of the sea level. The immediate consequences of this are recognized at the coastal California cities, where the impacts from flooding and storms are amplified. More significant to the City of Morgan Hill is the possibility of seawater intrusion into the groundwater basins. Seawater

intrusion immediately impacts the groundwater quality and increases the need for further water purification and development of supplies.

Water Quality

Water Quality effects due to climate change are predicted to occur due to two extremes.

Flooding and higher runoff at any given time has been predicted to increase erosion and, therefore, increase the amount of sediment and contaminants in the water supply. This has the potential to increase the strain on water suppliers due to the increased need for water purification.

Droughts and lower runoff have the potential to increase the concentration of chemicals that may be present in water streams. Streams of water collect chemicals that exist in the environment. As water runoff decreases, the same quantities of these chemicals are collected in smaller amounts of water, increasing the overall concentration. As the chemical concentrations rise, the purification requirements rise with each gallon of water, and increase the risk for dangerous fluctuations.

7.4 MINIMIZING THE EFFECTS OF CLIMATE CHANGE

Many of the potential impacts of climate change have already been observed. In addition, models show that current GHG levels will continue amplify the effect of climate change over the next few hundred years, even if all GHG production were to cease today. In order to combat minimize the impacts of climate change, innovative solutions must be developed. These solutions fall within two categories. The first strategy is mitigation. When applying to water suppliers, this is the ability to reduce GHG emissions. The second is adaptation; the strategy of adjusting our water supply system to meet water demands as a result of permanent climate change

Mitigation

In addressing climate change, mitigation is the effort to increase efficiency and reduce the output of GHGs. Although no individual industry is fully responsible for implementing mitigation efforts in an attempt to eliminate GHG production, each industry can develop its own techniques help reduce the impacts that climate change may have. The common goal throughout the world's population is in regards to mitigation is to eliminate production of GHGs. Currently, this is being done by exploring ways to increase efficiency, decrease demand, and develop alternative and renewable energy sources that will reduce the impact of burning fossil fuels.

For the water distribution sector, mitigation can be done by minimizing the transportation of water. Water is a dense liquid that requires a substantial amount of energy to move around. Because of this, distribution systems are complicated, and require large pumps. Electrical devices such as these pumps have an associate level of GHG emissions associated with the energy input they require. To mitigate the GHG associated with this, the City of Morgan Hill can minimize the amount of water required for distribution by encouraging demand reduction. Current demand reduction efforts are discussed in Chapter 6. Maximizing the efficiency of the water used not only preserves water supply, but can help in reducing the overall impacts and severity that is expected in the coming years as a result of climate change.

The State of California has taken an initiative in mitigating the long term effects of climate change by adopting Assembly Bill 32 (AB 32). AB 32 establishes a greenhouse gas emissions reduction goal for 2020, identified as reducing total emissions to 1990 levels by 2020. The California Air Resources Board (ARB) has developed specific requirements to help achieve this goal, including direct and required regulations, alternative compliance mechanisms, voluntary actions, and market-based mechanisms such as a cap and trade system.

To assist in meeting the goals of AB 32, Senate Bill 375 (SB 375) was passed in 2008. SB 375 requires the ARB to develop greenhouse gas reduction targets for 2020 and 2035 specifically for passenger vehicles, which are one of the leading greenhouse gas emissions sources in the State of California. Emissions reduction goals will be set for each one of the State's 18 metropolitan planning organizations (MPOs). Santa Clara County is one of these MPOs. Additionally, SB 375 sets goals for efficient land use within the MPOs to further reduce greenhouse gas emissions. In order to help meet the requirements of SB 375 and the greenhouse gas reduction goal for AB 32 and SB 375, the City of Morgan Hill intends to comply with Santa Clara County and the ARB's policies. Currently, the ARB is working to develop policies for reducing passenger vehicle use and efficient land use. Among these policies are:

- Transit Services
- Bicycle and Pedestrian Strategies
- Telecommuting
- Traffic Incident Clearance Programs
- Voluntary Travel Behavior Change Programs
- Residential Density
- Regional Accessibility
- Job-Housing Balance

More information on these policies, as well as additional policies and updated information about the progress of ARB's efforts in meeting the requirements of AB 32 and SB 375 can be found on the ARB website.

Adaptation

Adaptation is the strategy employed to adjust to the environmental impacts of climate change. Although not a desirable solution, this is necessary as the impacts of climate change are already beginning to take effect. Adaptation can help the population continue to thrive and minimize the potential negative consequences that result from climate change.

General adaptation strategies to increase water reliability have been identified by the State of California. These include adjusting designed flow rates of SWP infrastructure to ensure that all water is captured and able to be utilized with increased snowmelt and more intense precipitation periods.

Other adaptation strategies proposed by the State of California that may help in increasing the reliability of supply to the City of Morgan Hill regardless of climate change include:

- Fully developing Integrated Regional Water Management planning to evaluate supply and demand, and encourage water districts to work together to ensure that a broad water supply is available, increasing water reliability.
- Promoting integrated flood management to decrease the impacts of floods and utilizing natural flood plains where available. Adapting to climate change in response to the threat of floods increases the economic and social wellbeing of the State, especially those in high risk zones.
- Assisting to sustain ecosystems which provide clean and reliable water. Maintaining diverse ecosystems and preventing the potential destruction of these water sources will help increase their predictability and reliability.
- Focusing on impacts at the Bay-Delta. The Bay-Delta is the source of water for a majority of Californians. Ensuring that a healthy ecosystem and that water quality at the Bay-Delta are maintained despite the effects of climate change is imperative towards continuing to use this as a source of water.
- Planning for rises in the sea level. As sea water intrusion to water resources becomes a threat to water quality, establishing a reliable system of levees and flood management programs is necessary to maintain water supplies and ensure the safety of the State's population.

LIST OF APPENDICES

Appendix A: Public Notification Letter

Appendix B: Morgan Hill UWMP Adoption Resolution

Appendix C: Urban Water Management Planning Act

Appendix D: SBx7-7

Appendix E: Bulletin 118 Basin Descriptions

Appendix F: Ordinance Number 1932

Appendix G: Santa Clara Valley Water District Draft Water Shortage Contingency Plan

Appendix H: Water Supply Operations Providing for the Recharge of Aquifers which Supply the City of Morgan Hill – May 2010

Appendix I: Municipal Code Section 13.04.330 – Waste Water Prohibitions

Appendix J: Model Resolution for Mandatory Reductions in and Specified Prohibitions of Use

Appendix K: Drought Response and Water Waste Ordinance

Appendix L: Completed DWR Checklist

A PUBLIC NOTIFICATION LETTER

City of Morgan Hill
City Clerk's Office
17555 Peak Ave
Morgan Hill, CA 95037

NOTICE OF PUBLIC HEARING

The Morgan Hill City Council will hold a public hearing at its regular meeting on **[DATE OF MEETING] at [TIME OF MEETING], or as soon thereafter as the matters may be heard,** in the [LOCATION OF MEETING]. The City Council will consider acceptance of the Urban Water Management Plan 2010 Update (UWMP), including (SBx7-7) Per Capita Water Use Targets and conservation strategies related to compliance with the Water Conservation Act of 2009.

The 2010 Urban Water Management Plan Update addresses the City of Morgan Hill Water Department's water resources planning responsibilities by assessing water supplies and demands over a 20-year planning horizon. The Plan also incorporates the department's drought response actions and its water shortage contingency plan. New to the 2010 Update are the legislative requirements set forth by the 20x2020 Water Conservation Plan, which call for a 20 percent per capita water use reduction by the year 2020. The City of Morgan Hill's water use reduction targets and strategies for meeting this goal will be presented during the meeting.

The City of Morgan Hill encourages interested parties to attend the public meeting and comment on the issues being discussed. If you wish to provide testimony and are unable to attend the meeting, written comments delivered to the City Clerk's office prior to the hearing will be made a part of the public record.

Prior to the hearing, a draft of the Plan will be made available for review on the City's website at **www.morgan-hill.ca.gov**. If you have questions regarding the City of Morgan Hill's UWMP, please contact [Contact Information] at [phone #].

B MORGAN HILL UWMP ADOPTION RESOLUTION

RESOLUTION NO. 6439

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF MORGAN HILL ADOPTING THE URBAN WATER MANAGEMENT PLAN

WHEREAS, the California Legislature enacted Assembly Bill 797 (Water Code Section 10610 et seq., known as the Urban Water Management Planning Act) during the 1983-1984 Regular Session, and as amended subsequently, which mandates that every supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre feet of water annually, prepare an Urban Water Management Plan, the primary objective of which is to plan for the conservation and efficient use of water; and

WHEREAS, the City of Morgan Hill, as a water provider, fits the defined criteria, and has prepared an Urban Water Management Plan addressing all the requirements set forth in the State of California Water Code Sections 10610 through 10657. The City of Morgan Hill has previously prepared Plans dated 1985, 1990, 1996, 2001, and 2005; and

WHEREAS, the State of California has extended the deadline for the 2010 Urban Water Management Plan from December 31, 2010 to June 30, 2011; and

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

WHEREAS, the City has prepared and circulated for public review a draft Urban Water Management Plan and a properly noticed public hearing regarding said Urban Water Management Plan was held by the City Council on June 1, 2011.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Morgan Hill that:

Section 1. The 2010 Urban Water Management Plan is hereby adopted and ordered filed with the City Clerk. The City Clerk is hereby authorized and directed to file the 2010 Urban Water Management Plan with the California Department of Water Resources within 30 days after this date.

Section 2. The City Manager is hereby authorized and directed to implement the Water Conservation Programs as set forth in the 2010 Urban Water Management Plan, which includes water shortage contingency analysis and recommendations to the City Council regarding necessary procedures, rules, and regulations to carry out effective and equitable water conservation and water recycling programs.

Section 3. In a water shortage, the City Manager is hereby authorized to declare a Water Shortage Emergency according to the Water Shortage Stages and Triggers indicated in the Plan, and to implement necessary elements of the Plan.

Section 4. The City Manager shall recommend to the City Council additional regulations to carry out effective and equitable allocation of water resources.

PASSED AND ADOPTED by the City Council of Morgan Hill at a Regular Meeting held on the 1st Day of June, 2011 by the following vote:

AYES:	**COUNCIL MEMBERS:**	**Larry Carr, Rich Constantine, Marilyn Librers Gordon Siebert, Steve Tate**
NOES:	**COUNCIL MEMBERS:**	**None**
ABSTAIN:	**COUNCIL MEMBERS:**	**None**
ABSENT:	**COUNCIL MEMBERS:**	**None**

DATE: 6/7/2011

Steve Tate, MAYOR

ATTEST:

Julie Drimakis

Julie Drimakis, DEPUTY CITY CLERK

CERTIFICATION

I, Julie Drimakis, Deputy City Clerk of the City of Morgan Hill, California, do hereby certify that the foregoing is a true and correct copy of Resolution No. 6439, adopted by the City Council at the meeting held on June 1, 2011.

WITNESS MY HAND AND THE SEAL OF THE CITY OF MORGAN HILL.

DATE: 6/7/2011

Julie Drimakis

Julie Drimakis, DEPUTY CITY CLERK

C URBAN WATER MANAGEMENT PLANNING ACT

Established: AB 797, Klehs, 1983
Amended: AB 2661, Klehs, 1990
AB 11X, Filante, 1991
AB 1869, Speier, 1991
AB 892, Frazee, 1993
SB 1017, McCorquodale, 1994
AB 2853, Cortese, 1994
AB 1845, Cortese, 1995
SB 1011, Polanco, 1995
AB 2552, Bates, 2000
SB 553, Kelley, 2000
SB 610, Costa, 2001
AB 901, Daucher, 2001
SB 672, Machado, 2001
SB 1348, Brulte, 2002
SB 1384, Costa, 2002
SB 1518, Torlakson, 2002
AB 105, Wiggins, 2004
SB 318, Alpert, 2004

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

CHAPTER 1. GENERAL DECLARATION AND POLICY

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

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

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

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

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

(4) As part of its long-range planning activities, every urban water supplier should make every effort to ensure the appropriate level of reliability in

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

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

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

(7) Water quality regulations are becoming an increasingly important factor in water agencies' selection of raw water sources, treatment alternatives, and modifications to existing treatment facilities.

(8) Changes in drinking water quality standards may also impact the usefulness of water supplies and may ultimately impact supply reliability.

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

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

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

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

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

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

CHAPTER 2. DEFINITIONS

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

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

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

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

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

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

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

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

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

CHAPTER 3. URBAN WATER MANAGEMENT PLANS
Article 1. General Provisions

10620.

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

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

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

(d)

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

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

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

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

10621.

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

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

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

Article 2. Contents of Plans

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

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

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

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

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

(2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree.

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

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

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

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

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

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

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

(e)

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

(A) Single-family residential.
(B) Multifamily.
(C) Commercial.
(D) Industrial.
(E) Institutional and governmental.
(F) Landscape.
(G) Sales to other agencies.
(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.
(I) Agricultural.

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

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

(1) A description of each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following:

(A) Water survey programs for single-family residential and multifamily residential customers.

(B) Residential plumbing retrofit.

(C) System water audits, leak detection, and repair.

(D) Metering with commodity rates for all new connections and retrofit of existing connections.

(E) Large landscape conservation programs and incentives.

(F) High-efficiency washing machine rebate programs.

(G) Public information programs.

(H) School education programs.

(I) Conservation programs for commercial, industrial, and institutional accounts.

(J) Wholesale agency programs.

(K) Conservation pricing.

(L) Water conservation coordinator.

(M) Water waste prohibition.

(N) Residential ultra-low-flush toilet replacement programs.

(2) A schedule of implementation for all water demand management measures proposed or described in the plan.

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

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

(g) An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following:

(1) Take into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors.

(2) Include a cost-benefit analysis, identifying total benefits and total costs.

(3) Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost.

(4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation.

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

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

(j) Urban water suppliers that are members of the California Urban Water Conservation Council and submit annual reports to that council

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

(k) Urban water suppliers that rely upon a wholesale agency for a source of water, shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier’s plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (c). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (c), including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.

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

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

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

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

(c) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including,

but not limited to, a regional power outage, an earthquake, or other disaster.

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

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

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

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

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

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

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

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

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

(c) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.

(d) 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.

(e) 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.

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

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

Article 2.5 Water Service Reliability

10635.

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

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

(c) Nothing in this article is intended to create a right or entitlement to water service or any specific level of water service.

(d) Nothing in this article is intended to change existing law concerning an urban water supplier's obligation to provide water service to its existing customers or to any potential future customers.

Articl 3. Adoption and Implementation of Plans

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

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

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

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

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

10644.

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

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

also prepare reports and provide data for any legislative hearings designed to consider the effectiveness of plans submitted pursuant to this part.

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

CHAPTER 4. MISCELLANEOUS PROVISIONS

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

(a) An action or proceeding alleging failure to adopt a plan shall be commenced within 18 months after that adoption is required by this part.

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

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

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

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

or regulations after the effective date of this part, and which substantially meets the requirements of this part, or by any existing urban water management plan which includes the contents of a plan required under this part.

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

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

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

10657.

(a) The department shall take into consideration whether the urban water supplier has submitted an updated urban water management plan that is consistent with Section 10631, as amended by the act that adds this section, in determining whether the urban water supplier is eligible for funds made available pursuant to any program administered by the department.

(b) This section shall remain in effect only until January 1, 2006, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2006, deletes or extends that date.

D SBx7-7

Senate Bill No. 7

CHAPTER 4

An act to amend and repeal Section 10631.5 of, to add Part 2.55 (commencing with Section 10608) to Division 6 of, and to repeal and add Part 2.8 (commencing with Section 10800) of Division 6 of, the Water Code, relating to water.

[Approved by Governor November 10, 2009. Filed with Secretary of State November 10, 2009.]

LEGISLATIVE COUNSEL'S DIGEST

SB 7, Steinberg. Water conservation.

(1) Existing law requires the Department of Water Resources to convene an independent technical panel to provide information to the department and the Legislature on new demand management measures, technologies, and approaches. "Demand management measures" 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.

This bill would require the state to achieve a 20% reduction in urban per capita water use in California by December 31, 2020. The state would be required to make incremental progress towards this goal by reducing per capita water use by at least 10% on or before December 31, 2015. The bill would require each urban retail water supplier to develop urban water use targets and an interim urban water use target, in accordance with specified requirements. The bill would require agricultural water suppliers to implement efficient water management practices. The bill would require the department, in consultation with other state agencies, to develop a single standardized water use reporting form. The bill, with certain exceptions, would provide that urban retail water suppliers, on and after July 1, 2016, and agricultural water suppliers, on and after July 1, 2013, are not eligible for state water grants or loans unless they comply with the water conservation requirements established by the bill. The bill would repeal, on July 1, 2016, an existing requirement that conditions eligibility for certain water management grants or loans to an urban water supplier on the implementation of certain water demand management measures.

(2) Existing law, until January 1, 1993, and thereafter only as specified, requires certain agricultural water suppliers to prepare and adopt water management plans.

