



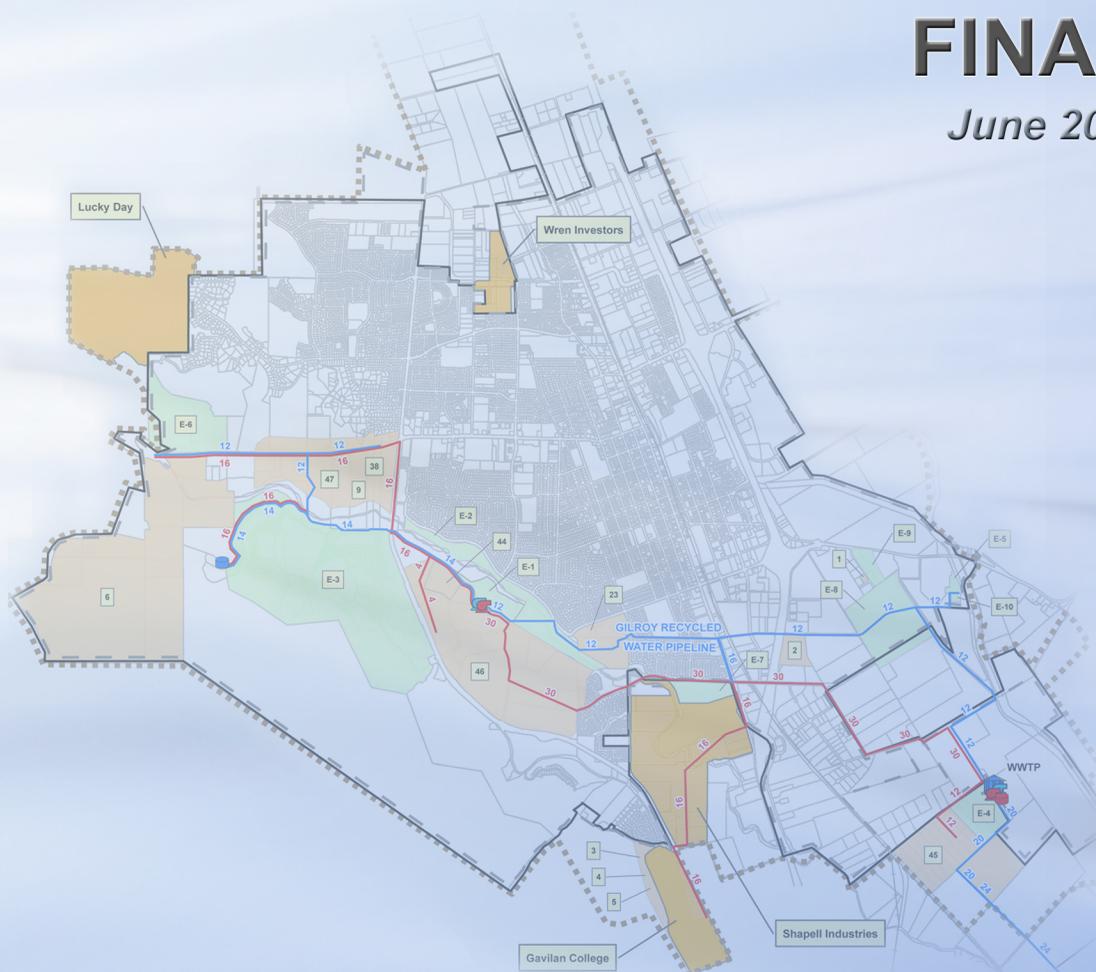
City of Gilroy

2010 Urban Water Management Plan



FINAL

June 2011





CITY OF GILROY

2010

**URBAN WATER
MANAGEMENT
PLAN**

Final

June 2011

A K E L
ENGINEERING GROUP, INC.

June 8, 2011

City of Gilroy
7351 Rosanna Street
Gilroy, California 95020

Attention: Rick Smelser, P.E., City Engineer

Subject: **2010 Urban Water Management Plan**

Dear Rick:

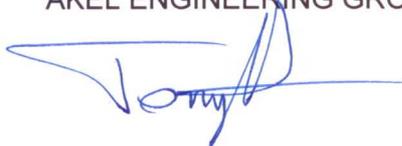
We are pleased to submit the City of Gilroy 2010 Urban Water Management Plan (2010 UWMP) which is intended to address the Urban Water Management Planning Act (UWMPA) of 1983 and amendments thereof.

The City's 2005 UWMP received a letter of review and completeness from the Department of Water Resources in May 2009. This 2010 UWMP addresses additional amendments to the UWMPA and new guidelines established by the Department of Water Resources. One of the amendments includes the Water Conservation Act of 2009 and requires the state, and its municipal water purveyors, to achieve a 20 percent reduction in urban per capita water usage by the year 2020.

We extend our thanks to you, David Stubchaer, Operations Manager; Kristi Abrams, Development Center Manager; Saeid Vaziry, Chief Engineer at the South County Regional Water Authority (SCRWA); Daniel Aldridge, Water System Superintendent; Stan Ketchum, Senior Planner; and other City staff whose courtesy and cooperation were valuable in completing this study.

Sincerely,

AKEL ENGINEERING GROUP, INC.



Tony Akel, P.E.
Principal

Enclosure: 2010 Urban Water Management Plan



6/8/2011

City of Gilroy
2010 Urban Water Management Plan
Contact Sheet

Date this plan was submitted to the Department of Water Resources: June 30, 2011

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The Water supplier is a Municipality

The Water supplier is a Retailer

Utility Services provided by the water supplier include: Water, Sewer, Recycled Water

Is this Agency a Bureau of Reclamation Contractor? No

Is this Agency a State Water Project Contractor? No



Acknowledgements

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Cat Tucker, Mayor Pro Tempore

Bob Dillon

Peter Leroe-Muñoz

Dion Bracco

Perry Woodward

Peter Arellano

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David Stubchaer, Operations Manager

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Saeid Vaziry, Chief Engineer at SCRWA

Daniel Aldridge, Operations Supervisor / Water

Stan Ketchum, Senior Planner

City of Gilroy

2010 Urban Water Management Plan

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CHAPTER 1 – PLAN PREPARATION

This chapter describes the purpose of the Urban Water Management Plan (UWMP) and lists previous UWMPs prepared by the city of Gilroy as well as by the Santa Clara Valley Water District (SCVWD). The chapter also documents the milestones for adopting the UWMP and for submitting it to the Department of Water Resources (DWR).

1.1 PURPOSE

Water suppliers must submit an Urban Water Management Plan to the Department of Water Resources in accordance with California Water Code requirements. The purpose of the UWMP is to implement and maintain the reliability of urban water supplies, ensure that future beneficial use can be complemented by sufficient water supply, continue to promote policies and programs that benefit water conservation, and provide a means for response during water supply shortages and drought conditions.

In addition to being filed every five years, the Urban Water Management Plan must satisfy requirements defined in the Urban Water Management Planning Act (UWMPA) of 1983 and amendments to the Act.

Since passage of the UWMPA, there have been 20 amendments to the Act. According to the UWMPA, an UWMP is necessary to any urban water supplier that supplies over 3,000 acre-feet (af) of water a year, or services 3,000 or more connections.

In May 2009, DWR completed the review of the City's 2005 UWMP and its supplements, and issued a letter of completeness. This 2010 UWMP includes updates to the 2005 UWMP, and addresses additional amendments to the UWMPA and new guidelines established by the Department of Water Resources.

1.2 URBAN WATER MANAGEMENT PLANNING ACT OF 1983

State Assembly Bill 797 modified the California Water Code Division 6 in 1983, creating the UWMPA. Since this Assembly Bill, 20 amendments have changed the quantity of data required, as well as increasing the planning elements included in this 2010 plan.

Early amendments to the UWMPA required 20 year planning horizons in 5 year increments for the comparison of water use to sources of water supply. More recently, these planning projections have been extended to 25 year planning horizons in order to maintain the 20 year projections, while the subsequent UWMP is completed.

Additional amendments included requirements that water supplier's UWMP provide provisions for a Water Shortage Contingency Plan, which would meet the specifications set forth in the UWMPA; demand management measures; and provisions for recycled water use. Recycled water use was added to reporting requirements due to its additional reliability for alternative water supply, and most notably, as an additional supply for future water use demand. Individual water purveyors, in coordination with other water purveyors in the same general area and to the extent practicable, must work to prepare the Water Shortage Contingency Plan. The individual water supplier must also describe the water demand management measures that are currently in practice, or those scheduled to be practiced.

Twelve amendments have been passed since the year 2000, amending the UWMPA and increasing reporting for the UWMP. Included in these amendments are SB 610 (Costa, 2001) and AB 901 (Daucher, 2001), which require urban water purveyors to review information regarding water to supply new large developments. Additionally, SB 318 (Alpert, 2004) requires the plan to review opportunities involved in the development of desalinated water, included but not limited to, ocean, brackish, and groundwater, as a long term supply. AB 105 (Wiggins, 2004) requires suppliers to submit their completed UWMP to the California State Library.

The most recent of these amendments are:

- SB 1087 (Florez, 2005), which requires urban water suppliers to include single family and multi-family residential units for lower income households as identified by the City, County or combination of both within the service area of the provider.
- SBX7-7 (Steinberg, 2009), which is known as the Water Conservation Act of 2009, requires the state and its municipal water purveyors to achieve a 20 percent reduction in urban per capita water usage by the year 2020. The "20X2020" plan is intended to reduce water usage per capita by 10% by the year 2015, and 20% by the year 2020.

1.3 PREVIOUS CITY URBAN WATER MANAGEMENT PLANS

This section briefly describes previous UWMPs that were prepared by the City, and major recommendations outlined in the respective plan.

1.3.1 1985 UWMP – City of Gilroy

The 1985 UWMP recommended the continued use of some of the existing urban water management efforts, while proposing changes to some of the efforts seen fit to improve at that time.

Measures recommended for continued implementation in the 1985 UWMP included: water metering, water rate structure, public education activities, leak detection and repair activities, distribution system maintenance activities, management of supply sources, and compliance with State law requiring low flow fixtures for new developments.

Changes recommended in the 1985 UWMP included: preparation of a drought management plan, annual water system audits, modifications to the City's public information and education program, distribution of retrofit kits to the City customers, and evaluation of future changes to the City's water rate structure to encourage additional conservation.

1.3.2 1990 UWMP – City of Gilroy

The 1990 UWMP recommended the continued use of some of the existing urban water management efforts, while proposing changes to some of the efforts seen fit to improve at that time.

Measures recommended for continued implementation in the 1990 UWMP included: water reduction program by utilizing water use prohibitions; water metering; water rates; water conservation rate structure; resource management coordinator; public information/school education; retrofit kits; drought alert calculations; low water use landscaping; industrial, commercial and multi-family residential water audits; leak detection and repair program; distribution system maintenance; source management; water usage records; and state legislation in support of water conservation.

Changes recommended in the 1990 UWMP included: the exchange or transfers of water, water pressure management, peak demand management, unaccounted-for water, public information and school education, water saving devices, wastewater reclamation, low water use landscaping, examples of incentives to alter water use practices, changes in pricing structure, changes in regulations, drought management plan, and treatment of contaminated groundwater.

1.3.3 2000 UWMP – City of Gilroy

The 2000 UWMP recommended the continued use of some of the existing urban water management efforts, while proposing changes to some of the efforts seen fit to improve at that time. The recommended changes for the city of Gilroy UWMP were in parallel with the recommended changes described in the Santa Clara Valley Water District (SCVWD) 2000 UWMP.

1.3.4 2005 UWMP – City of Gilroy

The 2005 UWMP for the city of Gilroy was adopted on December 5, 2005. This plan includes a portion on new developments within the city limits of Gilroy, and also addresses the SB610 requirements of the UWMP. These requirements address the availability of water supply in the City, as well as focusing on maintaining water supply with the future large developments.

Additionally, the 2005 plan addressed SB318 and AB105. SB318 required the plan to describe opportunities for development of desalinated water. While Gilroy is not located adjacent to an ocean, the UWMPA requires the investigation of treating groundwater brackish in nature. It was found in the 2005 UWMP that the groundwater under the City is not brackish in nature, but was suggested that the City could partner with other SWP contractors in exchange for SWP supplies.

AB105 requires that urban water suppliers submit their UWMP to the California State Library. The 2005 UWMP was submitted in a timely manner in accordance with this assembly bill.

1.4 PREVIOUS AND 2010 SANTA CLARA VALLEY WATER DISTRICT URBAN WATER MANAGEMENT PLANS

1.4.1 2000 UWMP – Santa Clara Valley Water District

The SCVWD 2000 UWMP had the majority of actions implemented as part of the Integrated Water Resources Plan (IWRP) Preferred Strategy. The IWRP Preferred Strategy was developed as a guide to the District water resources planning through the year 2020. Additionally, the IWRP was designed to optimize flexibility in order to meet changing conditions and demands through staged review, development, and implementation of four key components: water banking, long-term water transfers, recycled water, and water conservation.

Within the actions included in the UWMP, some were considered “core elements” of the IWRP Preferred Strategy. These actions are designed to: 1) ensure the validity of baseline assumptions utilized in the IWRP process; 2) monitor or evaluate resource options; 3) help achieve IWRP planning objectives.

1.4.2 2005 UWMP – Santa Clara Valley Water District

As with the SCVWD 2000 UWMP, the District’s 2005 UWMP maintained focus on the implementation of actions described in the District’s IWRP Preferred Strategy.

The basic intent of the 2003 IWRP was to develop planning framework and supporting modeling tools that would enable the District to adequately compare investment options in an environment of continual change and emerging opportunities.

The major findings of the 2003 IWRP are as follows:

- Securing baseline supplies is top priority for ensuring reliability.
- A mix of three types of water supply investments makes the best water supply portfolios.
- Local supplies decrease vulnerability to risk.

In order to meet increasing demand scenarios, the District opted to make near-term investments to secure baseline water supplies identified within the IWRP and make investments in the “no regrets” IWRP portfolio. The investments were seen as needed to meet short-term demands in average years and ensure that sufficient local groundwater and banked water supplies are available in dry and multiple dry years. The following “no regrets” investments were taken by the District:

- 28,000 af of additional annual savings from agriculture, municipal, and industrial conservation (full implementation by 2020).
- 20,000 af of additional groundwater recharge capacity (implemented by 2010).
- 60,000 af of additional capacity in the Semitropic Water Bank (Implemented 2005).

In accordance with the 2003 IWRP, the District has been implementing additional water conservation programs. Within these conservation measures, the District has been actively pursuing groundwater recharge facilities, and has budgeted the purchase of new lands for recharge ponds.

As a part of the 2005 UWMP, the District also began increasing its planning coordination within the District as well as the region. In the fall of 2005, the District began the process of updating its water infrastructure planning documents. With the updating of these documents, the District completed a facilities assessment, which enabled the improvement of local infrastructure and emergency preparedness. These enhancements allow increased reliability of the District water infrastructure in the event of a hazard within the system. Additionally, the District continued regional reliability and coordination work created Bay Area Water Agencies Coalition (BAWAC).

1.4.3 2010 UWMP – Santa Clara Valley Water District (Draft)

The District's 2010 UWMP continues the implementation of the IWRP, while introducing new projects to further emphasize conservation efforts within the District. To keep in line with the IWRP, the District has completed a groundwater model aimed at better tracking the use of groundwater and accurately predicting groundwater table fluctuations.

The District also continues to manage increasing demand. To account for demand increases the District continues the Semitropic Banking Program, in which it has increased the total storage capacity of the Water Bank to 350,000 acre feet.

The UWMP also addresses the Water Conservation Act of 2009, which is a new law requiring water retailers to reduce water demand by 20 percent by the year 2020. In addressing this law, the District has begun work on a water master plan, which is projected for adoption in 2012. This master plan will address the water supply and infrastructure needs of the District, as well as address objectives related to water quality, reliability, and environmental benefits. Additionally, a risk evaluation will be implemented to determine the response of the water system under predetermined risk scenarios.