This bill would revise existing law relating to agricultural water management planning to require agricultural water suppliers to prepare and adopt agricultural water management plans with specified components on or before December 31, 2012, and update those plans on or before December

31, 2015, and on or before December 31 every 5 years thereafter. An agricultural water supplier that becomes an agricultural water supplier after December 31, 2012, would be required to prepare and adopt an agricultural water management plan within one year after becoming an agricultural water supplier. The agricultural water supplier would be required to notify each city or county within which the supplier provides water supplies with regard to the preparation or review of the plan. The bill would require the agricultural water supplier to submit copies of the plan to the department and other specified entities. The bill would provide that an agricultural water supplier is not eligible for state water grants or loans unless the supplier complies with the water management planning requirements established by the bill.

(3) The bill would take effect only if SB 1 and SB 6 of the 2009–10 7th Extraordinary Session of the Legislature are enacted and become effective.

The people of the State of California do enact as follows:

SECTION 1. Part 2.55 (commencing with Section 10608) is added to Division 6 of the Water Code, to read:

PART 2.55. SUSTAINABLE WATER USE AND DEMAND REDUCTION

Chapter 1. General Declarations and Policy

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.

(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

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

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 subdivision (a) 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 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 required pursuant to Part 2.6 (commencing with Section 10610) due in 2010 the baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.

(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) An urban retail water supplier shall be 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 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.

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 United States Department of Defense military installation's requirements under federal Executive Order 13423.

(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. The department shall review the 2015 urban water management plans and report to the Legislature by December 31, 2016, 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 in order to achieve

the 20-percent reduction and to reflect updated efficiency information and technology changes.

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 on facilities it operates to support urban retail water suppliers in meeting the target identified in Section 10608.16.

Chapter 4. Agricultural Water Suppliers

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

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

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

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

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.

SEC. 2. Section 10631.5 of the Water Code is amended to read:

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.

SEC. 3. Part 2.8 (commencing with Section 10800) of Division 6 of the Water Code is repealed.

SEC. 4. Part 2.8 (commencing with Section 10800) is added to Division 6 of the Water Code, to read:

PART 2.8. AGRICULTURAL WATER MANAGEMENT PLANNING

Chapter 1. General Declarations and Policy

10800. This part shall be known and may be cited as the Agricultural Water Management Planning Act.

10801. The Legislature finds and declares all of the following:

(a) The waters of the state are a limited and renewable resource.

(b) The California Constitution requires that water in the state be used in a reasonable and beneficial manner.

(c) Urban water districts are required to adopt water management plans.

(d) The conservation of agricultural water supplies is of great statewide concern.

(e) There is a great amount of reuse of delivered water, both inside and outside the water service areas.

(f) Significant noncrop beneficial uses are associated with agricultural water use, including streamflows and wildlife habitat.

(g) Significant opportunities exist in some areas, through improved irrigation water management, to conserve water or to reduce the quantity of highly saline or toxic drainage water.

(h) Changes in water management practices should be carefully planned and implemented to minimize adverse effects on other beneficial uses currently being served.

(i) Agricultural water suppliers that receive water from the federal Central Valley Project are required by federal law to prepare and implement water conservation plans.

(j) Agricultural water users applying for a permit to appropriate water from the board are required to prepare and implement water conservation plans.

10802. The Legislature finds and declares that all of the following are the policies of the state:

(a) The conservation of water shall be pursued actively to protect both the people of the state and the state's water resources.

(b) The conservation of agricultural water supplies shall be an important criterion in public decisions with regard to water.

(c) Agricultural water suppliers shall be required to prepare water management plans to achieve conservation of water.

Chapter 2. Definitions

10810. Unless the context otherwise requires, the definitions set forth in this chapter govern the construction of this part.

10811. "Agricultural water management plan" or "plan" means an agricultural water management plan prepared pursuant to this part.

10812. "Agricultural water supplier" has the same meaning as defined in Section 10608.12.

10813. "Customer" means a purchaser of water from a water supplier who uses water for agricultural purposes.

10814. "Person" means any individual, firm, association, organization, partnership, business, trust, corporation, company, public agency, or any agency of that entity.

10815. "Public agency" means any city, county, city and county, special district, or other public entity.

10816. "Urban water supplier" has the same meaning as set forth in Section 10617.

10817. "Water conservation" means the efficient management of water resources for beneficial uses, preventing waste, or accomplishing additional benefits with the same amount of water.

Chapter 3. Agricultural Water Management Plans

Article 1. General Provisions

10820. (a) An agricultural water supplier shall prepare and adopt an agricultural water management plan in the manner set forth in this chapter on or before December 31, 2012, and shall update that plan on December 31, 2015, and on or before December 31 every five years thereafter.

(b) Every supplier that becomes an agricultural water supplier after December 31, 2012, shall prepare and adopt an agricultural water management plan within one year after the date it has become an agricultural water supplier.

(c) A water supplier that indirectly provides water to customers for agricultural purposes shall not prepare a plan pursuant to this part without the consent of each agricultural water supplier that directly provides that water to its customers.

10821. (a) An agricultural water supplier required to prepare a plan pursuant to this part shall notify each city or county within which the supplier provides water supplies that the agricultural water supplier will be preparing the plan or reviewing the plan and considering amendments or changes to the plan. The agricultural water supplier may consult with, and obtain comments from, each city or county that receives notice pursuant to this subdivision.

(b) The amendments to, or changes in, the plan shall be adopted and submitted in the manner set forth in Article 3 (commencing with Section 10840).

Article 2. Contents of Plans

10825. (a) It is the intent of the Legislature in enacting this part to allow levels of water management planning commensurate with the numbers of customers served and the volume of water supplied.

(b) This part does not require the implementation of water conservation programs or practices that are not locally cost effective.

10826. An agricultural water management plan shall be adopted in accordance with this chapter. The plan shall do all of the following:

(a) Describe the agricultural water supplier and the service area, including all of the following:

(1) Size of the service area.

(2) Location of the service area and its water management facilities.

(3) Terrain and soils.

(4) Climate.

(5) Operating rules and regulations.
(6) Water delivery measurements or calculations.
(7) Water rate schedules and billing.
(8) Water shortage allocation policies.

(b) Describe the quantity and quality of water resources of the agricultural water supplier, including all of the following:
(1) Surface water supply.
(2) Groundwater supply.
(3) Other water supplies.
(4) Source water quality monitoring practices.
(5) Water uses within the agricultural water supplier's service area, including all of the following:
(A) Agricultural.
(B) Environmental.
(C) Recreational.
(D) Municipal and industrial.
(E) Groundwater recharge.
(F) Transfers and exchanges.
(G) Other water uses.
(6) Drainage from the water supplier's service area.
(7) Water accounting, including all of the following:
(A) Quantifying the water supplier's water supplies.
(B) Tabulating water uses.
(C) Overall water budget.
(8) Water supply reliability.

(c) Include an analysis, based on available information, of the effect of climate change on future water supplies.

(d) Describe previous water management activities.

(e) Include in the plan the water use efficiency information required pursuant to Section 10608.48.

10827. Agricultural water suppliers that are members of the Agricultural Water Management Council, and that submit water management plans to that council in accordance with the "Memorandum of Understanding Regarding Efficient Water Management Practices By Agricultural Water Suppliers In California," dated January 1, 1999, may submit the water management plans identifying water demand management measures currently being implemented, or scheduled for implementation, to satisfy the requirements of Section 10826.

10828. (a) Agricultural water suppliers that are required to submit water conservation plans to the United States Bureau of Reclamation pursuant to either the Central Valley Project Improvement Act (Public Law 102-575) or the Reclamation Reform Act of 1982, or both, may submit those water conservation plans to satisfy the requirements of Section 10826, if both of the following apply:

(1) The agricultural water supplier has adopted and submitted the water conservation plan to the United States Bureau of Reclamation within the previous four years.

(2) The United States Bureau of Reclamation has accepted the water conservation plan as adequate.

(b) This part does not require agricultural water suppliers that are required to submit water conservation plans to the United States Bureau of Reclamation pursuant to either the Central Valley Project Improvement Act (Public Law 102-575) or the Reclamation Reform Act of 1982, or both, to prepare and adopt water conservation plans according to a schedule that is different from that required by the United States Bureau of Reclamation.

10829. An agricultural water supplier may satisfy the requirements of this part by adopting an urban water management plan pursuant to Part 2.6 (commencing with Section 10610) or by participation in areawide, regional, watershed, or basinwide water management planning if those plans meet or exceed the requirements of this part.

Article 3. Adoption and Implementation of Plans

10840. Every agricultural water supplier shall prepare its plan pursuant to Article 2 (commencing with Section 10825).

10841. Prior to adopting a plan, the agricultural water supplier shall make the proposed plan available for public inspection, and shall hold a public hearing on the plan. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned agricultural water supplier pursuant to Section 6066 of the Government Code. A privately owned agricultural water supplier shall provide an equivalent notice within its service area and shall provide a reasonably equivalent opportunity that would otherwise be afforded through a public hearing process for interested parties to provide input on the plan. After the hearing, the plan shall be adopted as prepared or as modified during or after the hearing.

10842. An agricultural water supplier shall implement the plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan, as determined by the governing body of the agricultural water supplier.

10843. (a) An agricultural water supplier shall submit to the entities identified in subdivision (b) a copy of its plan no later than 30 days after the adoption of the plan. Copies of amendments or changes to the plans shall be submitted to the entities identified in subdivision (b) within 30 days after the adoption of the amendments or changes.

(b) An agricultural water supplier shall submit a copy of its plan and amendments or changes to the plan to each of the following entities:

(1) The department.

(2) Any city, county, or city and county within which the agricultural water supplier provides water supplies.

(3) Any groundwater management entity within which jurisdiction the agricultural water supplier extracts or provides water supplies.

(4) Any urban water supplier within which jurisdiction the agricultural water supplier provides water supplies.

(5) Any city or county library within which jurisdiction the agricultural water supplier provides water supplies.

(6) The California State Library.

(7) Any local agency formation commission serving a county within which the agricultural water supplier provides water supplies.

10844. (a) Not later than 30 days after the date of adopting its plan, the agricultural water supplier shall make the plan available for public review on the agricultural water supplier's Internet Web site.

(b) An agricultural water supplier that does not have an Internet Web site shall submit to the department, not later than 30 days after the date of adopting its plan, a copy of the adopted plan in an electronic format. The department shall make the plan available for public review on the department's Internet Web site.

10845. (a) The department shall prepare and submit to the Legislature, on or before December 31, 2013, and thereafter in the years ending in six and years ending in one, a report summarizing the status of the plans adopted pursuant to this part.

(b) The report prepared by the department shall identify the outstanding elements of any plan adopted pursuant to this part. The report shall include an evaluation of the effectiveness of this part in promoting efficient agricultural water management practices and recommendations relating to proposed changes to this part, as appropriate.

(c) The department shall provide a copy of the report to each agricultural water supplier that has submitted its plan to the department. The department shall also prepare reports and provide data for any legislative hearing designed to consider the effectiveness of plans submitted pursuant to this part.

(d) This section does not authorize the department, in preparing the report, to approve, disapprove, or critique individual plans submitted pursuant to this part.

Chapter 4. Miscellaneous Provisions

10850. (a) Any action or proceeding to attack, review, set aside, void, or annul the acts or decisions of an agricultural water supplier on the grounds of noncompliance with this part shall be commenced as follows:

(1) An action or proceeding alleging failure to adopt a plan shall be commenced within 18 months after that adoption is required by this part.

(2) 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 120 days after submitting the plan or amendments to the plan to entities in accordance with Section 10844 or the taking of that action.

(b) In an action or proceeding to attack, review, set aside, void, or annul a plan, or an action taken pursuant to the plan by an agricultural 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 agricultural water supplier has not proceeded in a manner required by law, or if the action by the agricultural water supplier is not supported by substantial evidence.

10851. 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. This part does not exempt projects for implementation of the plan or for expanded or additional water supplies from the California Environmental Quality Act.

10852. 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.

10853. No agricultural water supplier that provides water to less than 25,000 irrigated acres, excluding recycled water, shall be required to implement the requirements of this part or Part 2.55 (commencing with Section 10608) unless sufficient funding has specifically been provided to that water supplier for these purposes.

SEC. 5. This act shall take effect only if Senate Bill 1 and Senate Bill 6 of the 2009–10 Seventh Extraordinary Session of the Legislature are enacted and become effective.

O

E BULLETIN 118 BASIN DESCRIPTIONS

Gilroy-Hollister Groundwater Basin, Llagas Subbasin

- Groundwater Basin Number: 3-3.01
- County: Santa Clara
- Surface Area: 56,000 acres (87 square miles)

Revision Summary: The spelling in the description was corrected to Pájaro River. The boundary conditions have been corrected to reflect that the Diablo Range is on the east and the Santa Cruz Mountains are on the west.

Basin Boundaries and Hydrology

The Llagas subbasin occupies a northwest trending structural depression. The Diablo Range bounds it on the east and the Santa Cruz Mountains form the basin boundary on the west. The subbasin extends from the groundwater divide at Cochran Road near the town of Morgan Hill in the north to the Pájaro River in the south (SCVWD 2001b). The dominant geohydrologic feature is an inland valley that is drained to the south by tributaries of the Pájaro River, including Uvas and Llagas creeks. Annual precipitation for the Llagas subbasin ranges from less than 16 inches in the south to more than 24 inches in the north.

Hydrogeologic Information

Water Bearing Formations

The water bearing formations of the Llagas subbasin include Pliocene to Holocene age continental deposits of unconsolidated to semi-consolidated gravel, sand, silt and clay (DWR 1981). These include the Santa Clara Formation and the valley fill materials (alluvial and alluvial fan deposits) which constitute the principal water producing formations (DWR 1981).

The Santa Clara Formation. The Santa Clara Formation is of Plio-Pleistocene age. This formation underlies much of the valley and unconformably overlies older non-water bearing sediments (DWR 1981). It consists of fairly well consolidated clay, silt, and sand with lenses of gravel. These sediments are generally of fluviatile origin with an estimated maximum thickness of 1800 feet (DWR 1981). It is difficult to distinguish the Santa Clara Formation from overlying alluvial material based on limited well log data. The lower portions of deeper wells within the subbasin likely intersect the Santa Clara Formation. A number of these wells supply water of excellent quality for irrigation and municipal purposes (DWR 1981).

The Alluvial Fans. Alluvial fan deposits of Holocene age occur at the margin of the valley basin. They are composed of a heterogeneous mixture of unconsolidated to semi-consolidated clay, silt, sand, and gravel usually locally partially confined (DWR 1981). The alluvial fan deposits range in thickness from 3 feet to 125 feet and overlie the Santa Clara Formation and other older non water bearing deposits (DWR 1981). Well yields are generally good and water quality is usually suitable for most uses (DWR 1981).

Older Alluvium. The older alluvium is of Plio-Pleistocene age and is distributed in the central portion of the valley from the northern boundary of the subbasin south to Gilroy. It consists of unconsolidated clay, silt, and sand formed as floodplain deposits. It characteristically is identified by a dense clayey subsoil that acts as an aquitard to vertical movement of water and limits recharge potential (DWR 1981). It provides adequate yields to wells up to 100 feet in depth and water obtained from this formation is generally suitable for most uses (DWR 1981).

Younger Alluvium. The younger alluvium is of Holocene age and occurs in the flat lying areas from Gilroy south to the basin's southern boundary. It is composed of clay, silt, and sand with lenses of sandy gravel (DWR 1981). Similarly to the older alluvium, the younger alluvium has been formed principally as a flood plain deposit but it does not have a well-defined clay subsoil. The younger alluvium has a maximum thickness of about 100 feet and generally overlies the older alluvium and alluvial fan deposits (DWR 1981). Groundwater in the younger alluvium is generally unconfined. Wells yield sufficient quantities of water of generally acceptable quality for domestic purposes (DWR 1981).

Recharge Areas

Recharge to the Llagas subbasin occurs from a variety of sources: natural recharge from streams, principally Uvas and Llagas Creeks; percolation of precipitation and surplus irrigation waters; seepage along canals; subsurface inflow; and artificial recharge. The amount of water recharged to the groundwater basin varies widely from year to year, dependant on the amount of precipitation (DWR 1981). A number of artificial recharge facilities enhance natural recharge to the Llagas subbasin including the Madrone Channel, Main Ave Percolation Ponds, and a number of percolation ponds along Uvas and Llagas Creeks (DWR 1981).

Groundwater Level Trends

Groundwater elevation in the Llagas Subbasin Index Well (10S03E13D003) would indicate that groundwater levels have remained fairly stable over the period of record with the exception of static water level drops and subsequent recovery associated with the 1976-1977 and 1987-1992 drought periods. The period of record covers the period from January 3, 1969 to April 2, 2001 (www.scvwd.dst.ca/gwuse/gwmimap.htm 2001c). While groundwater elevations in the index well is not indicative of elevations in all wells within the subbasin it is suggestive of relative changes in groundwater levels within the subbasin (SCVWD 2001b).

Groundwater Storage

Groundwater Storage Capacity. Operational storage capacity of the Llagas subbasin is estimated to be 150,000 acre-feet (SCVWD 2001a).

Groundwater in Storage. No published reports were found addressing the quantity of groundwater in storage.

Groundwater Budget (Type B)

Natural groundwater recharge based on the long-term average for the Llagas subbasin is estimated to be 44,300 acre-feet per year (SCVWD 2001a). Total facility recharge (Artificial Recharge) countywide is estimated to be 157,200 acre-feet (SCVWD 2001a). Although no published basin budget was found for the Llagas subbasin, enough components exist that would allow for the preparation of a detailed groundwater budget.

Groundwater Quality

Characterization. Although generally hard (DWR 1981), monitoring results indicate that groundwater is good for most for most beneficial uses (SCVWD 2001b). This assessment is based on a comparison of water monitoring results with water quality objectives established by the Regional Water Quality Control Board (SCVWD 2001a).

Impairments. The Santa Clara Valley Water District created a Nitrate Management Program in October 1991 to investigate and remediate increasing nitrate concentrations in the Llagas subbasin (SCVWD 2001a). The results of a study completed in February 1996, suggest that nitrate concentrations are increasing over time and that elevated concentrations of nitrate still exist in the Llagas subbasin (SCVWD 2001a). Since 1997 more than 600 wells in south Santa Clara County including the Llagas and Coyote subbasins have been tested for nitrate. More than half exceed the federal safe drinking standard for nitrate (SCVWD 2001a). These nitrate concentrations in excess of federal standards were found only in private wells, all public wells within the county meet drinking water standards (SCVWD 2001a).

Water Quality in Public Supply Wells

Constituent Group[1]	Number of wells sampled[2]	Number of wells with a concentration above an MCL[3]
Inorganics – Primary	65	3
Radiological	35	0
Nitrates	72	13
Pesticides	51	5
VOCs and SOCs	51	0
Inorganics – Secondary	65	11

[1] A description of each member in the constituent groups and a generalized discussion of the relevance of these groups are included in *California's Groundwater – Bulletin 118* by DWR (2003).
[2] Represents distinct number of wells sampled as required under DHS Title 22 program from 1994 through 2000.
[3] Each well reported with a concentration above an MCL was confirmed with a second detection above an MCL. This information is intended as an indicator of the types of activities that cause contamination in a given basin. It represents the water quality at the sample location. It does not indicate the water quality delivered to the consumer. More detailed drinking water quality information can be obtained from the local water purveyor and its annual Consumer Confidence Report.

Well Production characteristics

	Well yields (gal/min)	
Municipal/Irrigation	Range: 285 – 2,422	Average: 1,488 (Elia, Bob. 2001)
Total depths (ft)		
Domestic	Range: 54 - 690	Average: 256 (Wellma)
Municipal/Irrigation	Range: 302 - 920	Average: 589 (Elia, Bob. 2001)

Active Monitoring Data

Agency	Parameter	Number of wells /measurement frequency
SCVWD including cooperators (County-wide)	Groundwater levels	168 Wells monthly, 108 Wells quarterly
SCVWD	Miscellaneous water quality	60 Wells (County-wide)
SCVWD	Nitrate	51 wells quarterly
Department of Health Services and cooperators	Title 22 water quality	95 Wells

Basin Management

Groundwater management:	Santa Clara Valley WD adopted a groundwater management plan in 2001 under authority granted in Water Code App. 60.
Water agencies	
Public	Santa Clara Valley WD, City of Morgan Hill, City of Gilroy
Private	

References Cited

California Department of Water Resources (DWR). Evaluation of groundwater Resources South San Francisco Bay Volume IV South Santa Clara County Area: Bulletin 118-1, May 1981.

Elia, Bob (City of Gilroy, Operation Supervisor Water Division). Personal Communication, October 18, 2001

Santa Clara Valley Water District (SCVWD). 2001a. Urban Water Management Plan: April 2001.

_____. 2001b. Santa Clara Valley Water District Groundwater Management Plan: July 2001.

_____. 2001c. www.scvwd.dst.ca/gwuse/gwmimap.htm: October 10, 2001

Errata

Changes made to the basin description will be noted here.

Santa Clara Valley Groundwater Basin, Santa Clara Subbasin

- Groundwater Basin Number: 2-9.02
- County: Santa Clara
- Surface Area: 153,600 acres (240 square miles)

Basin Boundaries and Hydrology

The Santa Clara subbasin occupies a structural trough parallel to the northwest trending Coast Ranges. TheDiablo Range bounds it on the west and the Santa Cruz Mountains form the basin boundary on the east. It extends from the northern border of Santa Clara County to the groundwater divide near the town of Morgan Hill. The dominant geohydrologic feature is a large inland valley (Fio and Leighton 1995). The valley is drained to the north by tributaries to San Francisco Bay including Coyote Creek, the Guadalupe River, and Los Gatos Creek. Annual precipitation for the Santa Clara basin ranges from less than 16 inches in the valley to more than 28 inches in the upland areas.

Hydrogeologic Information

Water Bearing Formations

The water bearing formations of the Santa Clara subbasin include Pliocene to Holocene age continental deposits of unconsolidated to semi-consolidated gravel, sand, silt and clay. Two members form this group, the Santa Clara Formation of Plio-Pleistocene age and the younger alluvium of Pleistocene to Holocene age (DWR 1975). Lithologic similarities make distinction between these two units difficult based on available well data. The combined thickness of these two units probably exceeds 1500 feet (DWR 1967).

Santa Clara Formation. The Santa Clara Formation is of Plio-Pleistocene age and rests unconformably on impermeable rocks that mark the bottom of the groundwater subbasin (DWR 1975). The Santa Clara Formation is exposed only on the west and east sides of the Santa Clara Valley. Where exposed, it is composed of poorly sorted deposits ranging in grain size from boulders to silt (DWR 1975). Well logs indicate that permeability increases from west to east and that in the central part of the valley permeability and grain size decrease with depth (DWR 1975).

Pleistocene-Holocene Alluvium. The Pleistocene to Holocene alluvium is the most important water bearing unit in the Santa Clara subbasin. The permeability of the valley alluvium is generally high and principally all large production wells derive their water from it (DWR 1975). Comprised generally of unconsolidated gravel, sand, silt, and clay it is deposited principally as series of convergent alluvial fans. It becomes progressively finer-grained at the central portions of the valley. A confined zone is created in the northern portion of the subbasin where overlain by a clay layer of low permeability (SCVWD 2001). The southern portion of the subbasin is generally unconfined and contains no thick clay layers (SCVWD 2001).

Recharge Areas

Natural recharge occurs principally as infiltration from streambeds that exit the upland areas within the drainage basin and from direct percolation of precipitation that falls on the basin floor.

The Santa Clara Valley Water District conducts an artificial (facility) recharge program. This is conducted by releasing locally conserved or imported water to in-stream and off-stream facilities (SCVWD 2001). District wide controlled in-stream recharge accounts for about 45 % groundwater recharge in district facilities (SCVWD 2001). In-stream recharge occurs along stream channels in the alluvial apron upstream from the confined zone. Spreader dams (creating temporary or permanent impoundments in the stream channel) are a key component of the in-stream recharge program, increasing recharge capacity by approximately 10 % (SCVWD 2001).

Off-stream recharge facilities include abandoned gravel pits and areas specifically excavated for recharge purposes. Recharge from water delivered to these facilities accounts for approximately 35 % of the recharge district wide (SCVWD)

Groundwater Level Trends

Historically, since the early 1900,s through the mid-1960's water level declines from groundwater pumpage have induced subsidence in the Santa Clara subbasin and caused degradation of the aquifer adjacent to the bay from saltwater intrusion. Prior to importation of surface water via the Hetch Hetchy Aqueduct and South Bay Aqueduct and the introduction of an artificial recharge program water levels declined more than 200 feet in the Santa Clara Valley (Poland and Ireland 1988). Groundwater levels have generally increased since 1965 as a result of increase in recharge and decreases in pumpage (Fio and Leighton 1995). Current hydrographs of index wells within the subbasin maintained by Santa Clara Valley Water District support this trend (www.scvwd.dst.ca/gwuse/gwmimap.htm, 2001).

Groundwater Storage

Groundwater Storage Capacity. Operational groundwater storage capacity is an estimate of the storage capacity based on "District Operations" (SCVWD 2001). Operational storage capacity is generally less than total storage capacity. It must account for available pumping capacity, avoidance of land subsidence, and problems associated with high groundwater levels. The operational storage capacity of the Santa Clara Valley subbasin is estimated to be 350,000 acre-feet (SCVWD 2001). This estimate is based on an area defined by the Santa Clara Valley Water District that is approximately 15 square miles smaller than the Santa Clara subbasin boundaries used by the California Department of Water Resources for this publication.

Groundwater in Storage. No published report was found addressing the quantity of groundwater presently in storage.

Groundwater Budget (Type C)

Not enough published information was found to present a current groundwater budget detailing inflows and outflows for this basin. Additional information may be available from Santa Clara Valley Water District.

Groundwater Quality

Characterization. The groundwater in the major producing aquifers within the basin is generally of a bicarbonate type, with sodium and calcium the principal cations (DWR 1975). Although hard, it is if good to excellent mineral composition and suitable for most uses. Drinking water standards are met at public supply wells without the use of treatment methods (SCVWD 2001).

Impairments. Areas with somewhat elevated mineral levels, perhaps associated with historical saltwater intrusion have been observed in the northern basin (SCVWD 2001). Some wells with elevated nitrate concentration have been identified in the southern portion of the basin (SCVWD 2001).

Water Quality in Public Supply Wells

Constituent Group[1]	Number of wells sampled[2]	Number of wells with a concentration above an MCL[3]
Inorganics – Primary	257	9
Radiological	234	1
Nitrates	268	10
Pesticides	253	3
VOCs and SVOCs	252	4
Inorganics – Secondary	257	29

[1] A description of each member in the constituent groups and a generalized discussion of the relevance of these groups are included in *California's Groundwater – Bulletin 118* by DWR (2003).
[2] Represents distinct number of wells sampled as required under DHS Title 22 program from 1994 through 2000.
[3] Each well reported with a concentration above an MCL was confirmed with a second detection above an MCL. This information is intended as an indicator of the types of activities that cause contamination in a given basin. It represents the water quality at the sample location. It does not indicate the water quality delivered to the consumer. More detailed drinking water quality information can be obtained from the local water purveyor and its annual Consumer Confidence Report.

Well Production characteristics

	Well yields (gal/min)	
Municipal/Irrigation	Range: – 1,650	Average: 425 (DWR 1975)
	Total depths (ft)	
Domestic	Range: 15 - 800	Average: 263 (Based on 314 Wells)
Municipal/Irrigation	Range: 17 – 1,186	Average: 278 (Based on 262 Wells)

Active Monitoring Data

Agency	Parameter	Number of wells /measurement frequency
SCVWD and Cooperators	Groundwater levels	108 Wells Quarterly, 168 Wells Monthly
DWR	Miscellaneous water quality	10 Wells
Department of Health Services and cooperators	Title 22 water quality	234 Wells

Basin Management

Groundwater management:

Water agencies

Public	Aldercroft Heights Co WD, Purissima Hills WD, San Martin Co WD, Santa Clara Valley WD
Private	

References Cited

California Department of Water Resources. Evaluation of groundwater Resources South San Francisco Bay Volume III Northern Santa Clara County Area: Bulletin 118-1, December 1975.

_____. Evaluation of Groundwater Resources South Bay Appendix A: Geology Bulletin 118-1, August 1967.

_____. California's Ground Water: Bulletin 118, September 1975.

Fio, J.L. and D.A. Leighton. Geohydrological Framework, Historical Development of the Groundwater System, and General Hydrologic and Water Quality Conditions in 1990, South San Francisco Bay and Peninsula, California, U.S. Geological Survey Open File Report 94-357, 1995.

Santa Clara Valley Water District. www.scvwd.dst.ca/gwuse/gwmimap.htm: October 10, 2001.

Santa Clara Valley Water District. Santa Clara Valley Water District Groundwater Management Plan: July 2001.

Errata

Changes made to the basin description will be noted here.

ORDINANCE NUMBER 1932

ORDINANCE NO. 1932, NEW SERIES

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF MORGAN HILL AMENDING SECTIONS 13.04.010 (Definitions), 13.04.330 (Wasting of Water), 13.04.390 (Enforcement), AND 13.04.400 (Violation-Penalty) OF CHAPTER 13.04 (Water System) OF TITLE 13 (Public Services), ESTABLISHING REGULATIONS PROHIBITING NONESSENTIAL USE OF POTABLE WATER AND ADOPTING PENALTIES AND FINES FOR VIOLATIONS.

WHEREAS, the City of Morgan Hill recognizes that there is a limited supply of water available to serve the residents and businesses of Morgan Hill; and,

WHEREAS, the City of Morgan Hill wishes to encourage the efficient use of water in order to optimize the use of the limited supply

WHEREAS, a Water Supply Shortage Program is essential to ensure a reliable and sustainable minimum supply of water for the public health, safety and welfare.

WHEREAS, the City Council wishes to amend the municipal code to ensure a reliable and sustainable minimum supply of water through its water conservation program.

NOW THEREFORE, IN CONSIDERATION OF THE FOREGOING, THE CITY COUNCIL OF THE CITY OF MORGAN HILL DOES HEREBY ORDAIN AND ENACT AS FOLLOWS:

Section 1. Findings.

a. A reliable minimum supply of potable water is essential to the public health, safety and welfare of the people and economy of City of Morgan Hill.

b. The City of Morgan Hill is located in a semi-arid region and is dependent upon local surface water, groundwater, and imported water supplies. A growing population, climate change, environmental concerns, and other factors in other parts of the State and western United States, make the region highly susceptible to water supply reliability issues.

c. There is a need for water conservation program and regulations because there is a limited supply of water available to serve the residents and businesses of Morgan Hill and demand for water has, at times, exceeded supply, threatening a water shortage.

d. Careful water management that includes active water conservation measures not only in times of drought, but at all times, is essential to ensure a reliable minimum supply of water to meet current and future water supply needs.

e. Article X, Section 2 of the California Constitution declares that the general welfare requires that water resources be put to beneficial use, waste or unreasonable use or unreasonable method of use of water be prevented, and conservation of water be fully exercised with a view to the reasonable and beneficial use thereof.

f. Article XI, Section 7 of the California Constitution declares that a city or county may make and enforce within its limits all local, police, sanitary and other ordinances and regulations not in conflict with general laws.

g. California Water Code Section 375 authorizes water suppliers to adopt and enforce a comprehensive water conservation program to reduce water consumption and conserve supplies.

h. The Governor of California has proclaimed a statewide drought and issued an Executive Order, which takes immediate action to address a dire situation where numerous California communities are being forced to mandate water conservation or rationing. The lack of water has created other problems, such as extreme fire danger due to dry conditions, economic harm to urban and rural communities, loss of crops and the potential to degrade water quality in some regions. As well, the Santa Clara Valley Water District Board of Directors has called for an immediate 15 percent reduction in water use to assure we have enough water to endure the current drought.

g. The adoption and enforcement of a water conservation and supply shortage program is necessary to manage the City of Morgan Hill's potable water supply in the short and long-term and to avoid or minimize the effects of drought and shortage within the City of Morgan Hill. Such program is essential to ensure a reliable and sustainable minimum supply of water for the public health, safety and welfare.

Section 2. Declaration of Purpose and Intent.

a. The purpose of this Ordinance is to establish a water conservation and supply shortage program that will reduce water consumption within the City of Morgan Hill through conservation, enable effective water supply planning, assure reasonable and beneficial use of water, prevent waste of water, and maximize the efficient use of water within the City of Morgan Hill to avoid and minimize the effect and hardship of water shortage to the greatest extent possible.

b. This Ordinance establishes permanent water conservation standards intended to alter behavior related to water use efficiency at all times and further establishes three levels of water supply shortage response actions to be implemented during times of declared water shortage or declared water shortage emergency, with increasing restrictions on water use in response to worsening drought or emergency conditions and decreasing supplies.

Section 3. CEQA Exemption

Therefore, the city finds that this Ordinance and actions taken hereafter pursuant to this Ordinance are exempt from the California Environmental Quality Act as specific actions necessary to prevent or mitigate an emergency pursuant to Public Resources Code Section 21080(b)(4) and the California Environmental Quality Act Guidelines Section 15269(c). The

City Clerk is hereby authorized and directed to file a Notice of Exemption as soon as possible following adoption of this Ordinance.

Section 4. Section 13.04.010 (Definitions) of Chapter 13.04 (Water System) of Title 13 (Public Services) is hereby amended in its entirety as follows:

"Section 13.04.010 Definitions.

For the purposes of this Chapter, unless otherwise apparent from the context, certain words and phrases used in this chapter are defined as follows:

A. "Person" means any natural person or persons, corporation, public or private entity, governmental agency or institution, or any other user of water provided by the city.

B. "Landscape irrigation system" means an irrigation system with pipes, hoses, spray heads, or sprinkling devices that are operated by hand or through an automated system.

C. "Single pass cooling systems" means equipment where water is circulated only once to cool equipment before being disposed.

D. "Potable water" means water which is suitable for drinking.

E. "Recycled water" means the reclamation and reuse of non-potable water for beneficial use as defined in Title 22 of the California Code of Regulations.