1.5 PUBLIC PARTICIPATION AND PLAN ADOPTION

The UWMPA requires that the adopted UWMP demonstrate the water agency solicited public participation.

Law

10642. Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published ... After the hearing, the plan shall be adopted as prepared or as modified after the hearing.

In accordance with the stated law, the City held a public hearing and adopted the 2010 UWMP on June 6th, 2011. A copy of the adopting resolution is included in [Appendix A](#). A notice of the public hearing was published in the local newspaper, notifying interested parties that the draft 2010 UWMP was available at various City facilities and on the City's web page for review two successive weeks prior to adoption ([Table 1.1](#)).

1.6 AGENCY COORDINATION

The UWMPA requires the UWMP to identify, and coordinate with, appropriate nearby agencies.

Law

10642 (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 Gilroy 2010 UWMP is an update to the 2005 UWMP and is intended to address those aspects of the UWMPA which are under the control of the City, specifically water supply and water use. While preparing the 2010 UWMP, the City coordinated its efforts with relevant agencies including the Santa Clara Valley Water District (SCVWD) and Santa Clara County (County).

The Santa Clara Valley Water District is the principal groundwater management agency in Santa Clara County, as well as the contracting agency for both the State Water Project and the Federal Central Valley Project. The City contacted the SCVWD and obtained several relevant reports, including their Draft 2010 UWMP. Coordination efforts related to the preparation of the City's 2010 UWMP are summarized in [Table 1.1](#).

Table 1.1 Agency Coordination

2010 Urban Water Management Plan

City of Gilroy

Coordinating Agencies	Participated in Developing the Plan	Commented on the Draft	Attended Public Meetings	Was Contacted for Assistance	Sent a Draft Copy of the Plan	Sent a Notice of Intention of Adoption of the Plan	Sent a Final Copy of the Plan	Not Involved / No Information
Santa Clara Valley Water District	Yes	No		Yes	Submitted Draft 4/18/2011	Notice Submitted 3/25/2011	6/27/2011	
Santa Clara County	Yes	No		No	Submitted Draft 4/18/2011	Notice Submitted 3/25/2011	6/27/2011	
Department of Water Resources / California State Library	N/A	N/A	N/A	N/A	N/A	N/A	6/30/2011	
General Public		No	Yes		Made Available for Review Online and Hard Copy	Newspaper Notice Posted: 5/3/2011 5/10/2011	6/27/2011	

5/11/2011

1.7 REPORT ORGANIZATION

This report is organized in accordance with the outline suggested by the Department of Water Resources for the 2010 Urban Water Management Plans.

Chapter 1 – Plan Preparation. This chapter describes the purpose of the Urban Water Management Plan (UWMP) and lists previous UWMPs prepared by the city of Gilroy as well as by the Santa Clara Valley Water District (SCVWD). The chapter also documents the milestones for adopting the UWMP and for submitting it to the Department of Water Resources (DWR).

Chapter 2 – System Description. The Urban Water Management Planning Act requires that a description be provided of the water purveyor's service area, and include various aspects of the service area, including: climate, population, and land use.

Chapter 3 – System Demands. The Urban Water Management Planning Act requires the UWMP to identify the quantity of water supplied to the system, as well as the breakdown of customers supplied by land use classification.

Chapter 4 – System Supplies. The UWMPA requires the agency's existing and future water supply sources be detailed for the next 20 years in the UWMP. The detailed information must include discussion on the groundwater basin, such as water rights, determination if the basin is in overdraft, adjudication decree, and other information from the groundwater management plan (if available).

Chapter 5 – Water Supply Reliability and Water Shortage Contingency Planning. Water supply reliability addresses the capability of the water supply during emergency events. If such an event should occur, and water supply reliability is lost, the water supplier should have an adopted Water Shortage Contingency Plan to institute emergency water conservation efforts to mitigate potential catastrophic overdraft. The following chapter addresses reliability and planning measures instituted by the City.

Chapter 6 – Demand Management Measures. The UWMPA originally outlined best management practices (BMPs) to help mitigate water waste. These BMPs have since evolved into fourteen Demand Management Measures (DMM) that should be addressed by urban water suppliers.

Chapter 7 – DWR Checklist. This report is organized in accordance with the outline suggested by the Department of Water Resources for the 2010 Urban Water Management Plans. This optional chapter is included to guide the reviewers to the chapters or sections in this report, which address the items listed in the DWR Checklist, as published in the Final Guidebook (March 2011).

CHAPTER 2 – SYSTEM DESCRIPTION

The Urban Water Management Planning Act requires that a description be provided of the water purveyor's service area, and include various aspects of the service area, including: climate, population, and land use.

Law

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

10631 (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.

2.1 LOCATION

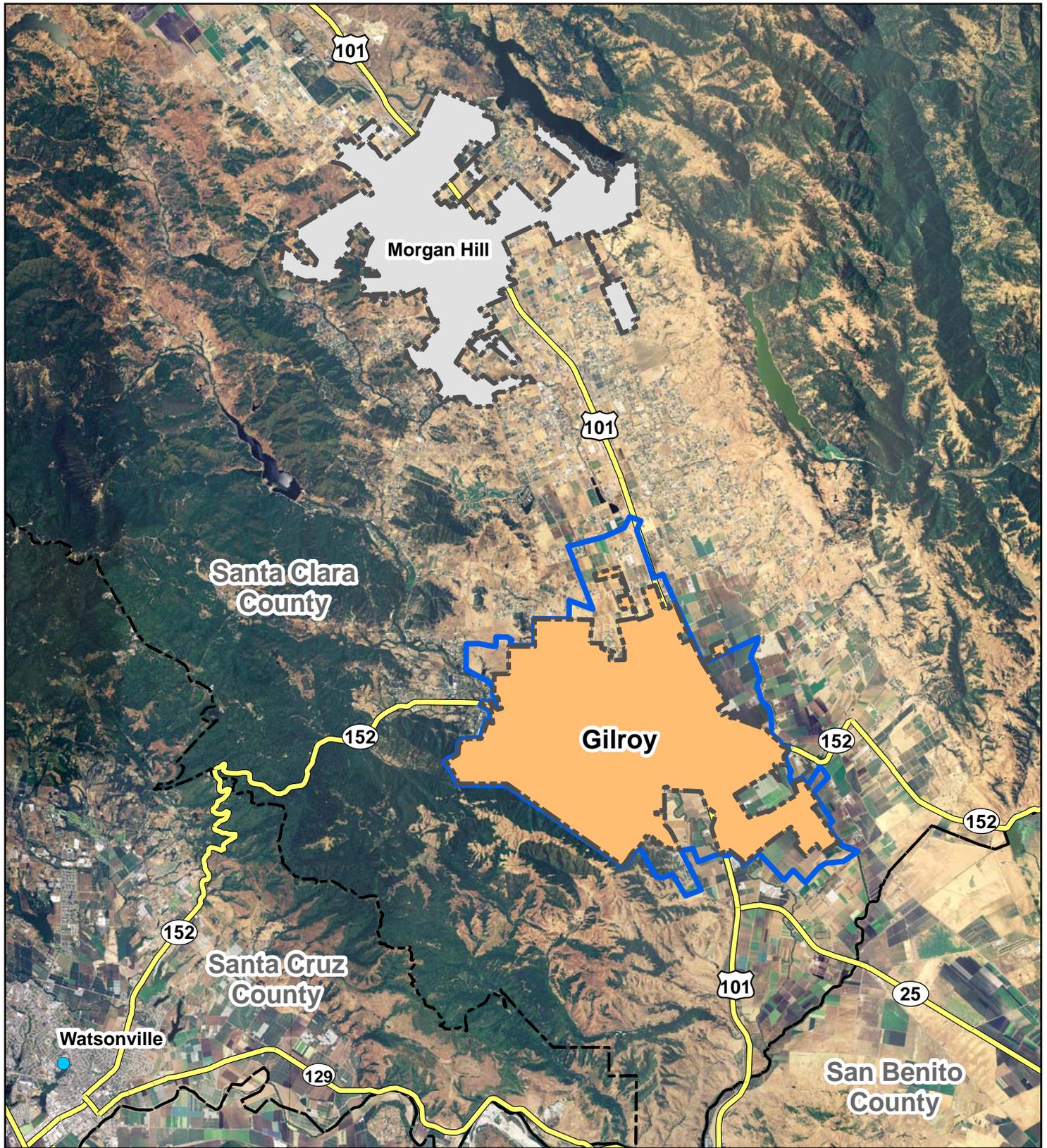
The city of Gilroy (City) is located in Santa Clara County, approximately 30 miles south of the city of San Jose, 15 miles northwest of the city of Hollister, and 25 miles to the east of the city of Santa Cruz (**Figure 2.1**). The City's closest neighbor, the city of Morgan Hill, is located 10 miles to the north. Highway 101 bisects the eastern boundary of the City in the north-south direction, and Highway 152 bisects the middle of the City in the east-west direction. In 2002, the City outlined the long-term Ultimate Growth Boundary (UGB), which was approved by City Council, and identified lands intended for future urbanization with the City service area.

The General Plan, which was also adopted in 2002, outlines the UGB boundary. Infrastructure improvements necessary to serve lands within the UGB were outlined in the City's water distribution, sewer collection, and storm drainage master plans. According to staff, during the preparation of the City 2005 UWMP, lands outside the UGB are intended to stay rural and unincorporated for the next 40 years.

The City UGB incorporates approximately 22.8 square miles and is the City's ultimate growth boundary for the life of the current General Plan. As in the 2005 UWMP, this 2010 UWMP assumes that the UGB describes the future water system service area.

2.2 LAND USE

The City Limits encompass 14,610 acres as defined in the City General Plan. The land use for the City is defined as follows: 6,053 acres of residential; 1,559 acres of commercial; 2,006 acres of industrial; 362 acres of Hecker Pass Special Use; and 4,630 acres of open space, park and recreation, and institutional use facilities. Detached single-family residences make up the majority of the land use within the City. The residential component can be further subdivided, with 45



Legend

- Gilroy City Limits
- Morgan Hill City Limits
- City Limits Boundary
- Gilroy Urban Growth Boundary
- Cities
- Highways
- County Boundary Line

Figure 2.1
Regional Location Map
 2010 Urban Water Management Plan
 City of Gilroy



0 0.5 1 2 Miles

Updated: April 15, 2010

File Name: GL_Fig2-1LocationMap_041511 File Location: P:\xGIS\GIS_Projects\Gilroy\UWMP2010

percent of the units as low density, and 14 and 8 percent of units being medium and high densities, respectively. The City's general plan map is shown on [Appendix B](#).

2.3 CLIMATE DATA

The city of Gilroy has historically had a temperate climate due to its location in Santa Clara Valley and its proximity to the Pacific Ocean. The mean annual temperature in the City is 60.2 degrees Fahrenheit (°F), with the hottest month being July at approximately 88 °F for the high, and the coldest month being December, with an average low of 37 °F ([Table 2.1](#)). High temperatures for the year average at 74 °F and low temperatures average annually at 46 °F.

Yearly extremes in temperature vary, with the peak high rising to above 100 °F and winter lows receding to the 20 °F range. The City has a historical average annual rainfall of approximately 21 inches, with the majority of the rainfall occurring from December to March. These months typically see over 3 inches of rain each. The average annual evapotranspiration (Eto) is 49.36 inches.

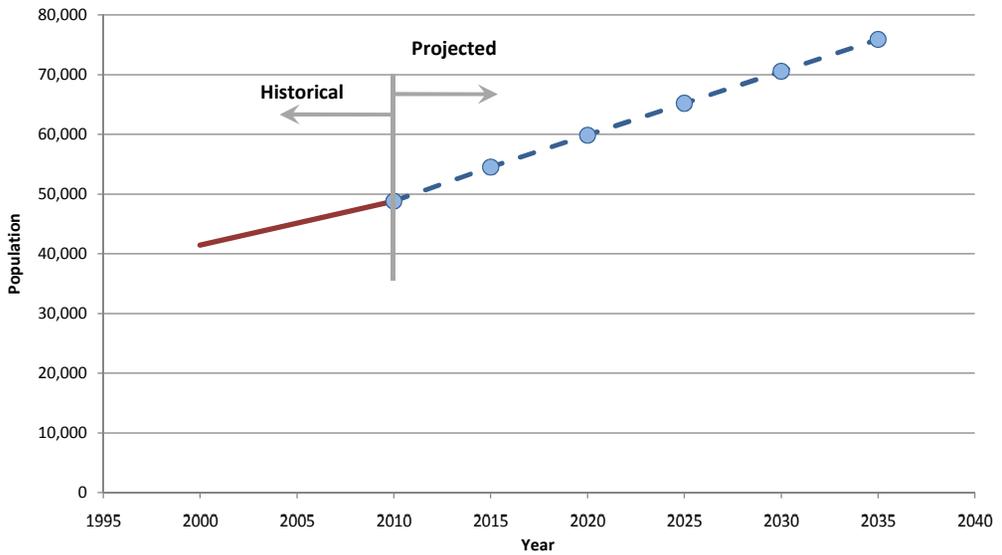
2.4 PROJECTED POPULATION

The City is a growing community, with over 2 percent of the Santa Clara County population residing within the City limits. Department of Finance records estimate the 2010 population of Gilroy at 48,821 ([Figure 2.2](#)).

Located on the Highway 101 corridor, Gilroy has historically been a growing City. Particularly from 1980, the City has seen a steady increase in population from 21,600 to approximately 41,464 in 2000. The average annual population growth from 1980 to 2000 was at approximately 3.2 percent, and from 2000 to present at approximately 1.9 percent.

Recently, the Department of Finance released an updated 2010 population count based on the 2010 Census.

Year	Population ^{1,2}	Annual Percent Increase	2010 UWMP Projected Population ³	Annual Percent Increase
2000	41,464	2.41%	-	-
2005	45,143	1.63%	-	-
2010	48,821	1.51%	-	-
2015	-	-	54,540	2.10%
2020	-	-	59,882	1.78%
2025	-	-	65,224	1.64%
2030	-	-	70,565	1.51%
2035	-	-	75,907	1.41%



Notes:

1. Historical Population Source 1870-1970: Historical Census Populations of Places, Towns, and Cities in California, 1850-2000, Department of Finance.
2. Historical Population Source 1980-2010: Department of Finance Sheet E-4; 1980, 1990, 2000.
3. Population Projections Source: Linear Regression of data obtained from City Staff and TM - SCRWA Wastewater Flow Projections 2009 (Nov. 2010)

Date Updated: April 15, 2011

Figure 2.2
Historical and Projected
Population
 2010 Urban Water Management Plan
 City of Gilroy



Table 2.1 Climate Data

2010 Urban Water Management Plan
City of Gilroy

Month	Avg. High (F)	Avg. Low (F)	Mean (F)	Avg. Precip (in)	Eto (in)
Jan	59.7	37.2	48.5	4.71	1.22
Feb	63.6	40.5	52.0	3.79	1.65
Mar	67.3	42.5	54.9	3.25	3.42
Apr	72.3	44.3	58.3	1.41	4.84
May	77.8	48.5	63.1	0.40	6.22
Jun	83.7	51.9	67.8	0.11	6.85
Jul	88.1	54.1	71.1	0.05	7.44
Aug	87.8	54.3	71.0	0.05	6.47
Sep	85.5	52.6	69.1	0.33	5.08
Oct	78.6	48.0	63.3	0.90	3.42
Nov	67.5	41.8	54.7	2.22	1.77
Dec	60.1	37.0	48.5	3.77	0.98
Annual	74.3	46.1	60.2	21.0	49.36

3/11/2011

Notes:

1. Source: Temperature and Precipitation - Western Regional Climate Center (WRCC)
Eto - California Irrigation Management Information Systems (CIMIS)
2. Data reporting period for WRCC from May 1957 to October 2010.

CHAPTER 3 – SYSTEM DEMANDS

The Urban Water Management Planning Act requires the UWMP to identify the quantity of water supplied to the system, as well as the breakdown of customers supplied by land use classification.

Law

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

10631 (b) (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 records.

10631 (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; and (I) Agricultural.

(2) The water use projections shall be in the same 5-year increments to 20 years or as far as data is available.

3.1 PAST, CURRENT, AND PROJECTED WATER USE

At the time of preparation of the UWMP, the City had recorded water delivery service to approximately 11,368 single family residential users, 447 multi-family residential accounts, 912 commercial and institutional accounts, 82 industrial accounts, and 448 landscape accounts.

3.1.1 Historical Water Use

The City currently provides domestic water to residential, commercial, industrial and institutional customers within the City limits. In 2010, domestic water use totaled 2.6 billion gallons or 8,475 af, with an average day demand of 7.1 mgd. **Table 3.1** lists the yearly production from 1980 to 2010, as well as the average day demand, and historical per capita consumption.

3.1.2 Maximum Day Demand

Maximum Day Demand is a significant demand condition on the water supply system. This condition is defined as the maximum 24-hour use period in the year. Peaking factors are commonly used as a way of simulating the maximum day demand for future demand scenarios.

Table 3.1 Historical Monthly Water Production

Urban Water Management Plan
City of Gilroy

Year	Monthly Water Production (MG)												Annual Water Production				Population			
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total Annual (MG)	Average Monthly (MG)	Average Daily (MG)	Annual Increase (%)	Population	Annual Growth (%)	Per Capita Consumption (gpcd)	Annual Increase (%)
1980	65.9	88.2	67.7	84.3	138.0	160.9	198.1	188.7	162.3	146.8	142.5	81.9	1,525	127.1	4.2		21,641		193	
1981	93.3	72.9	70.3	82.3	176.5	162.9	259.5	186.9	157.4	177.9	88.6	68.3	1,597	133.1	4.4	4.7%	22,400	3.5%	195	1.1%
1982	83.8	68.6	74.8	96.9	133.9	174.2	213.1	199.2	238.5	120.3	86.5	76.7	1,567	130.5	4.3	-1.9%	23,400	4.5%	183	-6.1%
1983	87.9	70.9	66.6	108.3	91.9	230.7	217.4	218.6	248.8	147.5	140.1	76.9	1,706	142.1	4.7	8.9%	24,800	6.0%	188	2.7%
1984	75.6	89.6	110.9	120.9	161.0	258.1	232.3	286.6	226.5	181.8	108.8	97.6	1,950	162.5	5.3	14.3%	26,050	5.0%	205	8.8%
1985	77.1	103.0	93.7	111.4	144.6	244.1	209.0	218.3	225.6	192.4	139.6	82.7	1,842	153.5	5.0	-5.5%	27,000	3.6%	187	-8.9%
1986	102.1	87.1	75.5	107.3	201.9	207.7	262.9	252.8	207.6	194.2	137.7	109.8	1,947	162.2	5.3	5.7%	27,650	2.4%	193	3.2%
1987	98.4	91.0	104.3	147.3	211.9	214.9	250.6	268.0	219.0	196.7	114.6	89.4	2,006	167.2	5.5	3.1%	28,450	2.9%	193	0.2%
1988	108.6	103.4	128.7	194.4	178.1	187.3	250.2	238.6	274.9	181.0	145.1	114.5	2,105	175.4	5.8	4.9%	29,800	4.7%	194	0.2%
1989	93.0	87.3	102.3	100.4	130.7	203.8	205.6	219.1	204.1	196.5	128.3	111.3	1,782	148.5	4.9	-15.3%	30,950	3.9%	158	-18.5%
1990	127.6	88.9	112.7	123.5	162.9	159.8	200.7	246.8	230.9	170.5	153.7	117.0	1,895	157.9	5.2	6.3%	31,487	1.7%	165	4.5%
1991	94.5	90.4	92.8	110.2	149.8	177.3	191.0	213.3	181.9	153.9	106.6	101.1	1,663	138.6	4.6	-12.3%	31,686	0.6%	144	-12.8%
1992	93.7	85.8	93.7	135.3	191.7	189.2	213.6	220.1	186.3	154.9	111.6	96.6	1,773	147.7	4.9	6.6%	32,044	1.1%	152	5.4%
1993	90.0	82.8	102.3	124.2	174.3	184.6	223.9	224.1	194.0	158.0	130.3	107.1	1,796	149.6	4.9	1.3%	32,861	2.5%	150	-1.2%
1994	109.0	91.8	120.6	143.2	156.4	218.3	232.9	236.0	209.6	164.9	113.6	103.2	1,900	158.3	5.2	5.8%	33,500	1.9%	155	3.8%
1995	100.4	98.3	106.3	130.4	157.4	215.3	253.0	256.0	220.4	195.4	144.9	122.3	2,000	166.7	5.5	5.3%	33,803	0.9%	162	4.4%
1996	102.0	96.9	112.5	146.8	205.6	230.0	264.3	269.3	228.9	192.4	124.5	107.8	2,081	173.4	5.7	4.0%	34,767	2.9%	164	1.2%
1997	110.5	108.7	168.6	198.6	245.9	248.4	280.8	290.0	215.8	196.3	138.3	107.9	2,310	192.5	6.3	11.0%	35,926	3.3%	176	7.4%
1998	122.7	101.9	117.6	129.8	167.6	212.5	278.7	282.2	247.1	206.6	140.4	125.0	2,132	177.7	5.8	-7.7%	38,116	6.1%	153	-13.0%
1999	128.0	105.8	123.8	152.9	245.6	271.8	301.3	276.8	245.5	231.1	156.0	142.8	2,381	198.5	6.5	11.7%	39,839	4.5%	164	6.9%
2000	137.4	116.0	145.4	207.1	256.1	292.3	304.9	308.2	267.6	209.0	148.3	149.4	2,542	211.8	7.0	6.7%	41,464	4.1%	168	2.5%
2001	143.0	116.0	148.3	187.3	284.7	314.8	322.8	305.7	260.4	244.6	155.8	125.2	2,609	217.4	7.1	2.6%	42,200	1.8%	169	0.8%
2002	131.0	124.8	151.8	199.0	246.8	290.6	329.6	310.0	291.6	234.7	154.3	130.6	2,769	216.2	7.6	6.2%	42,935	1.7%	177	4.3%
2003	124.8	122.6	150.0	151.3	219.9	302.1	342.4	308.2	291.6	260.5	150.5	149.3	2,573	214.4	7.0	-7.1%	43,671	1.7%	161	-8.6%
2004	116.7	119.7	184.9	234.2	298.0	312.9	332.0	331.9	303.7	218.0	145.6	117.7	2,715	226.3	7.4	5.5%	44,407	1.7%	168	3.8%
2005	122.4	112.4	139.6	151.0	231.4	303.2	309.8	348.3	281.9	244.3	201.9	148.0	2,594	216.2	7.1	-4.5%	45,143	1.7%	157	-6.0%
2006	140.7	136.4	144.0	141.4	273.4	343.8	378.5	388.9	322.4	274.7	194.1	160.9	2,899	241.6	7.9	11.8%	45,878	1.6%	173	10.0%
2007	154.6	128.2	191.2	227.9	298.5	335.8	365.0	363.8	315.6	248.7	201.6	163.7	2,995	249.5	8.2	3.3%	46,614	1.6%	176	1.7%
2008	143.7	131.6	190.2	257.8	308.8	333.4	403.6	317.9	317.8	275.6	179.9	157.1	3,017	251.5	8.3	0.8%	47,350	1.6%	175	-0.8%
2009	139.8	121.8	151.1	214.4	271.9	354.8	291.3	336.6	304.8	225.8	192.9	156.5	2,762	230.1	7.6	-8.5%	48,085	1.6%	157	-9.9%
2010	125.1	117.4	147.9	154.3	219.7	308.3	337.4	325.6	313.2	254.4	162.3	136.5	2,602	216.9	7.1	-5.8%	48,821	1.5%	146	-7.2%
													Average		2.1%		2.8%		-0.7%	

Notes:

1. Source: Population statistics per Depart of Finance E-4 Sheets (1980, 1990, 2000)
2. 2010 population is based on 2010 Department of Finance Census, while 2001-2009 populations were interpolated between 2000 and revised 2010 DOF population.

This multiplier is assessed to the average day demand, and is commonly in the order of 2 to 2.5 times greater than the average day demand. The May 2004 City Water System Master Plan had no record of recent maximum daily production records at the time of completion. Due to the lack of record, a maximum day demand peaking factor of 2.3 was chosen to remain consistent with the City's previous 1993 Water System Master Plan.

3.1.3 Historical Per-Capita Water Consumption

Evaluating a supply source or storage needs for future growth is commonly achieved by evaluating past water consumption on a per person basis. The future needs of the supply source can then be evaluated by applying the per capita consumption rate, expressed as gallons per capita per day (gpcd), to the projected population. The City, from 1980 to 2000, had an average gpcd of 173. However, conservation efforts have been successfully lowering water consumption rates per capita, with the average from 2001 to 2010 dropping to approximately 160 gpcd.

3.1.4 Projected Per Capita Water Use

Senate Bill X7-7 was approved by the Governor of California on November 10, 2009, and requires urban water suppliers to set target goals for water conservation, which must meet the "20X2020" goals set forth by Governor Schwarzenegger of reducing per capita consumption by 20 percent by the year 2020.

Law

10608.20 (e). Include the baseline daily per capita water use, urban water use target, interim water use target, and compliance daily per capita water use. Provide basis for determination and supporting data references.

10608.20 (g). The 2015 UWMP can update the 2020 urban water use target.

10608.20 (h) (2). An urban retail water supplier shall use the methods developed by the department in compliance [with methodologies and criteria developed by DWR]

10608.20 (j). Deadline for adoption of a UWMP is extended to July 1, 2011 to allow use of the technical methodologies developed to establish baseline, target, interim target, and compliance daily per capita water use.

10608.36. Wholesale suppliers will provide an assessment of their present and proposed future measures, programs, and policies to achieve water use reduction required in SBX7 7.

10608.40. Urban water suppliers will report progress toward meeting urban water use targets in their UWMPs using a standardized form to be developed by DWR. Note: This applies only to 2015 and 2020 UWMPs because they will report "progress" toward meeting targets established in this, the 2010 UWMP.

10608.42. DWR will review the 2015 UWMPs and report to the Legislature the progress toward achieving a 20-percent reduction in urban water use by December 31, 2020.

To adequately project future water use, SBX7-7 must be considered with the appropriate reductions. As part of the new requirements for reductions in water use, a range in years needs to be selected for calculating the base daily (historical) per capita water use.

SBX7-7 allows the selection of either 10 or 15 years as a base period for calculating the average consumption per capita. If the recycled water use exceeds 10 percent of potable water production, a 15-year base period is allowed. Otherwise, a 10-year base period should be used. Additionally, a 5-year base period is to be identified for interim target projections.

The 10- to 15-year base period must end between December 31, 2004 and December 31, 2010; and the 5-year base period must end between December 31, 2007 and December 31, 2010.

The city of Gilroy calculations for the base periods is documented on [Table 3.2](#). Since the recycled water usage in 2008 accounted for more than 10 percent of the total potable water production, the City qualifies for the 15-year base period.

After determining the base range for the per capita consumption, the base daily per capita water use for the 15-year range (1994-2008) was calculated as 166 gpcd ([Table 3.3](#)). DWR provides several methods for calculating the year 2020 per capita water targets, and Method 1 was used for the city of Gilroy.

Method 1, as defined by DWR, is a straight 20 percent reduction in water use, the “20X2020” Per Capita Water Use Target was thus calculated at 133 gpcd ([Table 3.3](#)). The interim 10 percent reduction target to be met by 2015 was calculated as 149 gpcd. The 133 gpcd target is intended to be maintained through the UWMP horizon of 2030.

In addition to DWR guidelines on per capita water consumption, DWR provided a recommended list of tables to be completed by the water retailer. The completed tables can be found in [Appendix C](#).

3.1.5 Expansion Projects

The UWMPA requires water suppliers to identify major developments within the supplier’s service area, which are to be identified in the UWMP.

Law

<p>10910. (a) Any city or county that determines that a project, as defined in section 10912, is subject to the California Environmental Quality ...</p> <p>10912. For the purpose of this part, the following terms have the following meanings:</p> <p>10912 (a) “Project” means any of the following:</p> <p>A proposed residential development of more than 500 dwelling units.</p>

Table 3.2 Base Period Ranges
 2011 Urban Water Management Plan
 City of Gilroy

Base Period Ranges				
Parameter	Value	Units	Comments	
15-Year Base Period Qualification				
2008 Total Water Deliveries	3017.46	MG		
2008 Total Volume of Delivered Recycled Water	340.53	MG		
2008 Recycled Water as a Percent of Total Deliveries	11.3%		greater than 10%, thus qualifies for 15-year Base Period	
Number of Years in Base Period	15	Years		
Year Beginning Base Period Range	1994			
Year Ending Base Period Range	2008			
5-Year Base Period For Interim Targets				
Number of Years in Base Period	5	Years		
Year Beginning Base Period Range	2004			
Year Ending Base Period Range	2008			

3/7/2011

Table 3.3 Base Daily Per Capita Water Use and Water Use Targets
 2010 Urban Water Management Plan
 City of Gilroy

Base Daily Per Capita Water Use - 10- to 15-Year Range					
Base Period Year		Distribution System Population	Daily System Gross Water Use (mgd)	Annual Daily Per Capita Water Use (gpcd)	Comments
Sequence Year	Calendar Year				
Base Daily Per Capita Water Use					
Year 1	1994	33,500	5.20	155	
Year 2	1995	33,803	5.48	162	
Year 3	1996	34,767	5.70	164	
Year 4	1997	35,926	6.33	176	
Year 5	1998	38,116	5.84	153	
Year 6	1999	39,839	6.52	164	
Year 7	2000	41,464	6.96	168	
Year 8	2001	42,200	7.15	169	
Year 9	2002	42,935	7.11	166	
Year 10	2003	43,671	7.05	161	
Year 11	2004	44,407	7.44	168	
Year 12	2005	45,143	7.11	157	
Year 13	2006	45,878	7.94	173	
Year 14	2007	46,614	8.20	176	
Year 15	2008	47,350	8.27	175	
Base Daily Per Capita Water Use			15-Year (1994-2008) Average	166	
2015 and 2020 Per Capita Water Use Targets					
2015			10% Reduction from Base	149	2010 at 146 gpcd. Already Met 2015 Interim Target.
Interim Per Capita Water Use Target					
2020			20% Reduction from Base	133	Remaining 8% to be met with continued DMM and future Recycled Water.
Per Capita Water Use Target (Method 1)					

- (2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500 square feet of floor space.
- (3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.
- (4) A proposed hotel or motel, or both, having more than 500 rooms.
- (5) A proposed industrial, manufacturing or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
- (6) A mixed-use project that includes one or more of the projects specified in this subdivision.

At the time of the preparation of the 2005 UWMP, several major developments within the City growth boundaries were being evaluated. These developments included Glen Loma Ranch (1,641 Units), Eagle Ridge (900 Units), Hecker Pass (530 Units), and the Downtown Specific Plan Projects. These developments have been in City planning since the completion of the 1990 and 2000 UWMPs. In 2005, a Water Supply Assessment was completed for the Downtown Specific Plan.

In 2009, a Water Supply Assessment was completed for the 2008/2009 Urban Service Area Amendments, which included changes in land use for Gavilan College, Shapell Industries, the Lucky Day Development, and the Wren Investors Development. It should be noted that not all of the Urban Service Area Amendments have been approved (as of May 2011).