F. "Station" means an area of irrigated landscape controlled by a single irrigation valve.

G. "Superintendent" means the superintendent of water of the city, and any act in this chapter required or authorized to be done by the superintendent, may be done on behalf of the superintendent by an authorized officer or employee of the water department."

Section 5. Section 13.04.330 (Wasting of Water) of Chapter 13.04 (Water System) of Title 13 (Public Services) is hereby amended in its entirety to read as follows:

"13.04.330 Wasting of water and drought emergencies

A. Applicability
1. The provisions of this chapter apply to any person in the use of any potable water provided by the city.
2. The provisions of this chapter do not apply to uses of water necessary to protect public health and safety or for essential government services, such as police, fire and other similar emergency services.

3. The provisions of this chapter do not apply to the use of recycled water, with the exception of subsection B (1) of this section.
4. The provisions of this chapter do not apply to the use of water by commercial nurseries and commercial growers to sustain plants, trees, shrubs, crops or other vegetation intended for commercial sale.
5. This chapter is intended solely to further the conservation of water. It is not intended to implement any provision of federal, State, or local statutes, ordinances, or regulations relating to protection of water quality or control of drainage or runoff.

B. Prohibition Against Waste: The following water conservation requirements are effective at all times and are permanent. Violations of this section will be considered waste and an unreasonable use of water.
1. Limits on Watering Hours: Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited between the hours of 9:00 a.m. and 5:00 p.m. Pacific Standard/Daylight Savings Time on any day, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.
2. Limit on Watering Duration: Watering or irrigating of lawn, landscape or other vegetated area with potable water using a landscape irrigation system or a watering device that is not continuously attended is limited to no more than fifteen (15) minutes watering per day per station. This subsection does not apply to landscape irrigation systems that exclusively use very low-flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour and weather based controllers or stream rotor sprinklers that meet a 70% efficiency standard.
3. No Excessive Water Flow or Runoff: Watering or irrigating of any lawn, landscape or other vegetated area in a manner that causes or allows excessive water flow or runoff onto an adjoining sidewalk, driveway, street, alley, gutter or ditch is prohibited.
4. No Washing Down Hard or Paved Surfaces: Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, is prohibited except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device, a low-volume, high-pressure cleaning machine equipped to recycle any water used, or a low-volume high-pressure water broom.
5. Obligation to Fix Leaks, Breaks or Malfunctions: Excessive use, loss or escape of water through breaks, leaks or other malfunctions in the water user's plumbing or distribution system for any period of time after such escape of water should have reasonably been discovered and corrected and in no event more than ten (10) days of receiving written notice from the city, is prohibited.
6. Recirculating Water Required for Water Fountains and Decorative Water Features: Operating a water fountain or other decorative water feature that does not use recirculated water is prohibited.
7. Limits on Washing Vehicles: Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not is prohibited, except by use of a hand-held bucket or similar container or

a hand-held hose equipped with a positive self-closing water shut-off nozzle or device. This subsection does not apply to any commercial car washing facility.

8. Drinking Water Served Upon Request Only: Eating or drinking establishments, including but not limited to a restaurant, hotel, cafe, cafeteria, bar, or other public place where food or drinks are sold, served, or offered for sale, are prohibited from providing drinking water to any person unless expressly requested.

9. Commercial Lodging Establishments Must Provide Guests Option to Decline Daily Linen Services: Hotels, motels and other commercial lodging establishments must provide customers the option of not having towels and linen laundered daily. Commercial lodging establishments must prominently display notice of this option in each bathroom using clear and easily understood language.

10. No Installation of Single Pass Cooling Systems: Installation of single pass cooling systems is prohibited in buildings requesting new water service.

11. No Installation of Non-re-circulating in Commercial Car Wash and Laundry Systems: Installation of non-re-circulating water systems is prohibited in new commercial conveyor car wash and new commercial laundry systems.

12. Restaurants Required to Use Water Conserving Dish Wash Spray Valves: Food preparation establishments, such as restaurants or cafes, are prohibited from using non-water conserving dish wash spray valves.

13. Commercial Car Wash Systems: Within one year of passage of this ordinance, all commercial conveyor car wash systems must have installed operational re-circulating water systems, or must have secured a waiver of this requirement from the city.

C. Level 1 Water Supply Shortage (11% - 20% reduction): A Level 1 Water Supply Shortage exists when the city council determines, in its sole discretion, that due to drought or other water supply conditions, a water supply shortage or threatened shortage exists and a 11% - 20% consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions. Upon the declaration by the city of a Level 1 Water Supply Shortage condition, the following mandatory water conservation requirements, in addition to the prohibited uses of water set forth in subsection B of this section, shall apply during such time that the Level 1 Water Supply Shortage is in effect.

1. Limits on Watering Days. Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to three to five days per week (as necessary to achieve reductions as determined in the discretion of the superintendent) on a schedule established and posted by the city. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one day per week on a schedule established and posted by the city. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.

2. Obligation to Fix Leaks, Breaks or Malfunctions. All leaks, breaks, or other malfunctions in the water user’s plumbing or distribution system must be repaired within

seventy-two (72) hours of notification by the city unless other arrangements are made with the city.

3. No Washing Down Hard or Paved Surfaces. Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, is prohibited except when necessary to alleviate safety or sanitary hazards, and then only by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device, a low-volume, high-pressure cleaning machine equipped to recycle any water used, or a low-volume high-pressure water broom.

D. Level 2 Water Supply Shortage (21% - 35% reduction).

A Level 2 Water Supply Shortage exists when the city council declares, in its sole discretion, that due to drought or other water supply conditions, a water supply shortage or threatened shortage exists and a 21% - 35% consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions. Upon the declaration of a Level 2 Water Supply Shortage condition, the following mandatory water conservation requirements, in addition to the prohibited uses of water set forth in subsections B and C of this section, shall apply during such time that the Level 1 Water Supply Shortage is in effect.

1. Watering Days. Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to two days per week (as necessary to achieve reductions as determined in the discretion of the superintendent) on a schedule established and posted by the city. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one day per week on a schedule established and posted by the city. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.

2. Obligation to Fix Leaks, Breaks or Malfunctions. All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within forty-eight (48) hours of notification by the city unless other arrangements are made with the city.

3. Limits on Filling Ornamental Lakes or Ponds. Filling or re-filling ornamental lakes or ponds with potable water is prohibited, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a supply shortage level under this section.

4. Limits on Washing Vehicles. Using water to wash or clean a vehicle, including but not limited to, any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not, is prohibited except at a commercial car washing facility that utilizes a re-circulating water system to capture or reuse water.

5. Limits on Filling Residential Swimming Pools & Spas. Re-filling of more than one foot and initial filling of residential swimming pools or outdoor spas with potable water is prohibited.

E. Level 3 Water Supply Shortage – Emergency Condition (Greater than 35% reduction). A Level 3 Water Supply Shortage shall be referred to as a Water Shortage Emergency. A Level 3 condition exists when the city council declares, in its sole discretion, a water shortage emergency and notifies its residents and businesses that a greater than 35% reduction in consumer demand is necessary to maintain sufficient water supplies for public health and safety, pursuant to Water Code Section 350 et seq. Upon the declaration of a Level 3 Water Supply Shortage condition, the following mandatory water conservation requirements, in addition to the prohibited uses of water set forth in subsections B, C and D of this section, shall apply during such time that the Level 3 Water Supply Shortage is in effect

1. No Watering or Irrigating. Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited. This restriction does not apply to the following categories of use, unless the city has determined that recycled water is available and may be applied to the use:

a. Maintenance of vegetation, including trees and shrubs, that are watered using a hand-held bucket or similar container, hand-held hose equipped with a positive self–closing water shut-off nozzle or device;

b. Maintenance of existing landscape necessary for fire protection;

c. Maintenance of existing landscape for soil erosion control;

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

e. Maintenance of landscape within active public parks and playing fields, day care centers, golf course greens, and school grounds, provided that such irrigation does not exceed two (2) days per week for no more than fifteen (15) minutes watering per day per station and is prohibited between the hours of 9:00 a.m. and 5:00 p.m. Pacific Standard/Daylight Savings Time, according to the schedule established in subsection D(1) or this section.

f. Actively irrigated environmental mitigation projects.

2. Obligation to Fix Leaks, Breaks or Malfunctions. All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within twenty four (24) hours of notification by the city unless other arrangements are made with the city.

3. Limits on New Potable Water Service: Upon declaration of a Level 3 Water Shortage Emergency condition, the city may limit the issuance of new potable water services, temporary meters and/or statements of immediate ability to serve or provide potable water service (such as, will-serve letters, certificates, or letters of availability), except under the following circumstances:

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

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

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

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

4. Limits on Building Permits. Upon declaration of a Level 3 Water Supply Shortage Emergency condition, the city manager is authorized to implement a program in his or her discretion to limit or withhold the issuance of building permits which require new or expanded water service, except to protect the public health, safety and welfare, or in cases which meet the city's adopted conservation offset requirements.
5. Discontinue Service. The city, in its sole discretion, may discontinue service to consumers who willfully violate provisions of this section.
6. No New Annexations. Upon the declaration of a Level 3 Water Supply Shortage condition, the city may suspend consideration of annexations to its service area. This subsection does not apply to boundary corrections and annexations that will not result in any immediate increased use of water.

F. Procedures for Determination/Notification of Water Supply Shortage
The existence of Level 1, Level 2 or Level 3 Water Supply Shortage conditions may be declared by resolution of the city council adopted at a regular or special public meeting held in accordance with state law. The mandatory conservation requirements applicable to Level 1, Level 2 or Level 3 conditions will take effect on the tenth day after the date the shortage level is declared. Within five (5) days following the declaration of the shortage level, the city must publish a copy of the resolution in a newspaper used for publication of official notices.

G. Hardship Waiver. If, due to unique circumstances, a specific requirement of this chapter would result in undue hardship to a person using water or to property upon which water is used, that is disproportionate to the impacts to water users generally or to similar property or classes of water users, then the person may apply for a waiver to the requirement as provided in this Section.
1. Application: Application for a waiver must be on a form prescribed by the superintendent and accompanied by a nonrefundable processing fee in an amount set by city council resolution.
2. Supporting Documentation: The application must be accompanied by photographs, maps, drawings, and other information, including a written statement of the applicant.
3. Required Findings for Waiver: The waiver may be granted or conditionally granted only upon a written finding of the existence of facts demonstrating an undue hardship to a person using water or to property upon which water is used, that is disproportionate to the impacts to water users generally or to similar property or classes of water use due to specific and unique circumstances of the user or the user's property. An application for a waiver will be denied unless the superintendent finds, based on the information provided in the application, supporting documents, or such additional information as may be requested, and on water use information for the property as shown by the records of the city or its agent, all of the following:
a. That the waiver does not constitute a grant of special privilege inconsistent with the limitations upon other residents and businesses;
b. That because of special circumstances applicable to the property or its use, the strict application of this chapter would have a disproportionate impact on the property or use that exceeds the impacts to residents and businesses generally;

c. That the authorizing of such waiver will not be of substantial detriment to adjacent properties, and will not materially affect the ability of the city to effectuate the purpose of this chapter and will not be detrimental to the public interest; and
d. That the condition or situation of the subject property or the intended use of the property for which the waiver is sought is not common, recurrent or general in nature.
4. Approval Authority: The superintendent must act upon any completed application no later than ten (10) days after submittal and may approve, conditionally approve, or deny the waiver. The applicant requesting the waiver must be promptly notified in writing of any action taken. Unless specified otherwise at the time a waiver is approved, the waiver will apply to the subject property during the period of the mandatory water supply shortage condition. The decision of the superintendent shall be final."

Section 6. Chapter 13.04.390 (Enforcement) of Chapter 13.04 (Water System) of Title 13 (Public Services) is hereby amended as follows (additions shown in *italics*):

"Section 13.04.390 Enforcement

It shall be the duty of the employees of the police, fire, *community development* and ~~street~~ *public works* departments to give vigilant aid to the superintendent in the enforcement of the provisions of this chapter, and to this end they shall report all violations thereof which shall come to their knowledge, to the office of the superintendent and it shall be the duty of the chief of the fire department to report immediately to the superintendent in case of fire in premises, having metered service for fire protection purposes that fire has occurred there."

Section 7. Chapter 13.04.400 (Violation - Penalty) of Chapter 13.04 (Water System) of Title 13 (Public Services) is hereby amended in its entirety to read as follows:

"**13.04.400 Violation-Penalty.**

A. Penalty. Any person violating or causing or permitting to be violated, any of the provisions of this chapter, is deemed guilty of a misdemeanor. Upon conviction thereof, such person shall be punished by a fine not exceeding one thousand dollars ($1,000), or by imprisonment in the county jail for not more than 30 days. Every such person shall be deemed to be guilty of a separate offense for every day during any portion of which any violation of any provision of this chapter is committed, continued or permitted by such person, and shall be punishable therefor as provided in this section.

B. Notwithstanding any other provision of this code, whenever a violation of any section contained in this chapter is punishable as a misdemeanor, the city attorney may specify that the offense is an infraction, and proceed with prosecution as an infraction, unless the defendant objects to the offense being made an infraction, in which event the court may elect to have the complaint amended to charge as a misdemeanor, and the case shall proceed on a misdemeanor charge.

C. Violation of Section 13.04.330. In addition to all other available remedies, including penalties available pursuant to subsection A or B of this section, any person violating or

causing or permitting to be violated any provision of Section 13.04.330 shall be subject to the following penalties and fines pursuant to the authorities and procedures set forth in Chapter 1.19:

1. First Violation: The City of Morgan Hill will issue a written warning and deliver a copy of this ordinance by mail.
2. Second Violation: A second violation within any consecutive twelve (12) months period is punishable by a fine not to exceed one hundred dollars ($100).
3. Third Violation: A third violation within any consecutive twelve (12) months period is punishable by a fine not to exceed two hundred dollars ($200).
4. Subsequent Violations: Any subsequent violations within any consecutive twelve (12) months period are punishable by a fine not to exceed five hundred ($500) and subject to installation of a water flow restrictor device of approximately one gallon per minute capacity for services up to one and one-half inch size and comparatively sized restrictors for larger services after written notice of intent to install a flow restrictor for a minimum of forty eight (48) hours.

a. In addition to any other fines or penalties, a person who violates provisions of Section 13.04.330 is responsible for payment of the City of Morgan Hill's charges for installing and/or removing any flow restricting device and for disconnecting and/or reconnecting service per the city's schedule of charges then in effect. The charge for installing and/or removing any flow restricting device must be paid to the city before the device is removed. Nonpayment will be subject to the same remedies as nonpayment of basic water rates.

b. The first installation of a flow-restricting device shall remain in place for a minimum of three days and shall be removed by the city not more than ten days after installation. The second installation of a flow-restricting device, for continued violation of this chapter, shall remain in place for a minimum period of ten days before being removed by the city no later than thirty days thereafter. Normal water service shall not be restored until all installation and removal costs of flow-restricting devices have been paid.

6. Separate Offenses: Each day that a person violated provisions of Section 13.04.330 shall constitute a separate violation or offense.

C. All remedies provided for herein shall be cumulative and not exclusive.

Section 8. Severability

If any section, subsection, sentence, clause or phrase in this Ordinance is for any reason held invalid, the validity of the remainder of the Ordinance will not be affected. The city council hereby declares it would have passed this Ordinance and each section, subsection, sentence, clause or phrase thereof, irrespective of the fact that one or more sections, subsections, sentences, clauses, or phrases or is declared invalid.

Section 9. Effective Date; Posting. Pursuant to California Water Code Section 376, this Ordinance shall constitute a water conservation program and shall be effective upon adoption. Within ten (10) days of its adoption, this ordinance shall be published in full once in a newspaper of general circulation which is printed, published, and circulated in the City of Morgan Hill.

This ordinance was introduced at a meeting of the City Council held on the 6th day of May, 2009, and adopted at a meeting held on the 27th day of May, 2009, and said ordinance was duly passed and adopted in accordance with law by the following vote:

AYES:	**COUNCIL MEMBERS:**	**Larry Carr, Marby Lee, Greg Sellers, Steve Tate**
NOES:	**COUNCIL MEMBERS:**	**None**
ABSTAIN:	**COUNCIL MEMBERS:**	**None**
ABSENT:	**COUNCIL MEMBERS:**	**Marilyn Librers**

ATTEST: **APPROVED:**

_____ _____

IRMA TORREZ, City Clerk **STEVE TATE, Mayor**

CERTIFICATE OF THE CITY CLERK

I, IRMA TORREZ, CITY CLERK OF THE CITY OF MORGAN HILL, CALIFORNIA, do hereby certify that the foregoing is a true and correct copy of Ordinance No. 1932, New Series, adopted by the City Council of the City of Morgan Hill, California at their regular meeting held on the 27th day of May, 2009.

WITNESS MY HAND AND THE SEAL OF THE CITY OF MORGAN HILL.

DATE: _____ _____

IRMA TORREZ, City Clerk

G SANTA CLARA VALLEY WATER DISTRICT DRAFT WATER SHORTAGE CONTINGENCY PLAN

Contingency Planning Thresholds and Actions for 2010 Santa Clara County Retailer Urban Water Management Plans

Since many of the water retailers in Santa Clara County share many water sources, conservation programs, and media outlets, having a common shortage contingency plan for future water shortages may lead to increased effectiveness and efficiency. Given this opportunity, several retailers have developed this document for all retailers to consider when developing their 2010 Urban Water Management Plan.