[Appendix D](#) includes the SB610 water supply assessments for the Downtown Specific Plan and for the 2008/2009 USA Amendments.

3.2 SUPPLY VS DEMAND COMPARISON

The Urban Water Management Planning Act requires the UWMP to demonstrate that the water supplies are capable of meeting projected water demands over the next 20 years.

Law

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 the state, regional, or local agency population projections within the service area of the urban water supplier.

Based on the projected increase to supply capacity and standby production, the City can adequately meet the maximum day demand (MDD), as well as standby production needs for the projected future demands. Based on SBX7-7 requirements, the City demand will be less than the original projection in the 2005 UWMP. [Table 3.4](#) reflects updated supply versus demand comparisons for the next 20 years.

3.3 RECYCLED WATER

The UWMPA requires water suppliers to address information on water recycling and potential recycled water users.

Law

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. To the extent practicable, the preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies and shall include all of the following:

10633 (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.

10633 (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.

10633 (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.

10633 (d) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years.

10633 (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.

In 1977, SCVWD, the City, and Gavilan Water Conservation District embarked on a partnership to construct and operate a recycled water system extending from the South County Regional Wastewater Authority (SCRWA) Wastewater Treatment Plant in southeast Gilroy to customers in the city of Gilroy.

In 1999, a joint partnership between SCRWA, SCVWD, and the cities of Morgan Hill and Gilroy sought to develop a recycled water system that would enhance the wastewater treatment plant and the recycled water distribution system. Under this agreement, SCRWA would serve as the

Table 3.4 Existing and Projected Supply vs Demand Comparison
 2010 Urban Water Management Plan
 City of Gilroy

Demand Condition	Year					
	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)	2035 (AFY)
Existing and Projected Water Supply: Availability by Hydrologic Condition^{1,2}						
Average	23,000	23,000	23,000	23,000	23,000	23,000
Wet (1983)	33,500	33,500	33,500	33,500	33,500	33,500
Single Dry (1977)	19,700	19,700	19,700	19,700	19,700	19,700
Multiple Dry (1987-1992)	21,000	21,000	21,000	21,000	21,000	21,000
Existing and Projected Water Demand: Average Daily Demand						
Average Annual Demand	7,322	8,465	8,296	9,036	9,776	-
Existing and Projected Water Demand: As a Percent of Supply by Hydrologic Condition						
Average	32%	37%	36%	39%	43%	-
Wet (1983)	22%	25%	25%	27%	29%	-
Single Dry (1977)	37%	43%	42%	46%	50%	-
Multiple Dry (1987-1992)	35%	40%	40%	43%	47%	-

Notes:

4/7/2011

1. Water Supply is assumed at the natural groundwater recharge rate from SCVWD 2010 UWMP Table 3-4.
2. Water supply is assumed to remain constant for respective hydrologic conditions, per 2010 SCVWD UWMP Chapter 10.

provider, SCVWD as the wholesaler, and Gilroy as a retailer. This agreement would serve as a benchmark to expand the recycled water system, and set future goals for further expansion.

The existing recycled water system serves 11 customers throughout the southern portion of the City.

3.3.1 South County Regional Wastewater Authority

SCRWA currently operates and maintains the regional wastewater treatment plant (WWTP) south of Gilroy under an agreement with Operations Management International, Inc. and treats an average dry weather flow of approximately 6.5 million gallons per day (mgd). SCRWA also updated their facilities to increase the recycled water production capacity from 3 mgd to 9 mgd.

As demand for recycled water continues to increase, SCRWA intends to increase capacity to accommodate these flows. Currently, SCRWA and SCVWD plan to recycle all wastewater flows coming into the plant. Existing and projected recycled water users are summarized on [Table 3.5](#).

3.3.2 South County Recycled Water System

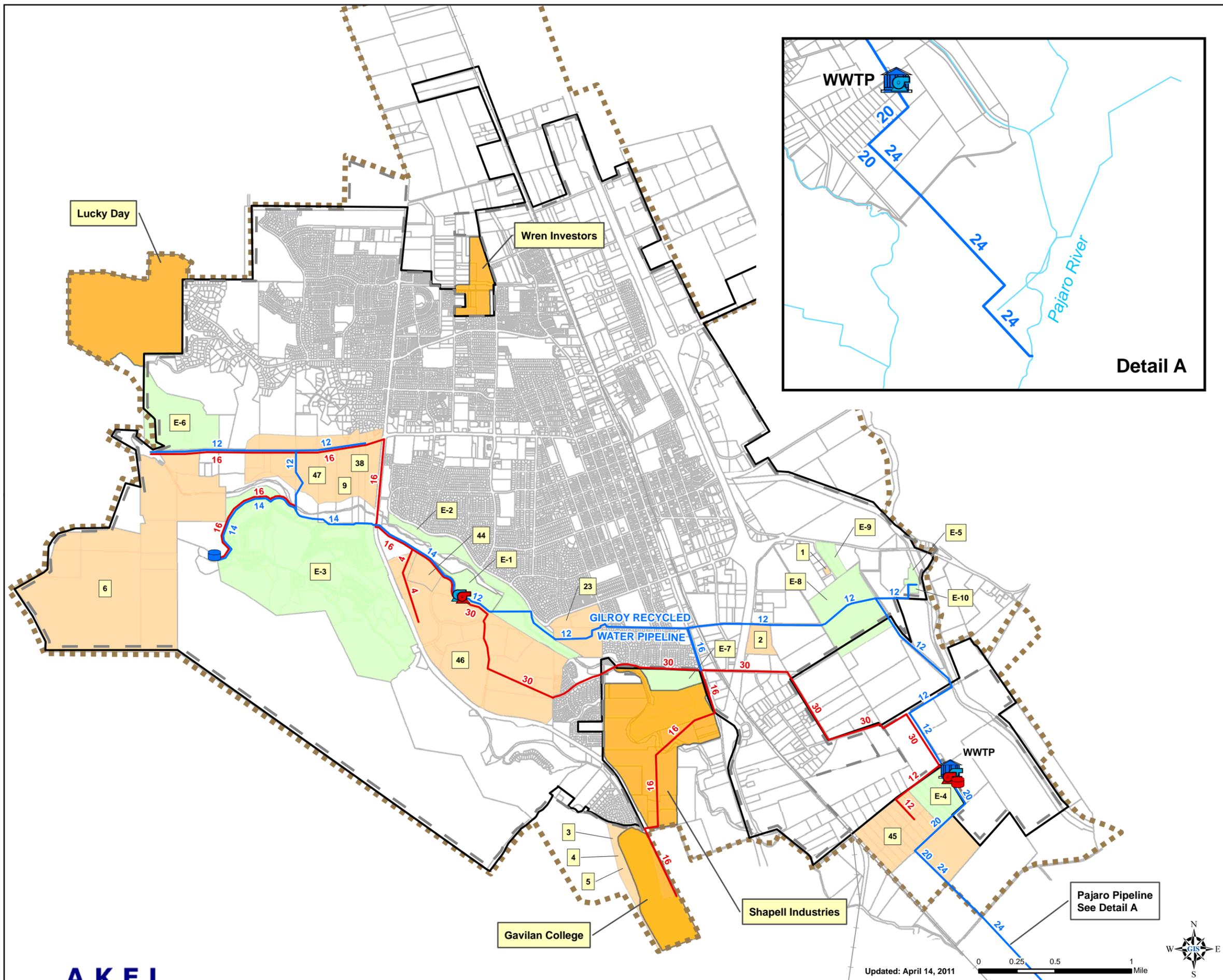
The UWMPA requires the water suppliers to address recycled water and the potential uses for recycled water.

Law

10633 (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 and to promote recirculating uses.
--

The South County Recycled Water System was initially constructed in 1977 as an agreement between SCVWD, the City, and Gavilan Water Conservation District. The full potential of this system was not realized until 1999, when a new agreement was signed to include the city of Morgan Hill and SCRWA. In this agreement, the system was updated, and consistent recycled water deliveries began. At this time, recycled water demand has increased to approximately 2,000 acre feet per year.

The South County Recycled Water System consists of approximately 8 miles of 12 to 14 inch diameter pipes extending from the SCRWA WWTP to the western edge of the city of Gilroy along Hecker Pass Road. Existing peak day flows in the system are estimated at approximately 7.7 mgd, and are distributed among 12 users. A list of potential users can be found on [Table 3.6](#), with their corresponding locations denoted in [Figure 3.1](#).



Legend

- Existing
- WWTP
 - Storage Tank
 - Booster Station
 - Existing Recycled Water Pipeline
- Future
- Storage Tank
 - Booster Station
 - Future Recycled Water Pipeline
 - Existing Users
 - Future Users
 - USA Amendment Project Areas
 - City Limits
 - Urban Service Area
 - 20 Year Planning Boundary
 - Roads
 - Railroads

Figure 3.1
Existing and Future Recycled
Water System and Users
 2010 Urban Water Management Plan
 City of Gilroy



Table 3.5 Existing and Projected Recycled Water Use
 2010 Urban Water Management Plan
 City of Gilroy

	Year				
	2010 (mgd)	2015 (mgd)	2020 (mgd)	2025 (mgd)	2030 (mgd)
Recycled Water Use	9	11	11	11	11

Note:

4/11/2011

1. Source: City of Gilroy 2005 UWMP Supplement

Table 3.6 Existing and Potential Recycled Water Customers

2010 Urban Water Management Plan

City of Gilroy

Site No.	Group	Customer	Site No.	Group	Customer
Existing Users			Future Users: Medians/Interchanges		
E-1	Exist.	Christmas Hill Park Ranch Addition	19	F	Highway 101/Monterey
E-2	Exist.	Christmas Hill Park	20	F	Highway 101/Tenth/Pacheco Pass
E-3	Exist.	Eagle Ridge Development	21	F	Highway 101/Leavesley
E-4	Exist.	Obata Farms (near plant)	22	F	Highway 101 Median
E-5	Exist.	Calpine-Gilroy Energy Center (peak)	Future Users: Schools		
E-6 ²	A1	Gilroy Golf Course	23	A1	Gilroy High School
E-7 ²	A1	Gilroy Sports Park	24	C	Glen View Elementary
E-8 ²	Ag	Obata Farms (North)	25	C	Gateway School
E-9 ²		McCarthy Business Park	26	C	El Roble Elementary
E-10 ²		Calpine Gilroy Power Plant (Cogeneration Plant)	27	C	Jordan Elementary
Future Users: Commercial/Industrial			28	C	Brownell Academy of Humanities
1	A2	Cintas Corporation	29	H	Eliot Elementary
2	A2	Inland Paperboard and Packaging	30	D	South Valley Junior High - Sciences
Future Users Large Irrigation Users			31	D	Gilroy Community Day
3	B	Gavilan College	32	D	Gilroy Adult Education
4	B	Gavilan Sports Park	33	D	St. Mary's
5	B	Gavilan Golf Course	34	E	Las Animas Elementary
6	A3	Bonfante Gardens	35	E	Cornerstone Christian
9	A3	Goldsmith Seeds	36	E	Rod Kelley Elementary
23	A1	Gilroy High School	37	E	Mt. Madonna High
45	Ag	Obata Farms (South)	38	C	Vineyard Christian
Future Users: Parks			39	G	Adventist Christian
10	H	Forest Street Park	40	G	Pacific West Christian Academy
11	C	El Roble Park	41	G	Luigi Aprea Fundamental Elementary
12	C	Miller Park	42	H	Antonio Del Buono Elementary
13	D	San Ysidro Park	43	H	San Ysidro Elementary
14	E	Las Animas Park	44	A1	Ascencion Solorsano Middle School
15	E	Rainbow Park	Futures Users: Residential Developments		
16	G	Del Rey Park	46		Glen Loma Ranch Development
Future Users: Cemeteries			47		Hecker Pass Development
17	C	Gavilan Hills Memorial Park	Future Users: Future Planned Sites		
18	C	Saint Mary Cemetery	F-1		Sunrise Park (Hogan Way)
			F-2		Los Arroyos Park (Hirasaki)
			F-3		Carriage Hills Park (Longmeadow)
			F-4		Farrell Avenue Park (N of Buono Elem.)

Notes:

4/14/2011

1. Customer Grouping Legend

Existing

- A1 Minimal Capital Cost
- A2 Industrial Customers
- A3 Hecker Pass Customers
- Ag Expanded Agriculture
- B Gavilan College Area

- C First Street Loop
- D I.O.O.F. Avenue Spur
- E Wren Avenue Spur
- F Highway 101
- G Mantelli Spur (Future)
- H Other Future Spurs
- I Morgan Hill

2. Customer numbering has been changed to reflect numbering in the SCVWD Recycled Water System Update 2010.

CHAPTER 4 – SYSTEM SUPPLIES

The UWMPA requires the agency’s existing and future water supply sources be detailed for the next 20 years in the UWMP. The detailed information must include discussion on the groundwater basin, such as water rights, determination if the basin is in overdraft, adjudication decree, and other information from the groundwater management plan (if available).

Law

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

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 [to 20 years or as far as data is available.] (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:

10631 (b)(1) A copy of any groundwater management plan adopted by the urban water supplier...

10631 (b)(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 board has adjudicated the rights to pump groundwater...For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted...

4.1 WATER SUPPLY FACILITIES

The City currently uses local groundwater as the sole source of water supply. The City’s municipal water system extracts groundwater from underground aquifers through 9 active wells located throughout the City. The pumping capacities of the City’s wells are shown on [Table 4.1](#). The municipal water system receives only light chlorination for water quality purposes, and the City routinely tests the wells and the water quality of the active wells is generally considered to be good.

Santa Clara Valley Water District (SCVWD) is the principal groundwater management agency in the Santa Clara Valley, and the City currently pays a groundwater user fee to SCVWD. The fee serves as a source of funding for operating costs associated with the District’s groundwater recharge program, as well as the District’s imported water program, which contributes water to the recharge program in the South County.

SCVWD also serves as the major water wholesaler for the County and is the contracting agency for both the State Water Project and the Federal Central Valley Project. Additionally, at the time of preparation of the 2005 UWMP, SCVWD was engaged in preliminary discussion for the potential planning of a potable water treatment plant to be located in the South County. Currently,

Table 4.1 Water Supply Wells

2010 Urban Water Management Plan
City of Gilroy

Well No.	Design Head (ft)	Well Capacity		Current Emergency Capacity			Well Power (HP)	Ground Elevation (ft)
		(gpm)	(MGD)	Emergency Generator	(gpm)	(MGD)		
1	235	1,200	1.73	N	0	0.00	150	200
2	219	1,100	1.58	Y	1,100	1.58	100	211
3-02	357	2,300	3.31	Y	2,300	3.31	300	192
4	266	1,200	1.73	Y	1,200	1.73	100	202
5-02	312	1,600	2.30	Y	1,600	2.30	175	196
6	204	1,500	2.16	Y	1,500	2.16	150	189
7	206	1,700	2.45	Y	1,700	2.45	150	196
8	230	2,200	3.17	Y	2,200	3.17	250	188
8A	339	240	0.35	N	0	0.00	75	188

3/31/2011

SCVWD owns and operates three such plants in the North County, and sells treated surface water to water retailers.

4.2 GROUNDWATER BASIN

The City is located above the Santa Clara Valley Groundwater Basin (**Figure 4.1**). This basin can further be divided into subbasins that help better define the aquifer below the City. These subbasins are interconnected and help filter, transmit, and store water. The subbasins that subdivide the Santa Clara Valley Groundwater Basin are the Santa Clara Plain, in the north, and the Coyote Valley, which connects the Santa Clara Plain and Llagas Subbasin. The Llagas Subbasin is listed as part of the Gilroy-Hollister Groundwater Basin by DWR. These basins can further be defined by the aquifer characteristics, such as confinement and soil properties.

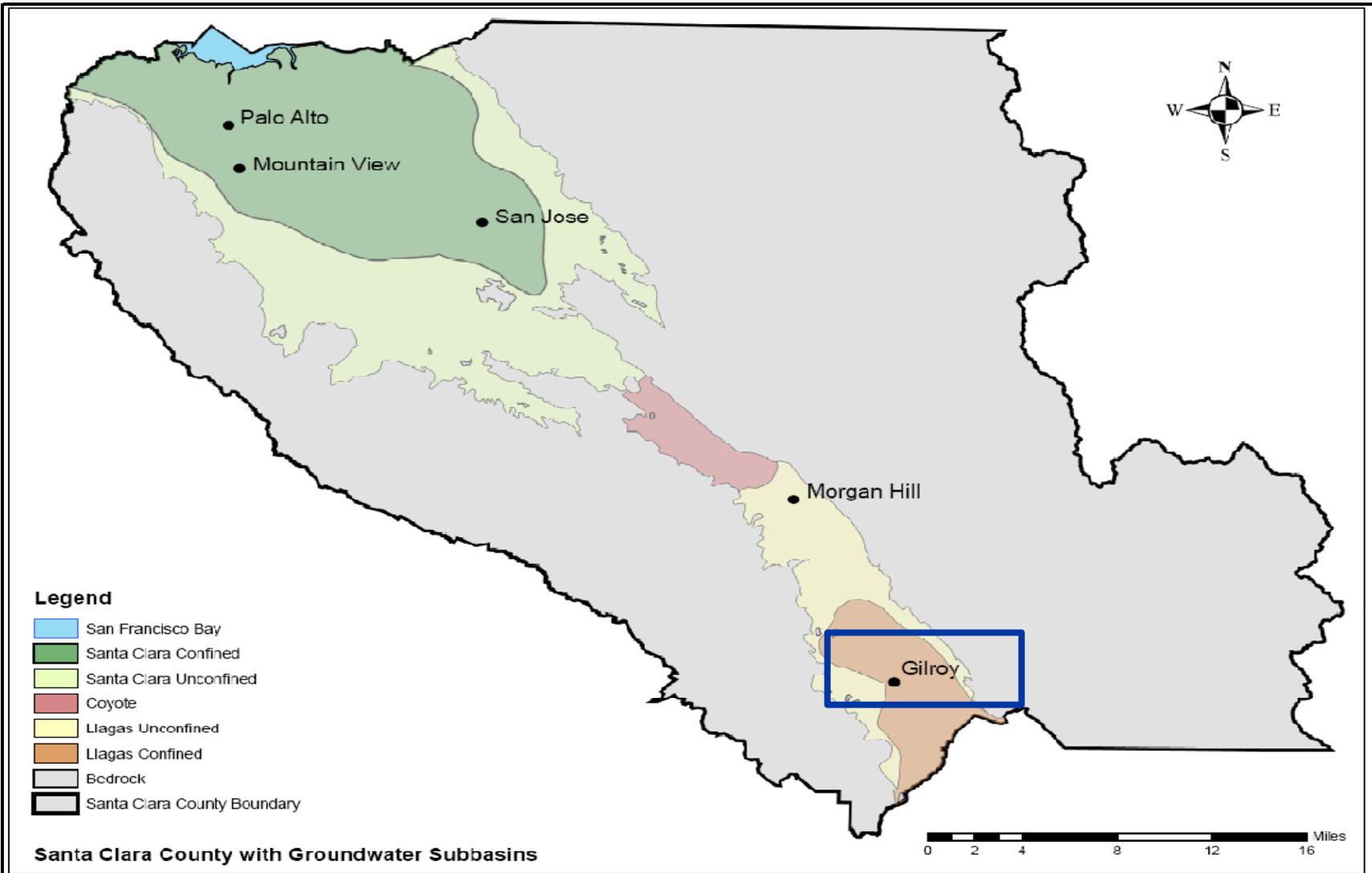
The Santa Clara Valley Groundwater Basin is not an adjudicated groundwater basin, as defined by the California Water Plan Update, Bulletin 160-98, Figure 3-28 on page 3-54 and Table 3-16 on page 3-55.

The California Water Plan Update, Bulletin 160-09 page CC-19, Table CC-2, lists historical water balance data for the Central Coast Region, with 2005 overdraft as 254 thousand acre feet (taf). Water levels in these basins are subject to decline during drought periods, but the majority of basins recover during wet periods. These fluctuations make the application of overdraft or perennial yield concepts difficult. According to Figure CC-4 of the California Water Plan, the Central Coast Hydrologic Region is not expected to vary greatly by 2050. Current trends denote the average demand unchanged, with climate change potentially increasing demand by just over 0.1 million acre feet (maf), with the Slow and Strategic Growth expected to decrease demand by approximately 200 taf. Expansive growth could potentially increase demand by less than 50 taf, with climate change allowing up to over 150 taf increase.

The Regional Llagas Subbasin is monitored and addressed by Santa Clara Valley Water District (SCVWD). The January 2011 Groundwater Condition Report from SCVWD notes that groundwater levels were well above the 5-year December average for the Llagas Subbasin. Additionally, groundwater pumping for 2010 was below the 5-year average for South County producers. Based on the South County Water Supply Planning Project dated July 2010, the Llagas Subbasin is expected to experience a water supply shortfall in 2030 demand projections. These groundwater projections were based on a desired groundwater elevation set forth by SCVWD.

4.2.1 Basin Boundaries

The Santa Clara Plain, located in the northern part of Santa Clara County, extends from Coyote Narrows at Metcalf Road to the County's northern boundary. It is bound on the east by the Diablo Range and the Santa Cruz Mountains to the west. The two ranges converge at Coyote Narrows to form the southern reach of the basin. The Santa Clara Plain is approximately 22 miles long, and 15 miles wide, with a surface area of approximately 225 square miles. The northern area of



Source: Santa Clara Valley Water District Website, Groundwater Subbasins

Figure 4.1
Groundwater Subbasins
 2010 Urban Water Management Plan
 City of Gilroy



Date Updated: April 14, 2011

the subbasin is confined by clay layers, forming a low permeability zone. The southern zone is unconfined, with little restriction from clay layers.

The Coyote Valley is approximately 7 miles long, beginning at Metcalf Road and ending at Cochrane Road, and is approximately 2 miles wide. The approximate surface area of the Coyote Valley is 15 square miles. The Coyote Valley has the general characteristics of an unconfined subbasin, with no clay confining layers, and normally drains to the Santa Clara Plain.

The Llagas Subbasin, located in the southern portion of the County, is the subbasin to which the city of Gilroy is located within. It begins at Cochrane Road, near the city of Morgan Hill, where it reaches south to the Santa Clara-San Benito County line. At this point, the subbasin is bounded by the Pajaro River. At approximately 74 square miles, the Llagas Subbasin is 15 miles long, 3 miles wide along the northern bounds, and tapers out to approximately 6 miles along the Pajaro River boundary. The subbasin has confined and unconfined portions within its boundary. The confined area protrudes to the north from the Pajaro River, with a thick clay layer binding the subbasin to approximately Church Creek. The extreme east-west portions, as well as north of Church Creek, are generally categorized as the unconfined portion of the Llagas Subbasin. The District estimates the storage capacity of the Llagas Subbasin to be between 150,000 and 165,000 AF.

The three subbasins are responsible for several tasks vital to the Santa Clara Valley. The subbasins transport water from alluvial plains and deposits into the confined aquifers, where water is filtered naturally. From there, the filtered water is suitable for potable water use, with minimal to no treatment necessary. Additionally, these subbasins supply as much as 165,000 acre-feet of water to the County.

4.2.2 Groundwater Management Plan

The Santa Clara Valley Water District (SCVWD) prepared a Groundwater Management Plan report published in July 2001 (2001 GMP). The 2001 GMP delineates the role of SCVWD as groundwater managers within the County, as well as provides details of the basins to which the District maintains. The following are excerpts taken from the Executive Summary section of the 2001 GMP.

The Santa Clara Valley Water District (District) has managed the groundwater basin in Santa Clara County (County) since the early 1930s. The District works in conjunction with local retailers, the Regional Water Quality Control Board, and other agencies to ensure a safe and healthy supply of groundwater.

The District is the groundwater management agency in Santa Clara County as authorized by the California legislature under the Santa Clara Valley Water District Act (District Act), California Water Code Appendix, Chapter 60. Since its creation, the District has worked to minimize subsidence and protect the groundwater resources of the County under the direction of the District Act. As stated in the District Act, the District'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 District's water supply.

The District has always effectively managed the groundwater basin to fulfill the objectives of the District Act and its mission. The goal of these groundwater management efforts has been, and continues to be, to ensure that groundwater resources are sustained and protected.

The Groundwater Management Plan formally documents the District's groundwater management goal and describes programs in place that are designed to meet that goal. The following programs are documented in the plan:

- *Groundwater supply management programs that replenish the groundwater basin, sustain the basin's water supplies, help to mitigate groundwater overdraft, and sustain storage reserves for use during dry periods.*
- *Groundwater monitoring programs that provide data to assist the District in evaluating and managing the groundwater basin.*
- *Groundwater quality management programs that identify and evaluate threats to groundwater quality and prevent or mitigate contamination associated with those threats.*

4.2.3 Integrated Water Resource Plan

The objective of the Integrated Water Resource Plan (IWRP) is to develop a comprehensive and flexible water supply plan for the County through the year 2040. The IWRP incorporates community input and is capable of responding to changing water supply and demand conditions.

The IWRP Preferred Strategy aims to maximize the Districts flexibility to meet actual water demands, and where they match water projections. It relies on practices, such as water banking, recycled water, demand management, and water transfers. It further relies on "core elements" designed to validate baseline planning assumptions, monitor or evaluate resource options, and help meet planning objectives.

4.3 GROUNDWATER STUDIES

Two previous groundwater studies help delineate groundwater conditions for the City: a well siting study by Furgo (2004) and the examination of subsurface geologic conditions and groundwater condition summary, found in [Appendix D](#), performed by Kenneth D. Schmidt Associates (2003). In addition, SCVWD has produced a 2002/2003 Groundwater Conditions Report dated January 2005. This report describes conditions of the groundwater with Santa Clara County's three subbasins: Santa Clara Plain, Coyote Valley, and Llagas. Additionally, DWR (1981) completed a study on groundwater resources for the South County area.

4.3.1 Subsurface Geologic Conditions

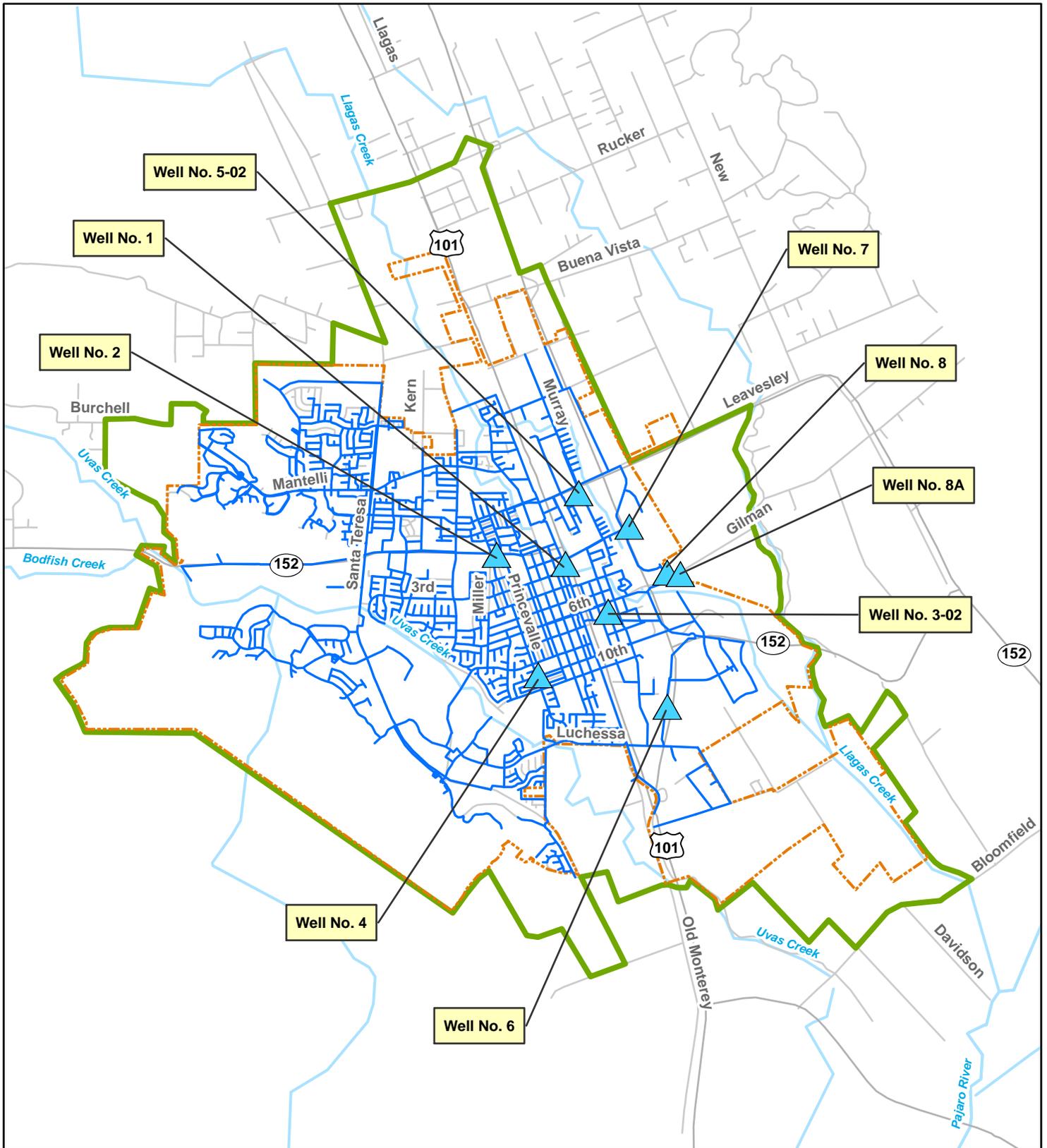
The California Department of Water Resources (DWR 1981) categorizes two generalized subsurface geologic cross sections. The two cross sections are the Franciscan Formation and the Santa Clara Formation. The Franciscan Formation is comprised of mostly geologically manipulated marine sediments, as well as oceanic volcanic rock. The Santa Clara Formation is relatively new when considering geologic time and is very similar to the exposed alluvial deposits of the Santa Clara Valley. In general, the Santa Clara Formation is a well consolidated formation. In the deeper portions of the geologic cross section, Lacustrine deposits, made primarily of clay deposited by ancestral Lake San Benito and ancestral lakes, confine the aquifer in the southern portion of the City.

In the analysis performed by Furgo (2004) and supplemented by City test well data, the depths to bedrock increased from west to east from near 200 ft at Santa Teresa Boulevard and Third Street to approximate depths greater than 900 feet at San Ysidro Park near Highway 101. As progression goes east of Highway 101, anticipated depths exceeded 1,000 feet in between Leavesley Boulevard and 10th Street.

Additional geologic cross sections were provided in the report by Kenneth D. Schmidt and Associates, incorporating City wells and displaying the nature of the alluvial clay, silt and gravel layers. Generally, thicker deposits of sand and gravel can be found near Highway 101 and east of the highway. Well tests in the 2005 UWMP reported specific capacities of the City wells ranging from approximately 30 to 70 gallons per minute (gpm)/ft west of Highway 101 to approximately 70 to 150 gpm/ft east of Highway 101. The overall specific capacity range of 30 to 150 gpm/ft for City production wells allowed well yields of 1,300 to 3,000 gpm with drawdowns of 20 to 60 feet. West of Princeville Street in the City, specific capacities and well yields are reduced considerably due to higher bedrock and thin sand/gravel deposits. Two test wells that were installed to the west of Princeville Street experienced specific capacity values of less than 10 gpm/ft and depths to bedrock of 200 to 300 feet.