To the extent that the contingency plans from all retailers align strategically, it will be easier for both the media and water customers to understand and cooperate with the actions being taken. It is anticipated that not all retailers will adopt all of the measures listed below verbatim. What is desirable, however, is for all retailers to adopt as many of these measures as possible that align with the retailer's plans and operating capabilities.

Model Water Shortage Contingency Plan for Santa Clara County Retailers

The following activities will be implemented for water shortages up to a 10% threshold:

- Additional informational outreach and public education campaigns will be implemented (Attachment A) notifying customers of the water shortage and the need to voluntarily conserve.

The following activities will be implemented for water shortages between 11% and 24%:

- All of the measures listed in the previous action step
- Adoption of a basic water waste ordinance (for retailers that are cities) or water waste rules (for retailers that are not cities) (Attachment B) if there is not already an ordinance permanently in place. Retailers that are cities would enact an ordinance while water utilities would enact water waste rules that have similar components and/or would encourage the cities within their service area to implement their own water waste and/or drought ordinances.
- Conduct monitoring and reporting on monthly or bimonthly water production or water sales to measure compliance with necessary reductions
- Adoption of additional restrictions that do the following:
    - Limits the number of days that irrigation can occur
    - Limits the duration of irrigation
    - Restricts the washing down of hard surfaces
    - Shortens the time allowed for fixing water leaks

    (See Attachment C for detailed description of measures)

The following activities will be implemented for water shortages between 25% and 39%:

- All of the measures listed in the previous action step
- Establish water use reduction program that includes one of the following elements:
    - Water allocation on a per-customer basis with surcharges, incentives, or other mechanisms in place to encourage compliance without penalizing customers for past conservation efforts
    - Rate increase or establishment of a tiered rate structure
- Adoption of additional restrictions that do the following:
    - Further limits the number of days that irrigation can occur
    - Further shortens the time allowed for fixing water leaks
    - Limits the filling of lakes, ponds, and pools
    - Limits vehicle washing

    (See Attachment D for detailed description of measures)

    Retailers that are cities would enact these restrictions via an ordinance while water utilities would enact water waste rules that have similar components and/or would encourage the cities within their service area to implement their own water waste and/or drought ordinances.

The following activities will be implemented for water shortages 40% and greater:

- All of the measures listed in the previous action step
- Adoption of additional restrictions that do the following:
    - Eliminates irrigation (except for shrubbery, trees, and bushes in areas declared to be “high fire risk” by designated fire department officials. Landscapes being irrigated by recycled water are exempted from this provision).
    - Further shortens the time allowed for fixing water leaks
    - Limits new water services unless governing body makes special finding of water supply adequacy
    - Provides for service disconnections for willful and repeated violations of restrictions

    (See Attachment E for detailed description of measures)

    Retailers that are cities would enact these restrictions via an ordinance while water utilities would enact water waste rules that have similar components and/or would encourage the cities within their service area to implement their own water waste and/or drought ordinances.

Attachment A: Menu of Informational Outreach and Public Education Campaigns to Implement

- Coordinate water conservation programs with local agencies
- Initiate public information program
- Offer water conservation kits to public
- Prepare and distribute water conservation literature through local retail water suppliers and other agencies
- Initiate a media campaign including news releases and or an advertising campaign

Attachment B: Model Basic Water Waste Ordinance Provisions

- **Limits on Watering Hours**: Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited between the hours of 9:00 a.m. and 5:00 p.m. Pacific Time on any day, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.

- **No Excessive Water Flow or Runoff:** Watering or irrigating of any lawn, landscape or other vegetated area in a manner that causes or allows excessive water flow or runoff onto an adjoining sidewalk, driveway, street, alley, gutter or ditch is prohibited.

- **Limits on Washing Down Hard or Paved Surfaces:** Washing down hard or paved surfaces must only be done by use of a hand-held hose equipped with a positive self-closing water shut-off device, a low-volume, high-pressure cleaning machine equipped to recycle any water used, a low-volume high-pressure water broom or a hand-held bucket or similar container. Washing down hard of paved surfaces by other means is prohibited. Hard and paved surfaces include, but are not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys.

- **Obligation to Fix Leaks, Breaks or Malfunctions:** Excessive use, loss or escape of water through breaks, leaks or other malfunctions in the water user's plumbing or distribution system for any period of time after such escape of water should have reasonably been discovered and corrected and in no event more than seven (7) days of receiving notice from the [ENTITY], is prohibited.

- **Recirculating Water Required for Water Fountains and Decorative Water Features**: Operating a water fountain or other decorative water feature that does not use recirculated water is prohibited.

- **Limits on Washing Vehicles:** Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not is prohibited, except by use of a hand-held bucket or similar container or a hand-held hose equipped with a positive self-closing water shut-off nozzle or device. This subsection does not apply to any commercial car washing facility.

- **Drinking Water Served Upon Request Only:** Eating or drinking establishments, including but not limited to a restaurant, hotel, cafe, cafeteria, bar, or other public place where food or drinks are sold, served, or offered for sale, are prohibited from providing drinking water to any person unless expressly requested.

- **Commercial Lodging Establishments Must Provide Guests Option to Decline Daily Linen Services**: Hotels, motels and other commercial lodging establishments must provide customers the option of not having towels and linen laundered daily. Commercial lodging establishments must prominently display notice of this option in each bathroom using clear and easily understood language.

- **No Installation of Single Pass Cooling Systems**: Installation of single pass cooling systems is prohibited in buildings requesting new water service.

- **No Installation of Nonrecirculating in Commercial Car Wash and Laundry Systems:** Installation of nonrecirculating water systems is prohibited in new commercial conveyor car wash and new commercial laundry systems.

- **Restaurants Required to Use Water Conserving Dish Wash Spray Valves**: Food preparation establishments, such as restaurants or cafes, are prohibited from using non-water conserving dish wash spray valves.

- **Commercial Car Wash Systems**: Within one year of passage of this ordinance, all commercial conveyor car wash systems must have installed operational re-circulating water systems, or must have secured a waiver of this requirement from the [*ENTITY*].

Attachment C: Detailed Description of 15 – 24% Provisions

1. **Limits on Watering Days:** Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to every other day based on property address. Properties with odd -numbered addresses can only irrigate on odd-numbered days of the month. Properties with even-numbered addresses can only irrigate on even-numbered days of the month. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one day per week on a schedule established and posted by the [ENTITY]. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system. This provision does not apply to landscapes being irrigated with recycled water.

2. **Limit on Watering Duration**: Watering or irrigating of lawn, landscape or other vegetated area with potable water using a landscape irrigation system or a watering device that is not continuously attended is limited to no more than fifteen (15) minutes watering per day per station. This subsection does not apply to landscape irrigation systems that exclusively use very low-flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour and weather based controllers or stream rotor sprinklers that meet a 70% efficiency standard. This provision does not apply to landscapes being irrigated with recycled water.

3. **Obligation to Fix Leaks, Breaks or Malfunctions**: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system exceeding five gallons per hour must be repaired within five (5) days of notification by the [ENTITY] unless other arrangements are made with the [ENTITY].

4. **No Washing Down Hard or Paved Surfaces:** Washing down hard or paved surfaces is prohibited except when necessary to alleviate safety or sanitary hazards, and then only by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device, a low-volume, high-pressure cleaning machine equipped to recycle any water used, or a low-volume high-pressure water broom. Hard and paved surfaces include, but are not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys.

Attachment D: Detailed Description of 25 – 39% Provisions

1. **Watering Days:** Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to two days per week. Properties with odd-numbered addresses can only irrigate on Mondays and Thursdays. Properties with even-numbered addresses can only irrigate on Tuesdays and Fridays. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system. This provision does not apply to landscapes being irrigated with recycled water.

2. **Obligation to Fix Leaks, Breaks or Malfunctions**: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within three (3) days of notification by the [ENTITY] unless other arrangements are made with the [ENTITY].

3. **Limits on Filling Ornamental Lakes or Ponds**: Filling or refilling ornamental lakes or ponds with potable water is prohibited except to the extent needed to sustain aquatic life.

4. **Limits on Washing Vehicles:** Using water to wash or clean a vehicle, including but not limited to, any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not, is prohibited except at a commercial car washing facility that utilizes a recirculating water system to capture or reuse water.

5. **Limits on Filling Residential Swimming Pools & Spas:** Refilling of more than one foot and initial filling of residential swimming pools or outdoor spas with potable water is prohibited.

Attachment E: Detailed Description of Greater Than 40% Provisions

1. **No Watering or Irrigating:** Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited. This restriction does not apply to the following categories of use, unless the [*ENTITY*] has determined that recycled water is available and may be applied to the use:
    a. Maintenance of vegetation, including trees and shrubs, that are watered using a hand-held bucket or similar container, hand-held hose equipped with a positive self–closing water shut-off nozzle or device;
    b. Maintenance of existing landscape necessary for fire protection;
    c. Maintenance of existing landscape for soil erosion control;
    d. Maintenance of plant materials identified to be rare or essential to the well-being of protected species;
    e. Maintenance of landscape within active public parks and playing fields, day care centers, golf course greens, and school grounds, provided that such irrigation does not exceed one (1) day per week and does not occur between 9 am and 5 pm;
    f. Actively irrigated environmental mitigation projects.

2. **Obligation to Fix Leaks, Breaks or Malfunctions**: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within twenty four (24) hours of notification by the [*ENTITY*] unless other arrangements are made with the [*ENTITY*].

2. **Limits on New Potable Water Service**: The *[ENTITY]* may limit or not issue new potable water services, temporary meters and/or statements of immediate ability to serve or provide potable water service (such as, will-serve letters, certificates, or letters of availability), except under the following circumstances:
    a. A valid, unexpired building permit has been issued for the project; or
    b. The project is necessary to protect the public health, safety, and welfare; or
    c. The applicant provides substantial evidence of an enforceable commitment that water demands for the project will be offset prior to the provision of a new water meter(s) to the satisfaction of the [*ENTITY*].

    This provision does not preclude the resetting or turn-on of meters to provide continuation of water service or the restoration of service that has been interrupted for a period of one year or less. [*Not applicable to city / county that is not a water provider*]

3. **Discontinue Service**: The [*ENTITY*], in its sole discretion, may discontinue service to consumers who willfully violate provisions of this section. [*Not applicable to city / county that is not a water provider*]

H WATER SUPPLY OPERATIONS PROVIDING FOR THE RECHARGE OF AQUIFERS WHICH SUPPLY THE CITY OF MORGAN HILL – MAY 2010

Water Supply Operations Providing for the Recharge of Aquifers which Supply the City of Morgan Hill

May 2010

Recharge rates in facilities which supply the aquifers used by the City of Morgan Hill are currently approximately 16.4 MGD. This reflects a recharge rate in the Upper Llagas Basin recharge facilities (Main Avenue, Madrone and San Pedro percolation facilities) of = 13.8 MGD. Llagas Creek and Coyote Creek are currently flowing continuously and percolating an estimated additional 2.6 MGD to the aquifers accesses by the City of Morgan Hill.

Recharge for 2009 was 13,400 acre feet. This is equivalent to an average rate of 12.0 MGD. The 2009 total was about 103% of average delivery over the past 20 years. The 2010 Operations Plan reflecting median hydrology is projecting total delivery of 14,600 acre-feet. This equates to an average delivery of 13.0 MGD.

Main Avenue Percolation Ponds

The ponds were drained for cleaning and facility restoration in October 2009. Old inter-pond pipes, valves and catwalks were replaced. Conventional cleaning did not occur because of the soil in the pond bottoms did not dry sufficiently. Ponds were put in service on January 8. Initial recharge rates of 4.7 MGD were close to maximum capacity. Current rates have dropped off to about 3.1 MGD.

Madrone Channel

Madrone channel was put back in operation on Oct 31. Efforts to clear obstructions in the Madrone last fall pipeline increased capacity from about 10 cfs to at about 17 cfs. Releases are being made at about 16 cfs. The capital project to increase the pipeline capacity and reestablish the connection to Anderson Reservoir is moving forward.

San Pedro Ponds

San Pedro operations have been temporarily suspended and intermittent due to locally high groundwater. No cleaning, restoration or shutdown activities are scheduled.

Coyote Creek

Flow in Upper Coyote Creek will be continuous through the zone which recharges the water supply aquifers accessed by the City of Morgan Hill in 2010.

Llagas Creek

Flow in Upper Llagas Creek will be continuous through the zone which recharges the water supply aquifers accessed by the City of Morgan Hill in 2010.

Groundwater Recharge in Facilities Which Supply Aquifers Used by the City of Morgan Hill

Long Term Averages

	Upper Llagas Basin Facilities			Llagas Creek[1]			Coyote Creek[2]			Total		
	Annual AF	Avg MGD	% 20 yr Avg	Annual AF	Avg MGD	% 20 yr Avg	Annual AF	Avg MGD	% 20 yr Avg	Annual AF	Avg MGD	% 20 yr Avg
1990 to 2009 20 Year Average	10,238	9.1		1,445	1.3		1,445	1.3		13,129	11.7	
2000 to 2009 10 Year Average	10,532	9.4	103%	1,445	1.3	100%	1,445	1.3	100%	13,423	12.0	102%

Recent Totals

2005	10,420	9.3	102%	1,445	1.3	100%	1,445	1.3	100%	13,311	11.9	101%
2006	9,562	8.5	93%	1,445	1.3	100%	1,445	1.3	100%	12,453	11.1	95%
2007	12,987	11.6	127%	1,260	1.1	87%	1,445	1.3	100%	15,877	14.2	121%
2008	7,705	6.9	75%	1,445	1.3	100%	1,445	1.3	100%	10,596	9.5	81%
2009	10,505	9.4	103%	1,445	1.3	100%	1,445	1.3	100%	13,395	12.0	102%
2010 [3]	11,716	10.5	114%	1,445	1.3	100%	1,445	1.3	100%	14,607	13.0	111%

Upper Basin Facilities

	Main Avenue			Madrone Channel			San Pedro Ponds			Totals		
	Annual AF	Avg MGD	% 20 yr Avg	Annual AF	Avg MGD	% 20 yr Avg	Annual AF	Avg MGD	% 19 yr Avg	Annual AF	Avg MGD	% 20 yr Avg
2005	1,292	1.2	58%	6,070	5.4	117%	3,058	2.7	129%	10,420	9.3	107%
2006	2,189	2.0	98%	6,679	6.0	129%	694	0.6	29%	9,562	8.5	98%
2007	3,150	2.8	142%	7,922	7.1	153%	1,915	1.7	81%	12,987	11.6	133%
2008	2,001	1.8	90%	3,660	3.3	70%	2,044	1.8	86%	7,705	6.9	79%
2009	2,746	2.5	123%	4,981	4.4	96%	2,778	2.5	117%	10,505	9.4	102%
2010 [3]	2,545	2.3	114%	6,318	5.6	122%	2,853	2.5	121%	11,716	10.5	114%

[1] Llagas Creek US Santa Teresa

[2] Coyote Creek above Morgan Hill Pumps

[3] Actuals through May 31, Operations Plan - Median Hydrology

MUNICIPAL CODE SECTION 13.04.330 – WASTE WATER PROHIBITIONS

13.04.330 - Wasting of water and drought emergencies.

A.

Applicability.

1.

The provisions of this chapter apply to any person in the use of any potable water provided by the city.

2.

The provisions of this chapter do not apply to uses of water necessary to protect public health and safety or for essential government services, such as police, fire and other similar emergency services.

3.

The provisions of this chapter do not apply to the use of recycled water, with the exception of subsection B(1) of this section.

4.

The provisions of this chapter do not apply to the use of water by commercial nurseries and commercial growers to sustain plants, trees, shrubs, crops or other vegetation intended for commercial sale.

5.

This chapter is intended solely to further the conservation of water. It is not intended to implement any provision of federal, state, or local statutes, ordinances, or regulations relating to protection of water quality or control of drainage or runoff.

B.

Prohibition Against Waste: The following water conservation requirements are effective at all times and are permanent. Violations of this section will be considered waste and an unreasonable use of water.

1.

Limits on Watering Hours: Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited between the hours of 9:00 a.m. and 5:00 p.m. Pacific Standard/Daylight Savings Time on any day, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.

2.

Limit on Watering Duration: Watering or irrigating of lawn, landscape or other vegetated area with potable water using a landscape irrigation system or a watering device that is not continuously attended is limited to no more than fifteen minutes watering per day per station. This subsection does not apply to landscape irrigation systems that exclusively use very low-flow drip type irrigation systems when no emitter produces more than two gallons of water per hour and weather based controllers or stream rotor sprinklers that meet a seventy percent efficiency standard.

3.

No Excessive Water Flow or Runoff: Watering or irrigating of any lawn, landscape or other vegetated area in a manner that causes or allows excessive water flow or runoff onto an adjoining sidewalk, driveway, street, alley, gutter or ditch is prohibited.

4.