4.3.2 City Supply Wells

There are currently nine existing groundwater wells located on the valley floor ([Table 4.1](#) and [Figure 4.2](#)). The combined supply capacity for these wells is approximately 17.6 million gallons per day (mgd). Recent tests performed on the wells indicate an actual capacity of 15.5 mgd, although the actual design capacity adds approximately 12.2 mgd. The firm capacity, designated as the total capacity less the largest unit out of service, of the City wells is 15.5 mgd. There is no connection between the City and any other water system, with no water transfers into or out of the system. According to the 2004 Water System Master Plan additional supply wells were completed in 2008, with no future wells planned until 2018.



Legend

- | | |
|--|---|
| Existing |  Urban Growth Boundary |
|  Wells |  Roads |
|  Pipes |  Highways |
|  City Limits |  Creeks/Rivers |



Figure 4.2
Existing Groundwater
Well Locations

2010 Urban Water Management Plan
City of Gilroy



4.3.3 Groundwater Levels

At the preparation of the 2005 City UWMP, DWR maps were obtained for the fall of 1914 and for the fall of 1974. These maps indicated a south-southeasterly groundwater flow direction beneath the City. Additionally, these maps indicated flows coming from the northwest and into the City from base of the mountains to the central part of the Llagas Subbasin. Water levels increased in depth by about 30 feet from 1914 to 1974. Groundwater elevations ranged from about 170 to 187 feet mean sea level (MSL) between 10th Street and Leavesley along Highway 101 in 1914 and from about 140 to 158 feet MSL in the same area in 1974.

Groundwater usage in the South Santa Clara Valley is generally found in unconfined conditions; however, due to deep Lacustrine clay deposits, wells around 500 feet do experience confined aquifer conditions. The Lacustrine deposits from ancestral Lake San Benito become more evident in the south part of the City, and wells at most depths are considered confined.

In the Groundwater Conditions Report 2002/2003, SCVWD presented a groundwater elevation map noting groundwater conditions for the fall of 2003. The map indicated a southeasterly flow direction, with the high point near the connection of the Llagas Subbasin and Coyote Valley.

Water-level decline over the past several decades has begun to be offset by the use of recharge in the form of percolation ponds along the Llagas and Uvas Creeks. Water levels typically fluctuate with rainfall and were the deepest during the 1976-77 and 1987-93 drought.

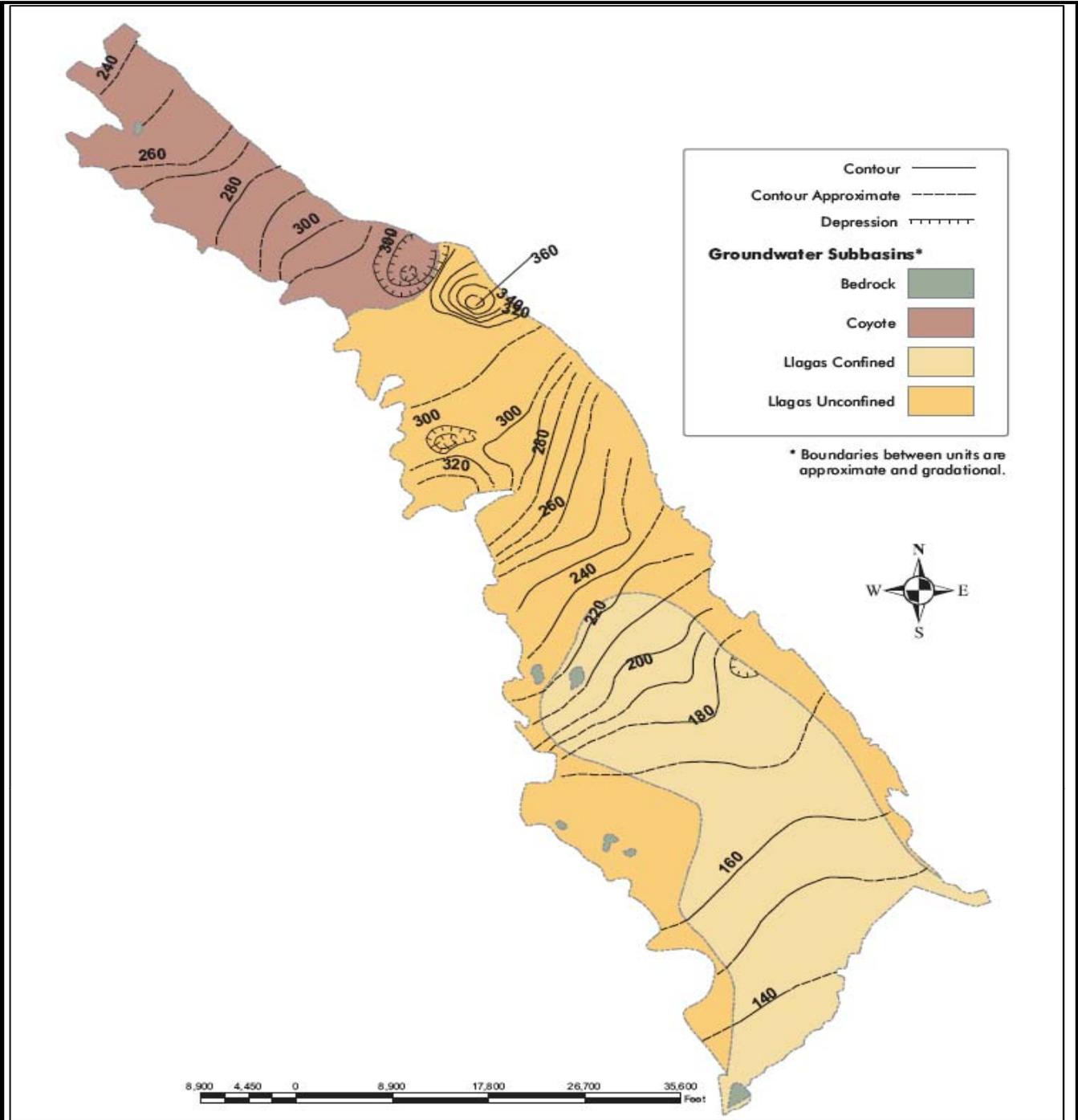
The SCVWD Groundwater Conditions Report 2002/2003 indicates that water levels were at their deepest during the 1977 drought year, while the maximum water level was in the El Niño year of 1998. However, more recent groundwater conditions reports indicate water levels have been within 10 feet of the surface within the last 5 years in the City. [Figure 4.3](#) and [4.4](#) provide a descriptive display of groundwater contour levels in the South County for the spring and fall of 2003.

4.3.4 Sources of Recharge and Discharge

The SCVWD imports surface water (Federal Central Valley Project) by means of the San Felipe Project to artificially supplement the natural recharge in the Llagas Subbasin. The San Felipe Project is used as a means to meet local demand and is necessary to meet future demands. The imported water can be used directly and/or as a means to supplement groundwater use.

At this time, the City has no interties with any other water purveyor, but relies solely on groundwater. The nearest municipal water provider is the city of Morgan Hill to the north; however, the city of Morgan Hill relies on the same groundwater subbasin as Gilroy. The SCVWD currently has no surface water treatment facilities in the South County.

The SCVWD prepared the South County Water Supply Planning Project (July 2010), and as a part of this project, the District implemented the use of the Llagas Groundwater Subbasin Groundwater Model. This model helped to ensure reliable planning of groundwater use and

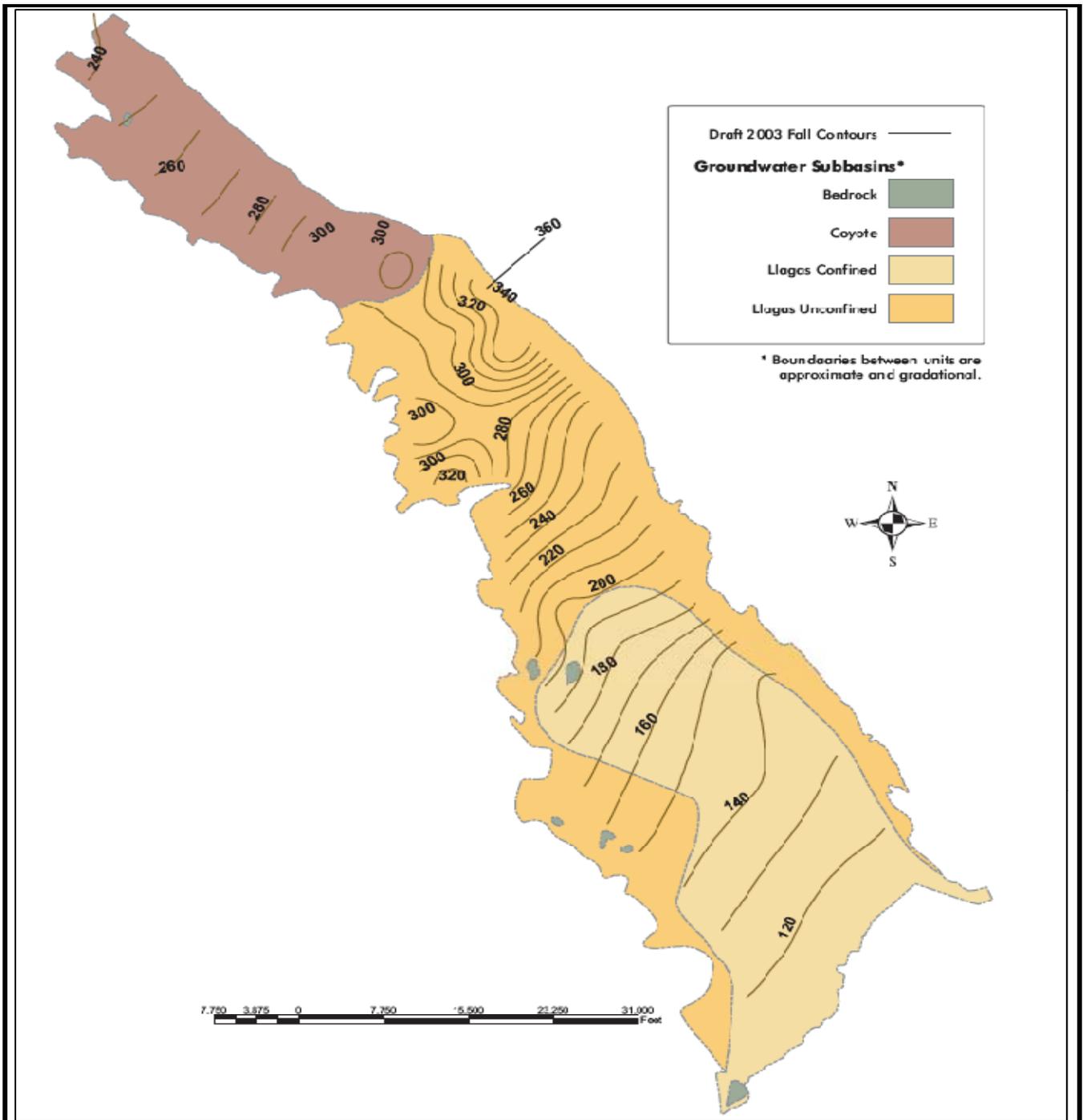


Source: SCVWD 2002/2003 Groundwater Conditions Report, January 2005

Figure 4.3
Spring 2003 Groundwater
Contour Map
 2010 Urban Water Management Plan
 City of Gilroy



Date Updated: April 14, 2011



Source: SCVWD 2002/2003 Groundwater Conditions Report, January 2005

Figure 4.4
Fall 2003 Groundwater
Contour Map
 2010 Urban Water Management Plan
 City of Gilroy



Date Updated: April 14, 2011

projections for the groundwater basin. As a result of modeling runs, the SCVWD predicted that groundwater demands for the Llagas Subbasin will increase by approximately 7,000 acre feet per year (AFY), and more than 4,000 AFY of supplemental water will be necessary to maintain design groundwater management objectives.

4.3.5 Well Yields and Aquifer Characteristics

Recent well efficiency testing showed well yields varying between 970 and 2,400 gpm with the exception of Well 8A, which yielded an approximate flowrate of 250 gpm. The results of the efficiency tests can be found on [Table 4.2](#).

Specific capacities of the wells ranged from 33 to 209 gpm/ft, with a general average of around 50 gpm/ft. Four of the tested wells experienced an increase in specific capacity, with Well 6 increasing almost 100 gpm/ft. Transmissivities varied accordingly with the specific capacities of the wells, ranging from 66,300 gpd/ft to 417,500 gpd/ft. The relatively high transmissivities indicate an aquifer that is in stable condition and is capable of producing groundwater with limited defect to the groundwater table.

4.4 WATER SUPPLY PROJECTIONS

In order to evaluate water supply facilities, the source must be capable of meeting the varying demand conditions. Additionally, the source must be able to meet times of emergency, which may include power outages and disasters.

4.4.1 Normal Production Capacity

In accordance with industry standard practices and the California Department of Health Services (DHS) criteria for “Adequate Source Capacity” on water supply, the source should be large enough to serve the maximum day demand (MDD). On days of maximum demand, the water supply rate should equal the demand. For peak hour demand and emergency demand, such as fire flows or disasters, supply should come from storage.

4.4.2 Standby Production Capacity

Standby production is necessary to maintain system reliability. This is to insure that in the event of a well shutdown due to water quality concerns, malfunction, or routine maintenance, that water supply is not lost. The DHS criterion recommends counting the largest well as being out of service to determine standby capacities. In order to accommodate this, the City should maintain at least one standby pump with a total capacity of 2.6 mgd in addition to the MDD at all times.

The City has been proactive in keeping with growing demands. The City constructed a new groundwater well to accommodate increasing demand in late 2008. This improves supply reliability, and, with the addition of storage facilities, long term reliability is enhanced. Additional supply and distribution system improvements will help add reliability and redundancy.

Table 4.2 Well Efficiency Test Data

2010 Urban Water Management Plan
City of Gilroy

Well No.	Date of Test	Depth / Perforation (ft/ft)	Test Discharge Rate (gpm)	Pumping Level (ft/bgs)	Specific Capacity (gpm/ft)	Transmissivity (gpd/ft)
1	Aug-81	701/150-690	2,217	67	47	94,000
	Jun-86		1,552	74	49	98,000
	May-91		1,427	83	56	112,000
	May-96		1,372	ND	ND	
	Feb-00		1,971	94	34	68,000
	Sep-10		1,320	87	36	71,400
2	Aug-81	470/108-324, and 376-460	1,721	104	72	144,000
	Dec-86		1,482	65	78	156,000
	May-91		1,136	75	48	96,000
	May-96		1,017	48	78	156,000
	Feb-00		1,680	65	60	120,000
	Feb-01		1,197	54	72	144,000
	Sep-10		970	68	61	121,300
3 ¹	Aug-81	346/100-115, 129- 145, 175-268, and 273-343	2,136	75	350	700,000
	Jun-86		1,470	45	245	490,000
3-02	Sep-10	N/A	2,370	51	N/A	N/A
4	Aug-81	302/170-270, and 288-300	1,722	114	50	100,000
	Apr-86		1,476	55	58	116,000
	Jun-91		1,586	93	53	106,000
	May-96		1,210	58	47	94,000
	Mar-01		1,279	62	32	64,000
	Sep-10		1,260	91	33	66,300
5-02	Feb-01		1,917	94	73	146,000
	Sep-10		1,900	136	41	82,600
6	Aug-79	530/200-340, 450- 475, and 490-500	2,889	88	134	268,000
	Dec-86		1,775	38	148	296,000
	May-91		1,673	63	145	290,000
	May-96		1,594	36	133	266,000
	Feb-00		2,210	47	112	224,000
Sep-10	1,670	56	209	417,500		
7	Dec-86	430/130-155, 200- 350, and 380-400	2,170	183	136	272,000
	May-91		1,893	75	169	338,000
	May-96		1,933	39	176	352,000
	Feb-00		2,527	49	142	284,000
	Sep-10		1,885	66	157	314,200
8	May-91	500/240-360, and 400-460	2,566	96	63	126,000
	May-96		2,455	55	98	196,000
	Feb-00		2,878	76	71	142,000
	Sep-10		2,389	85	65	129,100
8A	Sep-10		257	71	N/A	N/A

Note:

1. Well No. 3 has been abandoned.

3/31/2011

4.4.3 Future Supply Capacity

While City supply facilities are sized to meet MDD, overall capacity is based on the average yield from the groundwater subbasin. The 2010 SCVWD UWMP lists local water supplies, including groundwater which serves the City, to remain consistent from year to year to the year 2035. Future supply will also be dependent on conservation measures to meet the Water Conservation Act of 2009 (SBX7-7), which is discussed in a later chapter. **Table 4.3** lists projected water supplies in five year increments to the year 2035.