No Washing Down Hard or Paved Surfaces: Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, is prohibited except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device, a low-volume, high-pressure cleaning machine equipped to recycle any water used, or a low-volume high-pressure water broom.

5.

Obligation to Fix Leaks, Breaks or Malfunctions: Excessive use, loss or escape of water through breaks, leaks or other malfunctions in the water user's plumbing or distribution system for any period of time after such escape of water should have reasonably been discovered and corrected and in no event more than ten days of receiving written notice from the city, is prohibited.

6.

Recirculating Water Required for Water Fountains and Decorative Water Features: Operating a water fountain or other decorative water feature that does not use recirculated water is prohibited.

7.

Limits on Washing Vehicles: Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not is prohibited, except by use of a hand-held bucket or similar container or a hand-held hose equipped with a positive self-closing water shut-off nozzle or device. This subsection does not apply to any commercial car washing facility.

8.

Drinking Water Served Upon Request Only: Eating or drinking establishments, including but not limited to a restaurant, hotel, cafe, cafeteria, bar, or other public place where food or drinks are sold, served, or offered for sale, are prohibited from providing drinking water to any person unless expressly requested.

9.

Commercial Lodging Establishments Must Provide Guests Option to Decline Daily Linen Services: Hotels, motels and other commercial lodging establishments must provide customers the option of not having towels and linen laundered daily. Commercial lodging establishments must prominently display notice of this option in each bathroom using clear and easily understood language.

10.

No Installation of Single Pass Cooling Systems: Installation of single pass cooling systems is prohibited in buildings requesting new water service.

11.

No Installation of Non-re-circulating in Commercial Car Wash and Laundry Systems: Installation of non-re-circulating water systems is prohibited in new commercial conveyor car wash and new commercial laundry systems.

12.

Restaurants Required to Use Water Conserving Dish Wash Spray Valves: Food preparation establishments, such as restaurants or cafes, are prohibited from using non-water conserving dish wash spray valves.

13.

Commercial Car Wash Systems: Within one year of passage of the ordinance codified in this section, all commercial conveyor car wash systems must have installed operational re-circulating water systems, or must have secured a waiver of this requirement from the city.

C.

Level 1 Water Supply Shortage (eleven percent - twenty percent reduction): A Level 1 water supply shortage exists when the city council determines, in its sole discretion, that due to drought or other water supply conditions, a water supply shortage or threatened shortage exists and a elevent percent - twenty percent consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions. Upon the declaration by the city of a Level 1 water supply shortage condition, the following mandatory water conservation requirements, in addition to the prohibited uses of water set forth in subsection B of this section, shall apply during such time that the Level 1 water supply shortage is in effect.

1.

Limits on Watering Days. Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to three to five days per week (as necessary to achieve reductions as determined in the discretion of the superintendent) on a schedule established and posted by the city. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one day per week on a schedule established and posted by the city. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.

2.

Obligation to Fix Leaks, Breaks or Malfunctions. All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within seventy-two hours of notification by the city unless other arrangements are made with the city.

3.

No Washing Down Hard or Paved Surfaces. Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, is prohibited except when necessary to alleviate safety or sanitary hazards, and then only by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device, a low-volume, high-pressure cleaning machine equipped to recycle any water used, or a low-volume high-pressure water broom.

D.

Level 2 Water Supply Shortage (twenty-one percent - thirty-five reduction). A Level 2 water supply shortage exists when the city council declares, in its sole discretion, that due to drought or other water supply conditions, a water supply shortage or threatened shortage exists and a twenty-one percent - thirty-five consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions. Upon the declaration of a Level 2 water supply shortage condition, the following mandatory water conservation requirements, in addition to the prohibited uses of water set forth in subsections B and C of this section, shall apply during such time that the Level 1 water supply shortage is in effect.

1.

Watering Days. Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to two days per week (as necessary to achieve reductions as determined in the discretion of the superintendent) on a schedule established and posted by the city. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one day per week on a schedule established and posted by the city. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.

2.

Obligation to Fix Leaks, Breaks or Malfunctions. All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within forty-eight hours of notification by the city unless other arrangements are made with the city.

3.

Limits on Filling Ornamental Lakes or Ponds. Filling or re-filling ornamental lakes or ponds with potable water is prohibited, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a supply shortage level under this section.

4.

Limits on Washing Vehicles. Using water to wash or clean a vehicle, including but not limited to, any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not, is prohibited except at a commercial car washing facility that utilizes a re-circulating water system to capture or reuse water.

5.

Limits on Filling Residential Swimming Pools & Spas. Re-filling of more than one foot and initial filling of residential swimming pools or outdoor spas with potable water is prohibited.

E.

Level 3 Water Supply Shortage - Emergency Condition (Greater than thirty-five percent reduction). A Level 3 water supply shortage shall be referred to as a water shortage emergency. A Level 3 condition exists when the city council declares, in its sole discretion, a water shortage emergency and notifies its residents and businesses that a greater than thirty-five percent reduction in consumer demand is necessary to maintain sufficient water supplies for public health and safety, pursuant to Water Code Section 350 et seq. Upon the declaration of a Level 3 water supply shortage condition, the following mandatory water conservation requirements, in addition to the prohibited uses of water set forth in subsections B, C and D of this section, shall apply during such time that the Level 3 water supply shortage is in effect:

1.

No Watering or Irrigating. Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited. This restriction does not apply to the following categories of use, unless the city has determined that recycled water is available and may be applied to the use:

a.

Maintenance of vegetation, including trees and shrubs, that are watered using a hand-held bucket or similar container, hand-held hose equipped with a positive self-closing water shut-off nozzle or device;

b.

Maintenance of existing landscape necessary for fire protection;

c.

Maintenance of existing landscape for soil erosion control;

d.

Maintenance of plant materials identified to be rare or essential to the well-being of protected species;

e.

Maintenance of landscape within active public parks and playing fields, day care centers, golf course greens, and school grounds, provided that such irrigation does not exceed two days per week for no more than fifteen minutes watering per day per station and is prohibited between the hours of 9:00 a.m. and 5:00 p.m. Pacific Standard/Daylight Savings Time, according to the schedule established in subsection D(1) or this section.

f.

Actively irrigated environmental mitigation projects.

2.

Obligation to Fix Leaks, Breaks or Malfunctions. All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within twenty-four hours of notification by the city unless other arrangements are made with the city.

3.

Limits on New Potable Water Service: Upon declaration of a Level 3 water shortage emergency condition, the city may limit the issuance of new potable water services, temporary meters and/or statements of immediate ability to serve or provide potable water service (such as, will-serve letters, certificates, or letters of availability), except under the following circumstances:

a.

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

b.

The project is necessary to protect the public health, safety, and welfare; or

c.

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

d.

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

4.

Limits on Building Permits. Upon declaration of a Level 3 water supply shortage emergency condition, the city manager is authorized to implement a program in his or her discretion to limit or withhold the issuance of building permits which require new or expanded water service, except to protect the public health, safety and welfare, or in cases which meet the city's adopted conservation offset requirements.

5.

Discontinue Service. The city, in its sole discretion, may discontinue service to consumers who willfully violate provisions of this section.

6.

No New Annexations. Upon the declaration of a Level 3 water supply shortage condition, the city may suspend

consideration of annexations to its service area. This subsection does not apply to boundary corrections and annexations that will not result in any immediate increased use of water.

F.

Procedures for Determination/Notification of Water Supply Shortage. The existence of Level 1, Level 2 or Level 3 water supply shortage conditions may be declared by resolution of the city council adopted at a regular or special public meeting held in accordance with state law. The mandatory conservation requirements applicable to Level 1, Level 2 or Level 3 conditions will take effect on the tenth day after the date the shortage level is declared. Within five days following the declaration of the shortage level, the city must publish a copy of the resolution in a newspaper used for publication of official notices.

G.

Hardship Waiver. If, due to unique circumstances, a specific requirement of this chapter would result in undue hardship to a person using water or to property upon which water is used, that is disproportionate to the impacts to water users generally or to similar property or classes of water users, then the person may apply for a waiver to the requirement as provided in this section.

1.

Application: Application for a waiver must be on a form prescribed by the superintendent and accompanied by a nonrefundable processing fee in an amount set by city council resolution.

2.

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

3.

Required Findings for Waiver: The waiver may be granted or conditionally granted only upon a written finding of the existence of facts demonstrating an undue hardship to a person using water or to property upon which water is used, that is disproportionate to the impacts to water users generally or to similar property or classes of water use due to specific and unique circumstances of the user or the user's property. An application for a waiver will be denied unless the superintendent finds, based on the information provided in the application, supporting documents, or such additional information as may be requested, and on water use information for the property as shown by the records of the city or its agent, all of the following:

a.

That the waiver does not constitute a grant of special privilege inconsistent with the limitations upon other residents and businesses;

b.

That because of special circumstances applicable to the property or its use, the strict application of this chapter would have a disproportionate impact on the property or use that exceeds the impacts to residents and businesses generally;

c.

That the authorizing of such waiver will not be of substantial detriment to adjacent properties, and will not materially affect the ability of the city to effectuate the purpose of this chapter and will not be detrimental to the public interest; and

d.

That the condition or situation of the subject property or the intended use of the property for which the waiver is sought is not common, recurrent or general in nature.

4.

Approval Authority: The superintendent must act upon any completed application no later than ten days after submittal and may approve, conditionally approve, or deny the waiver. The applicant requesting the waiver must be promptly notified in writing of any action taken. Unless specified otherwise at the time a waiver is approved, the waiver will apply to the subject property during the period of the mandatory water supply shortage condition. The decision of the superintendent shall be final.

(Ord. 1895 N.S. § 1, 2008: Ord. 30 N.S. § 4.10, 1948)

(Ord. No. 1932 N.S., § 5, 5-27-2009)

J MODEL RESOLUTION FOR MANDATORY REDUCTIONS IN AND SPECIFIED PROHIBITIONS OF USE

Santa Clara County

Model Water Conservation Ordinance

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Introduction

Managing water resources through drought years is an enormous challenge both here in Santa Clara County (County) and across the state. Recently, Governor Arnold Schwarzenegger issued a state of emergency proclamation due to the state-wide drought. He is asking all urban water users reduce their individual use by 20 percent. As the wholesale water provider for the County, the Santa Clara Valley Water District (District) Board of Directors is responsible for making decisions that will enable the District to meet our current and future demand.

Based on local and state water supply conditions as well as the Governor's drought proclamation, on March 24, 2009 the Board adopted a resolution calling for 15 percent mandatory conservation for calendar year 2009 of District managed supplies throughout the County. The District is urging all cities and water providers to increase their water conservation efforts and activities to achieve this goal.

To assist in this effort, the District, in collaboration with staff from the water providers and cities throughout the County, has developed a Model Water Conservation Ordinance (Ordinance) based on research compiled of other water agency ordinances throughout the state, most notably Metropolitan Water District of Southern California's model ordinance. The District's Ordinance includes both permanent water conservation features and the temporary measures triggered by drought or shortage as careful water management at all times is critical to ensure reliable minimal supply to meet current and future water needs. Many of these measures focus on outdoor water use since, on average, over 50 percent of a site's water use is for outdoor use.

The Ordinance is written for the benefit of cities, counties, and water providers and contains italicized comments throughout the Ordinance that identify the provisions that may be specific to these different types of entities. As a result, it can be readily adapted to apply to different types of entities, including a city or county with a municipality owned water service, a city or county that is not a water provider, or a public water district. The Ordinance purposely does not contain specific triggers for determining water supply levels, such as certain percentages of required water reduction or certain amount of reduction in supply. However, through the upcoming updates of the Urban Water Management Plans, the District will collaborate with staff from the water providers in the county to achieve consistency in this area.

Adopting entities will need the input and guidance of their governing bodies and legal counsel when considering how to adopt or revise the Ordinance to address their particular conditions.

ORDINANCE NO. ___

AN ORDINANCE OF [*GOVERNING BODY OF JURISDICTIONAL ENTITY]* ESTABLISHING A WATER CONSERVATION AND WATER SUPPLY SHORTAGE PROGRAM AND REGULATIONS

Section I: Title.

This chapter will be known as the [*INSERT ENTITY*] Water Conservation and Water Supply Shortage Program.

Section II. Findings.

a. A reliable minimum supply of potable water is essential to the public health, safety and welfare of the people and economy of the Santa Clara County.

b. Santa Clara County is a semi-arid region and is dependent upon local surface water, groundwater, and imported water supplies. A growing population, climate change, environmental concerns, and other factors in other parts of the State and western United States, make the region highly susceptible to water supply reliability issues.

c. Careful water management that includes active water conservation measures not only in times of drought, but at all times, is essential to ensure a reliable minimum supply of water to meet current and future water supply needs.

d. Article X, Section 2 of the California Constitution declares that the general welfare requires that water resources be put to beneficial use, waste or unreasonable use or unreasonable method of use of water be prevented, and conservation of water be fully exercised with a view to the reasonable and beneficial use thereof.

e. Article XI, Section 7 of the California Constitution declares that a city or county may make and enforce within its limits all local, police, sanitary, and other ordinances and regulations not in conflict with general laws. [*Not applicable to water districts*]

f. California Water Code section 375 authorizes water suppliers to adopt and enforce a comprehensive water conservation program to reduce water consumption and conserve supplies. [*Not applicable to city / county that is not a water provider*]

g. The adoption and enforcement of a water conservation and supply shortage program is necessary to manage the [*ENTITY*]'s potable water supply in the short and long-term and to avoid or minimize the effects of drought and shortage within the [*ENTITY*]. Such program is essential to ensure a reliable and sustainable minimum supply of water for the public health, safety and welfare.

Section III. Declaration of Purpose and Intent.

a. The purpose of this chapter is to establish a water conservation and supply shortage program that will reduce water consumption within the [*ENTITY*] through conservation, enable effective water supply planning, assure reasonable and beneficial use of water, prevent waste of water, and

maximize the efficient use of water within the [*ENTITY*] to avoid and minimize the effect and hardship of water shortage to the greatest extent possible.

b. This chapter establishes permanent water conservation standards intended to alter behavior related to water use efficiency at all times and further establishes three levels of water supply shortage response actions to be implemented during times of declared water shortage or declared water shortage emergency, with increasing restrictions on water use in response to worsening drought or emergency conditions and decreasing supplies.

Section IV. Definitions.

a. The following words and phrases whenever used in this chapter have the meaning defined in this section:

1. **"Person"** means any natural person or persons, corporation, public or private entity, governmental agency or institution, including all agencies and departments of [*ENTITY*], or any other user of water provided by the [*ENTITY*].

2. **"Landscape irrigation system"** means an irrigation system with pipes, hoses, spray heads, or sprinkling devices that are operated by hand or through an automated system.

3. **"Large landscape areas"** means a lawn, landscape, or other vegetated area, or combination thereof, equal to more than one (1) acre of irrigable land.

4. **"Single pass cooling systems"** means equipment where water is circulated only once to cool equipment before being disposed.

5. **"Potable water"** means water which is suitable for drinking.

6. **"Recycled water"** means the reclamation and reuse of non-potable water for beneficial use as defined in Title 22 of the California Code of Regulations.

7. **"Billing unit"** means the unit of water used to apply water rates for purposes of calculating water charges for a persons water usage and equals ___ [*To be determined by ENTITY*]. [*Not applicable to city / county that is not water provider*]

Section V. Application

a. The provisions of this chapter apply to any person in the use of any potable water provided by the [*ENTITY*].

b. The provisions of this chapter do not apply to uses of water necessary to protect public health and safety or for essential government services, such as police, fire and other similar emergency services.

c. The provisions of this chapter do not apply to the use of recycled water, with the exception of Section VI(a).

d. The provisions of this chapter do not apply to the use of water by commercial nurseries and commercial growers to sustain plants, trees, shrubs, crops or other vegetation intended for commercial sale.

e. This chapter is intended solely to further the conservation of water. It is not intended to implement any provision of federal, State, or local statutes, ordinances, or regulations relating to protection of water quality or control of drainage or runoff. Refer to the local jurisdiction or Regional Water Quality Control Board for information on any stormwater ordinances and stormwater management plans.

Section VI: Permanent Water Conservation Requirements – Prohibition Against Waste

The following water conservation requirements are effective at all times and are permanent. Violations of this section will be considered waste and an unreasonable use of water.

a. **Limits on Watering Hours**: Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited between the hours of 9:00 a.m. and 5:00 p.m. [*Times to be determined by ENTITY*] Pacific Standard Time on any day, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.

b. **No Excessive Water Flow or Runoff:** Watering or irrigating of any lawn, landscape or other vegetated area in a manner that causes or allows excessive water flow or runoff onto an adjoining sidewalk, driveway, street, alley, gutter or ditch is prohibited.

c. **Limits on Washing Down Hard or Paved Surfaces:** Washing down hard or paved surfaces must only be done by use of a hand-held hose equipped with a positive self-closing water shut-off device, a low-volume, high-pressure cleaning machine equipped to recycle any water used, a low-volume high-pressure water broom or a hand-held bucket or similar container. Washing down hard of paved surfaces by other means is prohibited. Hard and paved surfaces include, but are not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys.

d. **Obligation to Fix Leaks, Breaks or Malfunctions:** Excessive use, loss or escape of water through breaks, leaks or other malfunctions in the water user's plumbing or distribution system for any period of time after such escape of water should have reasonably been discovered and corrected and in no event more than seven (7) days [*Time to be determined by ENTITY*] of receiving notice from the [ENTITY], is prohibited.

e. **Re-circulating Water Required for Water Fountains and Decorative Water Features**: Operating a water fountain or other decorative water feature that does not use re-circulated water is prohibited.

f. **Limits on Washing Vehicles:** Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not is prohibited, except by use of a hand-held bucket or similar container or a hand-held hose equipped with a positive self-closing water shut-off nozzle or device. This subsection does not apply to any commercial car washing facility.

g. **Drinking Water Served Upon Request Only:** Eating or drinking establishments, including but not limited to a restaurant, hotel, cafe, cafeteria, bar, or other public place where food or drinks are sold, served, or offered for sale, are prohibited from providing drinking water to any person unless expressly requested.

h. **Commercial Lodging Establishments Must Provide Guests Option to Decline Daily Linen Services**: Hotels, motels and other commercial lodging establishments must provide customers the option of not having towels and linen laundered daily. Commercial lodging establishments must prominently display notice of this option in each bathroom using clear and easily understood language.

i. **No Installation of Single Pass Cooling Systems**: Installation of single pass cooling systems is prohibited in buildings requesting new water service.

j. **No Installation of Non-re-circulating in Commercial Car Wash and Laundry Systems:** Installation of non-re-circulating water systems is prohibited in new commercial conveyor car wash and new commercial laundry systems.

k. **Restaurants Required to Use Water Conserving Dish Wash Spray Valves**: Food preparation establishments, such as restaurants or cafes, are prohibited from using non-water conserving dish wash spray valves.

l. **Commercial Car Wash Systems**: Within one year of passage of this ordinance, all commercial conveyor car wash systems must have installed operational re-circulating water systems, or must have secured a waiver of this requirement from the [*ENTITY*].

Section VII: Level 1 Water Supply Shortage

a. A Level 1 Water Supply Shortage exists when the [*ENTITY*] determines, in its sole discretion, that due to drought or other water supply conditions, a water supply shortage or threatened shortage exists and a consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions. Upon the declaration by the [ENTITY] of a Level 1 Water Supply Shortage condition, the [ENTITY] will implement the mandatory Level 1 conservation measures identified in this section.

b. **Level 1 Conservation Measures:** In addition to the prohibited uses of water identified in Section VI, the following water conservation requirements apply during a declared Level 1 Water Supply Shortage:

1. **Limits on Watering Days:** Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to two days per week on a schedule established and posted by the [ENTITY]. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one day per week on a schedule established and posted by the [ENTITY]. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.

2. **Limit on Watering Duration**: Watering or irrigating of lawn, landscape or other vegetated area with potable water using a landscape irrigation system or a watering device that is not continuously attended is limited to no more than fifteen (15) minutes watering per day per station. This subsection does not apply to landscape irrigation systems that exclusively use very low-flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour and weather based controllers or stream rotor sprinklers that meet a 70% efficiency standard.

3. **Obligation to Fix Leaks, Breaks or Malfunctions**: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within seventy-two (72) hours of notification by the [ENTITY] unless other arrangements are made with the [ENTITY].

4. **No Washing Down Hard or Paved Surfaces:** Washing down hard or paved surfaces is prohibited except when necessary to alleviate safety or sanitary hazards, and then only by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device, a low-volume, high-pressure cleaning machine equipped to recycle any water used, or a low-volume high-pressure water broom. Hard and paved surfaces include, but are not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys.

Section VIII. Level 2 Water Supply Shortage

a. A Level 2 Water Supply Shortage exists when the [ENTITY] determines, in its sole discretion, that due to drought or other water supply conditions, a water supply shortage or threatened shortage exists and a consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions. Upon the declaration by the [ENTITY] of a Level 2 Water Supply Shortage condition, the [ENTITY] will implement the mandatory Level 2 conservation measures identified in this section.

b. **Level 2 Conservation Measures:** In addition to the prohibited uses of water identified in Section VI and VII, the following additional water conservation requirements apply during a declared Level 2 Water Supply Shortage:

1. **Watering Days:** Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to one day per week on a schedule established and posted by the [*ENTITY*]. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.

2. **Obligation to Fix Leaks, Breaks or Malfunctions**: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within forty-eight (48) hours of notification by the [ENTITY] unless other arrangements are made with the [ENTITY].

3. **Limits on Filling Ornamental Lakes or Ponds**: Filling or re-filling ornamental lakes or ponds with potable water is prohibited, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed

within the water feature prior to declaration of a supply shortage level under this ordinance.

4. **Limits on Washing Vehicles:** Using water to wash or clean a vehicle, including but not limited to, any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not, is prohibited except at a commercial car washing facility that utilizes a re-circulating water system to capture or reuse water.

5. **Limits on Filling Residential Swimming Pools & Spas:** Re-filling of more than one foot and initial filling of residential swimming pools or outdoor spas with potable water is prohibited.

Section IX. Level 3 Water Supply Shortage – Emergency Condition

a. A Level 3 Water Supply Shortage condition is also referred to as an "Emergency" condition. A Level 3 condition exists when the [*ENTITY*] declares a water shortage emergency and notifies its residents and businesses that a significant reduction in consumer demand is necessary to maintain sufficient water supplies for public health and safety. Upon the declaration of a Level 3 Water Supply Shortage condition, the [*ENTITY*] will implement the mandatory Level 3 conservation measures identified in this section.

b. **Level 3 Conservation Measures:** In addition to the prohibited uses of water identified in Section VI, VII, and VIII, the following water conservation requirements apply during a declared Level 3 Water Supply Shortage Emergency:

1. **No Watering or Irrigating:** Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited. This restriction does not apply to the following categories of use, unless the [*ENTITY*] has determined that recycled water is available and may be applied to the use:

i. Maintenance of vegetation, including trees and shrubs, that are watered using a hand-held bucket or similar container, hand-held hose equipped with a positive self–closing water shut-off nozzle or device;

ii. Maintenance of existing landscape necessary for fire protection;

iii. Maintenance of existing landscape for soil erosion control;

iv. Maintenance of plant materials identified to be rare or essential to the well-being of protected species;

v. Maintenance of landscape within active public parks and playing fields, day care centers, golf course greens, and school grounds, provided that such irrigation does not exceed one (1) day per week according to the schedule established in Section VIII(b)(1) and time restrictions in Section VI(a) and VII(b)(2);

vi. Actively irrigated environmental mitigation projects.

2. **Obligation to Fix Leaks, Breaks or Malfunctions**: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within

twenty four (24) hours of notification by the [*ENTITY*] unless other arrangements are made with the [*ENTITY*].

3. a. **Limits on New Potable Water Service**: Upon declaration of a Level 3 Water Supply Shortage Emergency condition, the *[ENTITY]* may limit or not issue new potable water services, temporary meters and/or statements of immediate ability to serve or provide potable water service (such as, will-serve letters, certificates, or letters of availability), except under the following circumstances:

    1. A valid, unexpired building permit has been issued for the project; or
    2. The project is necessary to protect the public health, safety, and welfare; or
    3. The applicant provides substantial evidence of an enforceable commitment that water demands for the project will be offset prior to the provision of a new water meter(s) to the satisfaction of the [*ENTITY*].

    This provision does not preclude the resetting or turn-on of meters to provide continuation of water service or the restoration of service that has been interrupted for a period of one year or less. [*Not applicable to city / county that is not a water provider*]

    or

    b. **Limits on Building Permits**: The [*ENTITY*] may limit or withhold the issuance of building permits which require new or expanded water service, except to protect the public health, safety and welfare, or in cases which meet the [*ENTITY*]'s adopted conservation offset requirements. [*Not applicable to water districts]*

4. **Discontinue Service**: The [*ENTITY*], in its sole discretion, may discontinue service to consumers who willfully violate provisions of this section. [*Not applicable to city / county that is not a water provider*]

5. **No New Annexations:** Upon the declaration of a Level 3 Water Supply Shortage condition, the [*ENTITY*] may suspend consideration of annexations to its service area. This subsection does not apply to boundary corrections and annexations that will not result in any immediate increased use of water.

Section X. Procedures for Determination / Notification of Water Supply Shortage

a. **Declaration and Notification of Water Supply Shortage:** The existence of Level 1, Level 2 or Level 3 Water Supply Shortage conditions may be declared by resolution of the [*ENTITY*] adopted at a regular or special public meeting held in accordance with State law. The mandatory conservation requirements applicable to Level 1, Level 2 or Level 3 conditions will take effect on the tenth day after the date the shortage level is declared. Within five (5) days following the declaration of the shortage level, the [*ENTITY*] must publish a copy of the resolution in a newspaper used for publication of official notices. If the [*ENTITY*] activates a water allocation process, it must provide notice of the activation by including it in the regular billing statement or by any other mailing to the address to which the [*ENTITY*] customarily mails the billing statement for fees or charges for on-going water service. A water allocation will be effective on the fifth day following the date of mailing or at such later date as specified in the notice.

Section XI. Hardship Waiver

a. **Undue and Disproportionate Hardship:** If, due to unique circumstances, a specific requirement of this chapter would result in undue hardship to a person using water or to property upon which water is used, that is disproportionate to the impacts to water users generally or to similar property or classes of water users, then the person may apply for a waiver to the requirements as provided in this section.

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

1. **Application**: Application for a waiver must be on a form prescribed by the [*ENTITY*] and accompanied by a non-refundable processing fee in an amount set by [*GOVERNING BODY OF ENTITY*] resolution.

2. **Supporting Documentation**: The application must be accompanied by photographs, maps, drawings, and other information, including a written statement of the applicant.

3. **Required Findings for Waiver:** An application for a waiver will be denied unless the [*Title of approving authority*] finds, based on the information provided in the application, supporting documents, or such additional information as may be requested, and on water use information for the property as shown by the records of the [*ENTITY*] or its Agent, all of the following:

   i. That the waiver does not constitute a grant of special privilege inconsistent with the limitations upon other residents and businesses;

   ii. That because of special circumstances applicable to the property or its use, the strict application of this chapter would have a disproportionate impact on the property or use that exceeds the impacts to residents and businesses generally;

   iii. That the authorizing of such waiver will not be of substantial detriment to adjacent properties, and will not materially affect the ability of the [*ENTITY*] to effectuate the purpose of this chapter and will not be detrimental to the public interest; and

   iv. That the condition or situation of the subject property or the intended use of the property for which the waiver is sought is not common, recurrent or general in nature.

4. **Approval Authority**: The [APPROPRIATE ENTITY MANAGER] must act upon any completed application no later than ten (10) days after submittal and may approve, conditionally approve, or deny the waiver. The applicant requesting the waiver must be promptly notified in writing of any action taken. Unless specified otherwise at the time a waiver is approved, the waiver will apply too the subject property during the period of the mandatory water supply shortage condition. The decision of the [APPROPRIATE ENTITY MANAGER] will be final.

Section XII. Penalties and Violations

a. **Violation:** The violation of any provision of this chapter shall not be considered a misdemeanor, but rather an infraction, punishable by fines and penalties pursuant to Section XII. Each day such violation continues shall be regarded as a new and separate offense.

b. **Penalties:** Penalties for failure to comply with any provisions of the ordinance are as follows:

1. **First Violation:** The [*ENTITY*] will issue a written warning and deliver a copy of this ordinance by mail.

2. **Second Violation:** A second violation within the preceding twelve (12) calendar months is punishable by a fine not to exceed one hundred dollars ($100).

3. **Third Violation:** A third violation within the preceding twelve (12) calendar months is punishable by a fine not to exceed two hundred and fifty ($250).

4. **Fourth Violation:** A fourth violation is punishable by a fine not to exceed five hundred ($500) and subject to installation of a water flow restrictor device of approximately one gallon per minute capacity for services up to one and one-half inch size and comparatively sized restrictors for larger services after written notice of intent to install a flow restrictor for up to forty eight (48) hours. [*Not applicable to city / county that is not a water provider*]

5. **Subsequent Violations:** Any subsequent violations are punishable by a fine not to exceed five hundred ($500) subject to installation of a water flow restrictor device of approximately one gallon per minute capacity for services up to one and one-half inch size and comparatively sized restrictors for larger services after written notice of intent to install a flow restrictor for a minimum of forty eight (48) hours. [*Not applicable to city / county that is not a water provider*]

c. **Cost of Flow Restrictor and Disconnecting Service:** A person or entity that violates this ordinance is responsible for payment of the [*ENTITY*]'s charges for installing and/or removing any flow restricting device and for disconnecting and/or reconnecting service per the [*ENTITY*]'s schedule of charges then in effect. The charge for installing and/or removing any flow restricting device must be paid to the [*ENTITY*] before the device is removed. Nonpayment will be subject to the same remedies as nonpayment of basic water rates. [*Not applicable to city / county that is not a water provider*]

d. **Separate Offenses**: Each day that a violation of this ordinance occurs is a separate offense.

e. **Notice and Hearing**:

1. The [*ENTITY*] will issue a Notice of Violation by mail or personal delivery at least ten (10) days before taking enforcement action. Such notice must describe the violation and the date by which corrective action must be taken. A customer may appeal the Notice of Violation by filing a written notice of appeal with the [*ENTITY*] no later than the close of business on the day before the date scheduled for enforcement action. Any Notice of

Violation not timely appealed will be final. Upon receipt of a timely appeal, a hearing on the appeal will be scheduled, and the [*ENTITY*] will mail written notice of the hearing date to the customer at least ten (10) days before the date of the hearing.

2. Pending receipt of a written appeal or pending a hearing pursuant to an appeal, the [*ENTITY*] may take appropriate steps to prevent the unauthorized use of water as appropriate to the nature and extent of the violations and the current declared water Level condition.

Section XIII. Severability

If any section, subsection, sentence, clause or phrase in this chapter is for any reason held invalid, the validity of the remainder of the chapter will not be affected. The [*GOVERNING BODY OF ENTITY*] hereby declares it would have passed this chapter and each section, subsection, sentence, clause or phrase thereof, irrespective of the fact that one or more sections, subsections, sentences, clauses, or phrases or is declared invalid.

Other Measures Available for Consideration

a. **Water Allocations and Mandatory Reductions**

1. **Water Allocations / Water Budget**: The [ENTITY] will activate a water allocation process using a method that does not in effect penalize persons for prior implementation of conservation methods or installation of water-saving devices. The [ENTITY] must provide notice of activation of the allocation process by including it in the regular billing statement for the fee or charge or by any other mailing to the address to which the [*ENTITY*] customarily mails the billing statement for fees or charges for on-going water service.

   Following the effective date of the water allocation, any person using water in excess of the allocation will be subject to a penalty in the amount of $__ for each billing unit of water in excess of the allocation. The penalty for excess water usage will be cumulative to any other remedy or penalty that may be imposed for violation of this ordinance. [*Not applicable to city / county that is not a water provider*]. [*Appropriate in Level 1, 2 or 3*]

   or

2. M**andatory Percentage Use Reductions**: During a Level __ [*To be determined by ENTITY*] Water Supply Shortage condition, all customers will be required to reduce water consumption by a percentage determined by the [*ENTITY*]. [*Not applicable to city / county that is not a water provider*]. [*Appropriate in Level 1, 2 or 3*]

b. **Large Landscape Areas – Rain Sensors**: Large landscape areas, such as parks, cemeteries, golf courses, school grounds, and playing fields, that use landscape irrigation systems to water or irrigate, must use landscape irrigation systems with rain sensors that automatically shut off such systems during periods of rain or irrigation timers which automatically use information such as evapotranspiration sensors to set an efficient water use schedule.

c. **Construction Purposes**: Recycled or non-potable water must be used for construction purposes when available.

d. **Water Recycling – New Service:** Prior to the connection of any new water service, an evaluation must be done by the [*ENTITY*] to determine whether recycled water exists to supply all or some of the water needed and recycled water must be utilized to the extent feasible. [*Not applicable to city / county that is not a water provider*]

e. **Water Recycling Required if Available**: The use of potable water, other than recycled water, is prohibited for specified uses after the [*ENTITY*] has provided to the user an analysis showing that recycled water is available, a cost-effective alternative to potable water for such uses and the user has had a reasonable time, as determined by the [*ENTITY*], to make the conversion to recycled water. [*Not applicable to city / county that is not a water provider*]

f. **City / County Water Recycling Plan:** The [*ENTITY*] must prepare a water recycling master plan that contains recommendations to increase the amount of recycled water used and must report to the [*ENTITY GOVERNING BODY*] annually on the progress towards implementing such recommendations. [*Not applicable to water districts*]

g. **Customer Water Conservation Reports:** The [*ENTITY*] may, by written request, require all commercial, residential and industrial customers using _____ [*To be determined by ENTITY*] or more billing units per year to submit a water conservation plan and to submit quarterly progress reports on such plan. The conservation plan must include recommendations for increased water savings, including increased water recycling based on feasibility, and the reports must include progress to date on implementation of such recommendations.

h. **Water Conserving Plumbing Standards**

1. **Retrofits Upon Sale or Transfer:** On or after January 1, 2010, no structure may be sold or transferred unless all existing plumbing fixtures in the structure are retrofitted exclusively with water-conserving plumbing fixtures. [*Not applicable to water districts]*

2. **Change in Service**: On or after January 1, 2010, upon the establishment of new water service or a change in water service from one person to another non-family member, all existing plumbing fixtures must be retrofitted exclusively with water-conserving plumbing fixtures. [*Not applicable to city / county that is not a water provider*]

i. **Reporting Mechanism - Hotline**: The [*ENTITY*] will establish a water waste hotline for residents to report violations of this chapter.

j. **State Model Landscape Ordinance:** The Department of Water Resources State Model Landscaping Ordinance is adopted by reference and incorporated as part of this Chapter. The full text of the Model Landscaping Ordinance is available on the [*ENTITY*] website at _____ and a copy is maintained with the [*ENTITY*]. [*Alternatively, the ENTITY may adopt a local ordinance at least as effective as the state model]*.