4.5 DESALINATED WATER

The UWMPA requires that the water suppliers address the possibility for developing and using desalinated water as a source of supply, including ocean water, brackish water, and groundwater.

Law

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

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 groundwater under the City is not brackish in nature, and does not require desalination. The City could provide financial assistance to another State Water Project (SWP) contractor in exchange for SWP supplies. Most of the water providers that are evaluating desalination plants as a means of water supply are not SWP contractors, however.

In May 2003, the five largest Bay Area water providers initiated a feasibility study to determine the environmental and technical impacts of a regional desalination project. These water providers included the East Bay Municipal Utilities District, the San Francisco Public Utilities District, Contra Costa County Water District, Santa Clara Valley Water District, and Zone 7 Water Agency. The providers intend to explore the possibility of adding a desalination plant as a source of supply.

The desalination plant would diversify supply to the Bay Area, as well as enhance long term regional sustainability. The project consists of at least one desalination plant, with the potential ultimate capacity of 80 million gallons per day. In March of 2008, a consultant was selected to build a pilot study plant in Contra Costa County to test pretreatment options, performance of membranes, and ways of disposing brine. Operation of the pilot plant study was completed in June 2009, and the final report was scheduled for release in June 2010.

A schedule given by the Bay Area Regional Desalination Project is as follows:

- Pre-Feasibility Studies – 2003-2005 (Completed)
- Feasibility Study – 2005-2006 (Completed)
- Pilot Testing – 2007-2008 (Completed)

Table 4.3 Llagas Subbasin Supply
 2010 Urban Water Management Plan
 City of Gilroy

Hydrologic Condition	Base Year	2005 (AFY)	2010 ¹ (AFY)	2015 ^{1,2} (AFY)	2020 ^{1,2} (AFY)	2025 ^{1,2} (AFY)	2030 ^{1,2} (AFY)	2035 ^{1,2} (AFY)
Average	1985	19,000	23,000	23,000	23,000	23,000	23,000	23,000
Wet	1983	31,000	33,500	33,500	33,500	33,500	33,500	33,500
Single Dry	1977	7,000	19,700	19,700	19,700	19,700	19,700	19,700
Multiple Dry	1987-1992	19,000	21,000	21,000	21,000	21,000	21,000	21,000

Notes:

4/7/2011

1. Water supply is assumed at the natural groundwater recharge rate from SCVWD 2010 UWMP Table 3-4.
2. Water supply is assumed to remain constant for respective hydrologic conditions, per 2010 SCVWD UWMP Chapter 10.

- Institutional Frameworks Development – 2010
- Preliminary Design – 2011
- Environmental Study – 2012
- Design – 2013
- Plant Construction – 2015

As a part of the Feasibility Study for the Bay Area Regional Desalination Project, three locations were given as potential sites for the desalination plants: Mirant Pittsburg Plant, Near Bay Bridge, and the Oceanside ([Figure 4.5](#)). These locations were chosen after evaluation of twenty-two different site locations.

Three sites identified as possible locations



Source: Bay Area Regional Desalination Project,
<http://regionaldesal.com/threesites.html>

Date Updated: April 14, 2011

Figure 4.5
Possible Regional Desalination Sites
 2010 Urban Water Management Plan
 City of Gilroy



CHAPTER 5 – WATER SUPPLY RELIABILITY AND WATER SHORTAGE CONTINGENCY PLANNING

Water supply reliability addresses the capability of the water supply during emergency events. If such an event should occur, and water supply reliability is lost, the water supplier should have an adopted Water Shortage Contingency Plan to institute emergency water conservation efforts to mitigate potential catastrophic overdraft. The following chapter addresses reliability and planning measures instituted by the City.

5.1 WATER SUPPLY RELIABILITY

The Urban Water Management Planning Act requires the UWMP to address public water providers supply reliability, as well as provide analysis of the water supply during single dry year and multiple dry year scenarios. The reliability planning also includes supplies vulnerable to seasonal and climatic changes.

Law

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

10631 (c) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable.

10631 (c) 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 replace that source with alternative sources or water demand management measures, to the extent practicable.

10631 (c) Provide data for each of the following: (1) An average water year, (2) A single dry water year, (3) Multiple dry water years.

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:

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.

Water supply reliability has two major aspects that are considered when evaluating the system needs. The first major aspect relates to immediate needs of the water system and is determined by the adequacy of the supply as well as the facilities that convey it. The second aspect is a function of climate and its effect on the supply. Supply reliability can be ascertained by the availability of water during mild and severe droughts. The City's water supply reliability will be evaluated in this chapter. There are three scenarios for which the supply reliability will be

evaluated: normal water year, single dry water year, and multiple dry water years. The following defines these three scenarios:

- **Normal Water Year** – The normal year is a year that represents the median runoff levels from precipitation, as well as the same general pattern of runoff. The supply quantities would be similar to historical average supplies.
- **Single Dry Year** – The single dry year is defined as the individual year with the lowest usable water supply. This condition can be derived as the year with the lowest annual supply. For the city of Gilroy, 1977 was selected to represent the single dry year ([Table 5.1](#)).
- **Multiple Dry Years** – Multiple dry years are defined as the three consecutive years with the lowest usable water supply. The multiple dry years are detrimental to the water supply system because of their adverse affect on the levels of local and state-wide reservoirs, as well as groundwater levels. Available supply for these conditions is constituted as the minimum historical yields for a running average of three years. For the city of Gilroy, the period between 1987 and 1992 was selected to represent the multiple dry years ([Table 5.1](#)).

Currently, the City uses groundwater as its sole source of potable water supply. Recycled water is used as an effective mitigation measure on the use of groundwater.

5.1.1 Standby Production

As described in section 3.4.2, standby production is the capacity required to maintain system reliability. The standby production capacity necessary is normally determined as largest well out of service, as recommended by the California Department of Health Services (DHS).

The City currently has an average daily demand of 7.1 mgd, and a supply capacity of 18.78 mgd. The City recently constructed a 3.31 mgd well, which adds to the reliability to the water supply system. Additional storage facilities increase long-term reliability by becoming a source of supply during emergency scenarios.

5.1.2 Climate-Related

The SCVWD Urban Water Management Plan utilized a meteorological model to determine climate change in their service area. Within this analysis, groundwater showed limited defect due to climate change. This is mainly attributed to natural recharge capabilities combined with the managed recharge of the local groundwater table.

Long term analysis of the groundwater table during average years and dry years indicate that the supply will still be capable of meeting the demand. District supplies will be adversely affected during multiple dry year drought scenarios; however, natural groundwater replenishment rates, previously shown on [Table 4.3](#), indicate that City demands will account for only a fraction of the

Table 5.1 Hydrologic Base Water Year
2010 Urban Water Management Plan
City of Gilroy

Basis of Water Year Data	
Water Year Type	Base Year(s)
Average Water Year	1985
Single-Dry Water Year	1977
Multiple-Dry Water Years	1987-1992

4/15/2011

actual recharge. Furthermore, historical groundwater level data represents a drop in groundwater level during years of drought, but subsequent average wet years replenish the groundwater table. According to the District's Draft 2010 UWMP, historical records from 1922 to 2003 indicate that the average and median supplies during average rainfall years are nearly equivalent.

5.2 WATER SHORTAGE EXPECTATIONS

During times of drought, water demand is expected to increase due to compensation for the lack of rainfall that would normally benefit landscape irrigation. Water use projections in Chapter 5 assume any potential increase in demand will be offset by water conservation efforts established by the City.

5.3 GROUNDWATER QUALITY

The UWMPA requires the UWMP to address the water quality of the system water supplies and the effect it has on system reliability and operations.

Law

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 management strategies and supply reliability.

Drinking water standards follow Title 22 Standards set forth by the State of California, in conjunction with the Environmental Protection Agency, to monitor the quality of potable water. The City currently monitors its supply wells, and the District monitors groundwater in the Santa Clara County.

The City supply wells monitoring results are summarized on [Table 5.2](#). The groundwater quality below the City is considered of high quality. Of the summarized water quality items, none of the provided are above their respective maximum contaminant level (MCL) or secondary maximum contaminant level (SMCL). While fluoride is above the Detection Level for Reporting, it is still well below the MCL.

The South County region has historically been a farming region, with a resulting addition to the naturally occurring levels of nitrate in the groundwater. While levels of nitrate of 10 milligrams per liter (mg/L) are common, higher sources of nitrate lend to anthropogenic sources. The District reports median levels of nitrate within the Llagas Subbasin as 30 mg/L with a maximum of 155 mg/L as of 2009.

Additional water quality information for the City relates to perchlorate levels due to the Olin Factory in the city of Morgan Hill. The ten-mile long perchlorate plume has been migrating south,

Table 5.2 Water Quality Observations from City Wells

2010 Urban Water Management Plan
City of Gilroy

Constituent	Test Results by Well (mg/L)								
	No. 1	No. 2	No. 3-02	No. 4	No. 5-02	No. 6	No.7	No. 8	No. 8A
Calcium	49	53	60	45	50	47	52	53	55
Magnesium	28	31	32	22	24	23	28	25	10
Sodium	22	24	22	19	30	23	20	26	45
Hardness (mg/L as CaCO ₃)	240	260	280	2,200	220	210	250	230	180
Bicarbonate (mg/L as CaCO ₃)	190	190	230	170	190	180	200	200	190
Sulfate	40	51	43	35	30	36	33	31	34
Chloride	26	33	24	18	30	20	22	26	23
pH	8	8	8.1	8	8.1	8	8.1	8.1	8.2
Specific Conductivity (micromhos/cm@25°C)	550	600	630	460	560	510	570	560	530
Total Dissolved Solids	340	370	380	280	340	300	340	360	330
Iron	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00
Alkalinity	190	190	230	170	190	180	200	200	190
Barium	0.13	0.09	0.14	0.07	0.09	0.10	0.11	0.14	0.09
Flouride	0.12	0.13	0.00	0.14	0.13	0.11	0.11	0.12	0.00
Date of Analysis	2/10/2011	2/10/2011	2/10/2011	2/10/2011	2/10/2011	2/10/2011	2/10/2011	2/10/2011	2/10/2011

Note:

1. Source: Well water quality per email 04/04/2011

3/31/2011

and has appeared in some test wells to the east of Highway 101. Perchlorate has yet to be detected in the City Supply wells.

5.4 WATER SHORTAGE CONTINGENCY PLANNING

The UWMPA outlines steps to be taken by the water supplier to institute a program in the event of a water shortage emergency.

5.4.1 Stages of Actions

The UWMPA requires a water shortage contingency plan to address consumption reductions in the event of water shortage.

Law

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:

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.

5.4.1.1 Water Shortage Stages and Reduction Objectives

The supply capacity is designed to meet maximum day demand (MDD) with an additional standby production well for reliability. With these provisions, the supply capacity is expected to meet average day demands to 2030.

Water agencies that rely on groundwater as the sole source of supply are unlikely to experience water shortages like agencies that rely on surface water. As the City is currently utilizing groundwater as their sole source of supply, it is not expected that the City will experience water supply shortages such as surface water dependent suppliers will.

Currently, the City has a four-stage water rationing plan in place to adjust water use with shortage conditions ([Appendix F](#)). The stages are based on reduction methods aimed to coincide with water shortage scenarios. [Table 5.3](#) illustrates the rationing plan developed by the City.

5.4.1.2 Water Reduction Stage Triggering Mechanisms

The triggering mechanism for water use reductions is a declaration from the City Manager that the City supply is no longer capable of meeting City demand. When this occurs, the City supply cannot meet consumption, sanitation, and fire protection needs. The City Manager's decision is based on judgment and this determines the degree of the supply deficiency.

The trigger will more than likely coincide with a mandate from SCVWD, who manages water use for much of Santa Clara County. In 1989, the SCVWD Board of Directors passed an ordinance to

Table 5.3 Guide for Declaring a Water Shortage Stage
 2010 Urban Water Management Plan
 City of Gilroy

Stage	Reduction In Overall Supply	Description
1	10%	Reduction in overall supply which results in an unserved demand of up to 15 percent of total projected demand.
2	11% to 25%	Significant reduction in overall supply which results in an unserved demand of up to 25 percent of the total projected demand.
3	26% to 35%	Serious reduction in overall supply which results in an unserved demand of up to 35 percent of the total projected demand.
4	36% to 50%	Critical reduction in overall supply which result in an unserved demand of up to 50 percent of the total projected demand.

establish a program to monitor the groundwater within their service area. In this program, if groundwater levels receded to a point where immediate dangers, such as land subsidence or any overt result of groundwater overdraft, occurred in a formal finding, the District could enact restrictions on the use of the groundwater. The restrictions imposed by the District may include the requiring of a license to use and/or construct any water wells, reporting to SCVWD of water well production, and controlling and suspending groundwater extractions at a point appropriate to reduce danger. In 1991, SCVWD also received the authority to impose a tiered rate structure on all pumping taxes for agencies whom SCVWD manages the groundwater. This power was granted in order for SCVWD to manage safe yields for groundwater aquifers, as well as use the tiered rate structure as an incentive for agencies to limit overdraft of the water source.