APPENDIX

WATER CONSERVATION ORDINANCE SUMMARY TABLE (Placeholder)

Permanent	Level 1	Level 2	Level 3 – Emergency	Other Provisions for Consideration
Restrictions: 1. No Watering: 9am – 5pm, except by hand 2. No excessive water flow or runoff 3. Limited washing down hard or paved surfaces 4. Obligation to fix leaks in reasonable time (within 7 days of notice) 5. Fountains only with re-circulating water 6. Wash vehicles only with bucket or shut-off nozzle 7. Restaurants only serve water on request 8. Hotels must provide guests option to not launder daily linen 9. No installation of single-pass cooling	**Same as Permanent, plus:** 1. Watering limited to 2 days a week 2. Irrigation system limit of 15 minutes 3. Fix leaks within 72 hours 4. No washing down hard or paved surfaces	**Same as Permanent and Level 1, plus:** 1. Watering limited to 1 day a week 2. Fix leaks within 48 hours 3. No filling or re-filling ornamental lakes or ponds 4. Wash vehicles only at car wash with re-circulating system 5. No filling residential pools or outdoor spas	**Same as Permanent, Level 1and Level 2, plus:** 1. No watering or irrigating with certain exceptions 2. Fix leaks within 24 hours 3. Limits on new potable water service or building permits 4. Discontinue service 5. No new annexations	1. Water allocation requirements and penalties for exceeding allotment 2. Mandatory % reduction and penalties for overage 3. Large landscape areas must have rain sensors 4. Recycled or non-potable water must be used for construction 5. Must use recycled water if entity shows cost effective alternative 6. Recycled water must be used for new water connection if feasible 7. City/County prepares water recycling plan and reports progress

systems 10. No installation of non re-circulating car wash systems 11. Restaurants must use conserving nozzles 12. Commercial Car Wash Systems use Re-Circulating systems within one year				8. Customers that use more than ____ billing units required to submit water conservation report 9. Plumbing retrofits upon sale, transfer or change in service 10. Establish water waste hotline 11. Adopt State Model Landscape Ordinance by reference

K DROUGHT RESPONSE AND WATER WASTE ORDINANCE

APPENDIX C

Resolution Declaring Existence of Condition of Drought (Model)

RESOLUTION NO. ____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF MORGAN HILL DECLARING THE EXISTENCE OF A CONDITION OF DROUGHT AND PROVIDING FOR MANDATORY REDUCTIONS IN AND SPECIFIED PROHIBITIONS OF WATER USE

WHEREAS,

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

SECTION 1

The City Council of the City of Morgan Hill finds and determines that a state of drought and of water shortage exists and that to preserve the health and safety of the people of this municipality the following measures are necessary to be and are hereby placed in effect.

SECTION 2

From and after the effective date of this Resolution the following uses of potable water shall be discouraged:

1. Water waste, including but not limited to, flooding or runoff on sidewalks, streets or gutters.
2. Cleaning of sidewalks, driveways, patios, parking lots or other paved or hard-surfaced areas.
3. Use of water through a hose for washing cars, buses, boats, trailers or other vehicles without a positive automatic shutdown valve on the outlet end of the hose.
4. Operation of decorative fountains.
5. Water waste due to broken or defective plumbing, sprinkler, watering or irrigation systems.
6. Outside landscape irrigation during daylight hours: 1:00am to 7:00pm.

7. Restaurant water service unless upon request.
8. Hydrant flushing except where required for public health or safety.

SECTION 3

In the event the foregoing is not successful in reducing water usage, additional measures shall be considered.

PASSED AND ADOPTED by the City Council of Morgan Hill at a Regular Meeting held on the __ Day of ___, 2005 by the following vote.

AYES: COUNCIL MEMBERS:

NOES: COUNCIL MEMBERS:
ABSTAIN: COUNCIL MEMBERS:
ABSENT: COUNCIL MEMBERS:

∪ CERTIFICATION ∪

I, IRMA TORREZ, CITY CLERK OF THE CITY OF MORGAN HILL, CALIFORNIA, do hereby certify that the foregoing is a true and correct copy of Resolution No. ____, adopted by the City Council at a Regular Meeting held on ___ __, 2005.

WITNESS MY HAND AND THE SEAL OF THE CITY OF MORGAN HILL.

DATE: _____ **_____**
IRMA TORREZ, City Clerk

L COMPLETED DWR CHECKLIST

CITY OF MORGAN HILL

Urban Water Management Plan Checklist, Organized by Subject

No.	UWMP Requirement [a]	California Water Code Reference	Additional Clarification	UWMP Location
	PLAN PREPARATION			
4	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	10620(d)(2)		Chapter 1, Section 1.4 - Coordination
6	Notify, at least 60 days prior to the public hearing on the plan required by Section 10642, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Any city or county receiving the notice may be consulted and provide comments.	10621(b)		Chapter 1, Section 1.4 - Coordination
7	Provide supporting documentation that the UWMP or any amendments to, or changes in, have been adopted as described in Section 10640 et seq.	10621(c)		Chapter 1, Section 1.5 - Plan Adoption, Submittal, and Implementation
54	Provide supporting documentation that the urban water management plan has been or will be provided to any city or county within which it provides water, no later than 60 days after the submission of this urban water management plan.	10635(b)		Chapter 1, Section 1.5 - Plan Adoption, Submittal, and Implementation
55	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan.	10642		Chapter 1, Section 1.4 - Coordination

No.	UWMP Requirement [a]	California Water Code Reference	Additional Clarification	UWMP Location
56	Provide supporting documentation that the urban water supplier made the plan available for public inspection and held a public hearing about the plan. For public agencies, the hearing notice is to be provided pursuant to Section 6066 of the Government Code. The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water. Privately-owned water suppliers shall provide an equivalent notice within its service area.	10642		Chapter 1, Section 1.4 - Coordination
57	Provide supporting documentation that the plan has been adopted as prepared or modified.	10642		Chapter 1, Section 1.5 - Plan Adoption, Submittal, and Implementation Appendix B
58	Provide supporting documentation as to how the water supplier plans to implement its plan.	10643		Chapter 1, Section 1.5 - Plan Adoption, Submittal, and Implementation
59	Provide supporting documentation that, in addition to submittal to DWR, the urban water supplier has submitted this UWMP to 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. This also includes amendments or changes.	10644(a)		Chapter 1, Section 1.5 - Plan Adoption, Submittal, and Implementation
60	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the urban water supplier has or will make the plan available for public review during normal business hours	10645		Chapter 1, Section 1.5 - Plan Adoption, Submittal, and Implementation
	SYSTEM DESCRIPTION			
8	Describe the water supplier service area.	10631(a)		Chapter 2, Section 2.1 - Service Area Physical Description
9	Describe the climate and other demographic factors of the service area of the supplier	10631(a)		Chapter 2, Section 2.2 - Service Area Climate

No.	UWMP Requirement [a]	California Water Code Reference	Additional Clarification	UWMP Location
10	Indicate the current population of the service area	10631(a)	Provide the most recent population data possible. Use the method described in "Baseline Daily Per Capita Water Use." See Section M.	Chapter 2, Section 2.3 - Service Area Population
11	Provide population projections for 2015, 2020, 2025, and 2030, based on data from State, regional, or local service area population projections.	10631(a)	2035 and 2040 can also be provided to support consistency with Water Supply Assessments and Written Verification of Water Supply documents.	Chapter 2, Section 2.3 - Service Area Population
12	Describe other demographic factors affecting the supplier's water management planning.	10631(a)		Chapter 2, Section 2.4 - Other Demographic Factors
	SYSTEM DEMANDS			
1	Provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	10608.20(e)		Chapter 3, Section 3.1 - Water Conservation Bill of 2009 Baselines and Targets
2	*Wholesalers:* Include an assessment of present and proposed future measures, programs, and policies to help achieve the water use reductions. *Retailers:* Conduct at least one public hearing that includes general discussion of the urban retail water supplier's implementation plan for complying with the Water Conservation Bill of 2009.	10608.36 10608.26(a)	Retailers and wholesalers have slightly different requirements	Chapter 3, [Section X]
3	Report progress in meeting urban water use targets using the standardized form.	10608.40		Chapter 3, Section 3.1 - Water Conservation Bill of 2009 Baselines and Targets

No.	UWMP Requirement [a]	California Water Code Reference	Additional Clarification	UWMP Location
25	Quantify past, current, and projected water use, identifying the uses among water use sectors, for the following: (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, conjunctive use, and (I) agriculture.	10631(e)(1)	Consider 'past' to be 2005, present to be 2010, and projected to be 2015, 2020, 2025, and 2030. Provide numbers for each category for each of these years.	Chapter 3, Section 3.2 - Water Demands
33	Provide documentation that either the retail agency provided the wholesale agency with water use projections for at least 20 years, if the UWMP agency is a retail agency, OR, if a wholesale agency, it provided its urban retail customers with future planned and existing water source available to it from the wholesale agency during the required water-year types	10631(k)	Average year, single dry year, multiple dry years for 2015, 2020, 2025, and 2030.	Chapter 3, Section 3.3 - Water Demand Projections
34	Include projected water use for single-family and multifamily residential housing needed for lower income households, as identified in the housing element of any city, county, or city and county in the service area of the supplier.	10631.1(a)		Chapter 3, Section 3.2.6 - Lower Income Housing Projections
	SYSTEM SUPPLIES			
13	Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, and 2030.	10631(b)	The 'existing' water sources should be for the same year as the "current population" in line 10. 2035 and 2040 can also be provided.	Chapter 4, Section 4.1 - Water Sources
14	Indicate whether groundwater is an existing or planned source of water available to the supplier. If yes, then complete 15 through 21 of the UWMP Checklist. If no, then indicate "not applicable" in lines 15 through 21 under the UWMP location column.	10631(b)	Source classifications are: surface water, groundwater, recycled water, storm water, desalinated sea water, desalinated brackish groundwater, and other.	Chapter 4, Section 4.2 - Groundwater

No.	UWMP Requirement [a]	California Water Code Reference	Additional Clarification	UWMP Location
15	Indicate whether a groundwater management plan been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	10631(b)(1)		Chapter 4, Section 4.2 - Groundwater See Attached CD
16	Describe the groundwater basin.	10631(b)(2)		Chapter 4, Section 4.2 - Groundwater Appendix E
17	Indicate whether the groundwater basin is adjudicated? Include a copy of the court order or decree.	10631(b)(2)		Chapter 4, Section 4.2 - Groundwater
18	Describe the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. If the basin is not adjudicated, indicate “not applicable” in the UWMP location column.	10631(b)(2)		Not Applicable
19	For groundwater basins that are not adjudicated, provide information as to whether DWR 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. If the basin is adjudicated, indicate “not applicable” in the UWMP location column.	10631(b)(2)		Chapter 4, Section 4.2 - Groundwater
20	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years	10631(b)(3)		Chapter 4, Section 4.2 - Groundwater
21	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	10631(b)(4)	Provide projections for 2015, 2020, 2025, and 2030.	Chapter 4, Section 4.2 - Groundwater
24	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	10631(d)		Chapter 4, Section 4.3 - Transfer Opportunities

No.	UWMP Requirement [a]	California Water Code Reference	Additional Clarification	UWMP Location
30	Include a detailed description of all water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and multiple-dry years, excluding demand management programs addressed in (f)(1). Include specific projects, describe water supply impacts, and provide a timeline for each project.	10631(h)		Chapter 4, Section 4.6 - Future Water Projects
31	Describe desalinated water project opportunities for long-term supply, including, but not limited to, ocean water, brackish water, and groundwater.	10631(i)		Chapter 4, Section 4.4 - Desalinated Water Opportunities
44	Provide information on recycled water and its potential for use as a water source in the service area of the urban water supplier. Coordinate with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.	10633		Chapter 4, Section 4.5 - Recycled Water Opportunities
45	Describe the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.	10633(a)		Chapter 4, Section 4.5 - Recycled Water Opportunities
46	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	10633(b)		Chapter 4, Section 4.5 - Recycled Water Opportunities
47	Describe the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.	10633(c)		Chapter 4, Section 4.5 - Recycled Water Opportunities
48	Describe and quantify the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.	10633(d)		Chapter 4, Section 4.5 - Recycled Water Opportunities
49	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.	10633(e)		Chapter 4, Section 4.5 - Recycled Water Opportunities

No.	UWMP Requirement [a]	California Water Code Reference	Additional Clarification	UWMP Location
50	Describe the actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.	10633(f)		Chapter 4, Section 4.5 - Recycled Water Opportunities
51	Provide a plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.	10633(g)		Chapter 4, Section 4.5 - Recycled Water Opportunities
WATER SHORTAGE RELIABILITY AND WATER SHORTAGE CONTINGENCY PLANNING [b]				
5	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	10620(f)		Chapter 5, Section 5.1 - Water Supply Reliability
22	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage and provide data for (A) an average water year, (B) a single dry water year, and (C) multiple dry water years.	10631(c)(1)		Chapter 5, Section 5.4 - Drought Planning
23	For any water source that may not be available at a consistent level of use - given specific legal, environmental, water quality, or climatic factors - describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.	10631(c)(2)		Chapter 5, Section 5.1 - Water Supply Reliability
35	Provide an urban water shortage contingency analysis that specifies stages of action, including up to a 50-percent water supply reduction, and an outline of specific water supply conditions at each stage	10632(a)		Chapter 5, Section 5.4 - Drought Planning
36	Provide an estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.	10632(b)		Chapter 5, Section 5.4 - Drought Planning
37	Identify 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.			Chapter 5, Section 5.2 - Water Shortage Contingency Planning

No.	UWMP Requirement [a]	California Water Code Reference	Additional Clarification	UWMP Location
38	Identify additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.	10632(d)		Chapter 5, Section 5.2 - Water Shortage Contingency Planning
39	Specify consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.	10632(e)		Chapter 5, Section 5.2 - Water Shortage Contingency Planning
40	Indicated penalties or charges for excessive use, where applicable.	10632(f)		Chapter 5, Section 5.2 - Water Shortage Contingency Planning
41	Provide an analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.	10632(g)		Chapter 5, Section 5.2 - Water Shortage Contingency Planning
42	Provide a draft water shortage contingency resolution or ordinance.	10632(h)		Chapter 5, Section 5.2 - Water Shortage Contingency Planning
43	Indicate a mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.	10632(i)		Chapter 5, Section 5.4 - Drought Planning
52	Provide information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments, and the manner in which water quality affects water management strategies and supply reliability	10634	For years 2010, 2015, 2020, 2025, and 2030	Chapter 5, Section 5.3 - Water Quality
53	Assess the water supply reliability during normal, dry, and multiple dry water years by comparing 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. Base the assessment on the information compiled under Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.	10635(a)		Chapter 5, Section 5.4 - Drought Planning

No.	UWMP Requirement [a]	California Water Code Reference	Additional Clarification	UWMP Location
	DEMAND MANAGEMENT MEASURES			
26	Describe how each water demand management measures is being implemented or scheduled for implementation. Use the list provided.	10631(f)(1)	Discuss each DMM, even if it is not currently or planned for implementation. Provide any appropriate schedules.	Chapter 6, Section 6.1 - Demand Management Measurement Implementation
27	Describe the methods the supplier uses to evaluate the effectiveness of DMMs implemented or described in the UWMP.	10631(f)(3)		Chapter 6
28	Provide an estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the ability to further reduce demand.	10631(f)(4)		Chapter 6
29	Evaluate each water demand management measure that is not currently being implemented or scheduled for implementation. The evaluation should include economic and non-economic factors, cost-benefit analysis, available funding, and the water suppliers' legal authority to implement the work.	10631(g)	See 10631(g) for additional wording.	Not Applicable
32	Include the annual reports submitted to meet the Section 6.2 requirements, if a member of the CUWCC and signer of the December 10, 2008 MOU.	10631(j)	Signers of the MOU that submit the annual reports are deemed compliant with Items 28 and 29.	Not Applicable

[a] The UWMP Requirement descriptions are general summaries of what is provided in the legislation. Urban water suppliers should review the exact legislative wording prior to submitting its UWMP.

[b] The Subject classification is provided for clarification only. It is aligned with the organization presented in Part I of this guidebook. A water supplier is free to address the UWMP Requirement anywhere with its UWMP, but is urged to provide clarification to DWR to facilitate review.