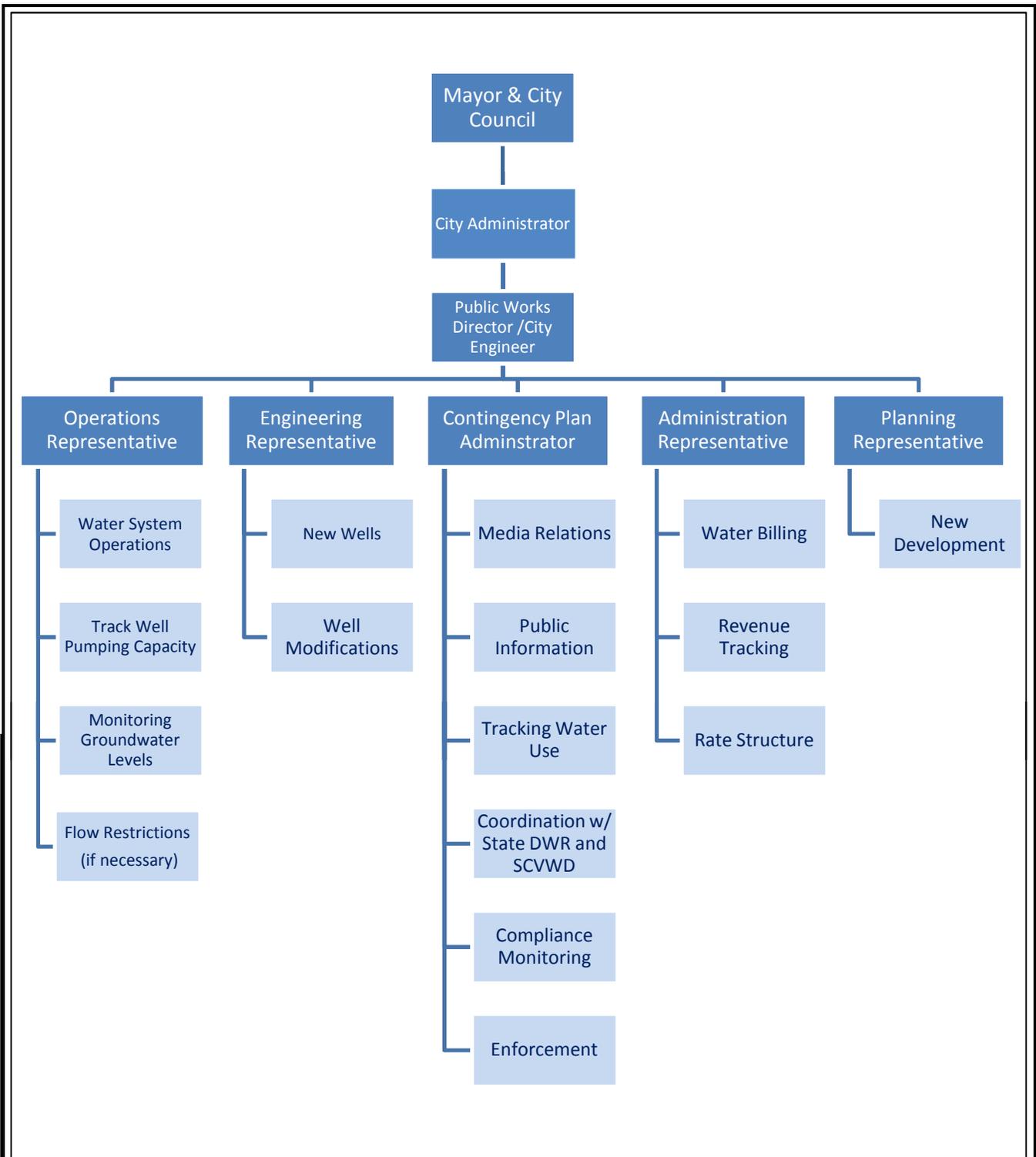
In the event a water shortage should occur, combinations of voluntary and mandatory restrictions on water use are planned to be used. The water shortage contingency plan is listed by plan stage and plan of action on [Table 5.4](#).

5.4.1.3 Administration and Enforcement of the Water Shortage Contingency Plan

Implementation and enforcement of the Water Shortage Contingency Plan will require coordination among City departments. It is assumed that the Public Works Department will hold primary responsibility over the management of the program due to their management of the water system. The Public Works Department would establish a Program Coordinator responsible for overseeing the implementation of the Water Shortage Program.

Organizational structure is important for successful implementation of the Water Shortage Program, and the prioritized structure would be dependent on the level of severity of the water shortage situation. A typical organizational structure developed for the 1993 Water Shortage Contingency Plan is provided in [Figure 5.1](#). It is unlikely that, during a water shortage event, the City would require additional staffing or the services of outside contractors. City staff are experienced and have dealt with prior Water Reduction Programs that provided scenarios similar to that of a Water Shortage Program. Major elements noted in the 2005 City UWMP and from the Urban Water Shortage Contingency Plan (May 1993) are noted below:

- Assigning City staff members to fill the key roles on the water shortage management team. It is expected that the Public Works Director would designate the appropriate individuals, including the Program manager.
- Increasing the public information programs to provide comprehensive information on the water shortage as necessary actions that must be carried out by the City and the public. The scope of the public information program can be developed by reviewing published references, especially those published by DWR, as well as researching successful aspects of the current programs conducted by neighboring water agencies, particularly SCVWD. A public information hotline may be advisable to answer any questions regarding the program.



Source: City of Gilroy 2000 Urban Water Management Plan and Urban Water Shortage Contingency Plan, May 2003

Figure 5.1
Water Shortage Contingency Plan
Typical Management Team Organization
 2010 Urban Water Management Plan
 City of Gilroy



Date Updated: April 14, 2011

Table 5.4 Water Shortage Contingency Plan Stage of Action
 2010 Urban Water Management Plan
 City of Gilroy

Water Conservation Measures	Stage 1 10 percent Reduction	Stage 2 25 percent Reduction	Stage 3 35 percent Reduction	Stage 4 50 percent Reduction
Water Use Prohibitions				
Water waste including, but not limited to flooding or runoff on sidewalks, driveways, streets, gutters, and similar outdoor surfaces	✓	✓	✓	✓
Cleaning/washing of sidewalks, driveways, patios, filling station aprons, parking lots or other paved or hard surfaced areas except for:	✓	✓	✓	✓
• Cleaning/washing for health or safety purposes	✓			
• Cleaning/washing for health purposes required by Public Health Code.		✓	✓	✓
Use of water through and unattended hose without a positive automatic or manual shutdown valve, or a sprinkler device on the outlet end of the hose.	✓	✓	✓	✓
Use of water for construction purposes, such as consolidation of backfill, unless no other source of water or method can be used.	✓	✓	✓	✓
Waste of water due to broken or defective plumbing, sprinklers and watering/irrigation systems	✓	✓	✓	✓
Restaurant water service unless upon request.	✓	✓	✓	✓
Outside landscape irrigation for any residential, business or industrial purpose between the hours of 10:00 a.m. and 6:00 p.m.:				
• From April 1 to November 1, except for drip irrigation systems, use of reclaimed water, and the watering of landscaping (trees, shrubs, flowers, grass, etc.) at the time of installation.	✓			
• Year round, except for drip irrigation systems and the use of reclaimed water.		✓	✓	✓
Washing of the exterior of dwellings, buildings, and structures with the exception of window washing and washing in the direct conjunction with the painting of the structure.		✓	✓	✓
Hydrant flushing, except where required for public health and safety.		✓	✓	✓
Operation of decorative fountains unless they utilize a recirculating system.		✓	✓	✓
Refilling of existing private pools except to maintain water levels (solar blankets/covers are recommended).		✓	✓	✓
Washing cars, except in automatic car washes when water is recycled within an approved tolerance.		✓	✓	✓
Filling new swimming pools.			✓	✓
New installation of landscaping unless in compliance with applicable City/County/SCVWD policies and guidelines.		Voluntary	✓	✓
Turf irrigation with potable water (no irrigation meter water use).			Consider	✓
Sale or resale of a single-family residence or commercial building with toilets using greater than 1.6 gallons of water per flush or showerheads using greater than 2 gallons of water per minute.			Consider	Consider
New landscaping of public facilities.			Consider	✓
Golf course watering limited to tees, greens, landing areas.			✓	✓
Notice of drought conditions must be posted in hotels, motels, restaurants, and restrooms.			✓	✓
Retrofit of water conservation devices in hotels, motels, etc.			Consider	✓
Operation of a pool without a cover.				✓
New hook-up moratorium				Consider

Table 5.4 Water Shortage Contingency Plan Stage of Action
 2010 Urban Water Management Plan
 City of Gilroy

Water Conservation Measures	Stage 1 10 percent Reduction	Stage 2 25 percent Reduction	Stage 3 35 percent Reduction	Stage 4 50 percent Reduction
Other Elements				
Full-time Resource Management Coordinator	✓	✓	✓	✓
Enforce State requirements for ultra-low flush toilets in new construction.	✓	✓	✓	✓
Support State and Federal legislation prohibiting sale of toilets using more than 1.6 gallons per flush.	✓	✓	✓	✓
Distribution system water audits, leak detection and repair.	✓	✓	✓	✓
Metering of all connections.	✓	✓	✓	✓
Computerized billing system.	✓	✓	✓	✓
Require water audit for large commercial, industrial, and multi-family water users.	✓	✓	✓	✓
Landscape water conservation requirement for new commercial, industrial, institutions, governmental, and multi-family developments.	✓	✓	✓	✓
Water savings in City parks.	✓	✓	✓	✓
Public information program.	✓	✓	✓	✓
School education.	✓	✓	✓	✓
Conservation pricing/inclining block rates.	✓	✓	✓	✓
Retrofit kit distribution.	✓	✓	✓	✓
Monthly water conservation updates in local media.		✓	✓	✓
Residential water audits.			Consider	Consider
Allocation system (rationing) for all customers, including flow restriction for violators.			Consider	✓
Enforcement				
Level of Enforcement Effort	Voluntary	Complaint Basis	Active Patrol	Active Patrol

Notes:

4/11/2011

1. Source: City of Gilroy Urban Water Management Plan and Urban Water Shortage Contingency Plan, May 1993.
2. Possible enforcement procedures are discussed in this chapter.

- Monitoring the effectiveness of the program. In order to track supply availability and actual water user reductions, an ongoing monitoring will be needed. A monthly Drought Alert Calculation is prepared by the City, and these calculations compare the current month's water use with the target use. This procedure allows the City to continuously re-evaluate the situation and make informal decisions as to whether another reduction level is needed.
- Enforcing program requirements. From 35 to 50 percent reduction programs, the enforcement of the prohibition of water use and water use allocations will be most important in achieving the program goals. Inspectors and enforcement personnel could be identified among the City staff that are in the community on other business such as police, park department, street maintenance, meter readers, etc.
- Dealing with equity issues that might arise from the mandatory restrictions or higher water rates. Depending on the level of restrictions put into place, it may be necessary to address specific concerns for individual customers who may have special conditions or extenuating circumstances and are improperly affected by the program. A procedure must be identified for dealing with such special requests and/or for reviewing specific accounts.
- Coordinating with the SCVWD. Due to the fact that the SCVWD is the principal water management agency in the County and sets the county-wide water use reduction goals, an ongoing coordination with a specific contact at the SCVWD who will be aware of the City's needs is critical.
- Adjusting water rates. Incoming revenues from water sales should be reviewed periodically to determine whether an increase in rates might be needed to cover revenue shortfalls due to a decrease in demand.
- Addressing new development proposals. During periods of severe water shortage, additional requirements on new development may be necessary to reduce new demand or to curtail new hook-ups.
- A formal public review process including a public hearing is required for the water shortage contingency plan. A thorough public review process will help reduce future objections when mandatory prohibitions are needed.

5.4.2 Water Shortage Contingency Ordinance / Resolution

The UWMPA requires that water suppliers include an urban water shortage contingency analysis that includes the water shortage contingency resolution or ordinance.

Law

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:

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

The City Urban Water Shortage Contingency Plan was adopted on May 3, 2004, and [Appendix G](#) includes a copy of the adopting resolution.

5.4.3 Prohibition, Consumption Reduction Methods and Penalties

The UWMPA requires the water suppliers to address methods for reducing consumption within the water shortage contingency analysis.

Law

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...

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.

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

5.4.3.1 Mandatory Prohibitions on Water Wasting

Mandatory compliance measures that are put in place during times of water storage are more stringent than the voluntary measures; however, they can build resentment among customer's if the measures are viewed as unreasonable. To alleviate consumer dissent, a good public relations campaign is necessary to coincide with the measures.

Mandatory measures may include:

- Ordinances making water waste illegal
- Ordinances controlling landscape irrigation
- Ordinances restricting non-irrigation outdoor water uses
- Prohibitions on new connections or the incorporation of new areas.
- Rationing

Prohibitions on new developments may conflict with other policies in place within the City. However, existing customers may feel that, as they are called on to sacrifice during the drought period, the water supplier should fulfill its obligation to existing customers before proceeding to accommodate new customers. Because of these sentiments, prohibitions may be considered only during extreme drought conditions, such as the 50 percent reduction. If such prohibitions are

necessary, an offset program, where the developers would be required to demonstrate that water conservation efforts within the new development meet at least as much water conservation in the existing community, could be implemented. In cases where water conservation is critical, a two-to-one offset could be implemented.

5.4.3.2 Excessive Use Penalties

Customers who violate the provisions noted in the water code for water shortage conditions shall receive the following:

- Two educational/warning visits, letters, or phone calls from Public Works Department personnel.
- Third warning visit from police.
- Fourth complaint or blatant violation cited by the police, with fine and possible flow restriction.
- Upper use violation receives one warning letter in the first billing period if the limit is exceeded; fine is issued in second.

5.4.3.3 Review Process

Customers who have been assessed a penalty for violation of or exceeding the water use allocation have the right to a review of the assessed penalty by the City Manager. Additionally, a customer who has been notified that a flow restrictor will be installed for violations of the water code will have the right to a review by the City Manager.

The review will be held if the customer files a written request for review with the City within 15 days after receipt of notification. The reviews will be held within a reasonable amount of time after the receipt of request for review.

5.4.4 Revenue and Expenditure Impacts/Measures to Overcome Impacts

The UWMPA requires the UWMP to include an urban water shortage contingency analysis that addresses financial impacts from reduced water sales.

Law

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:

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...

10632 (g) [An analysis of the impacts of each of the proposed measures to overcome those [revenue and expenditure] impacts, such as the development of reserves and rate adjustments.

For most water suppliers, operating costs are fixed rather than variable based on the quantity of water sold. As a result, when conservation programs are implemented, it often becomes necessary to increase water rates. This is based on lower income because of lower total consumption and fixed revenue requirements. To counteract this, reduction in the form of reducing peak demands can delay the need to develop new costly water sources.

The City's revenues and expenditures for the Water Fund (Fund 720) are summarized on [Table 5.5](#). Fund 720 also allows for a small emergency fund cash reserve. Capital improvement projects within Fund 720 may be deferred to help offset revenue problems if necessary.

The City also maintains Fund 436, which is the Water Development Fund, to help fund capital improvement projects related to new developments. In the event of an emergency, General Fund reserves may be used. However, a Water Shortage Emergency Fund may be considered by the City in order to mitigate potential impacts from a water shortage. In addition, this fund will help to stabilize water rates during times of shortage, and any water revenue surplus collected as a result of the shortage rate adjustments will be used to replenish the Water Shortage Emergency Fund. The City has implemented a water rate structure that has successfully reduced water demand in the City. A copy of the water rate structure, effective as of January 1, 2009, is included in [Appendix H](#).

The rate structure was documented by water use sector. The lowest tier of the rate structure generally represents the lifeline rate for the residential rate. The second tier generally represents the average cost of water, and during a water shortage, residents should aim to be in the first or second tier. The third tier is the beginning tier for conservation rates and is set much higher than the previous two rates, thus providing incentive to the user to lower water usage. The fourth tier is even higher in cost, and is set to penalize the user and encourage water conservation.

Commercial and industrial users have the same tiered rate structure; however, the rate increases are generally flatter due to the fact that commercial and industrial water use is generally due to business activity, and not landscape irrigation. Commercial and industrial water use is generally uniform and is therefore subjected to higher base rates. The commercial and industrial rate structure is aimed at being conducive to a working environment, while also encouraging water conservation.

The irrigation rate structure combines the residential bottom three tiers together, with the residential third tier billing rate, and utilizes the fourth residential tier for higher irrigation water usage. The irrigation rate structure significantly encourages water conservation.

If the City should implement the 35 or 50 percent reduction programs, the 1990 UWMP suggests the following to compensate for revenues lost due to decreased demand:

- Increase the unit rate for all tiers by a fixed percentage.

Table 5.5 City Water Fund Revenue and Expenditures
 2010 Urban Water Management Plan
 City of Gilroy

	Fiscal Year			
	2008 (\$)	2009 (\$)	2010 (\$)	2011 (\$)
Revenues¹				
Water Fund	\$13,091,890	\$8,100,306	\$8,282,529	\$8,622,523
Expenditures²				
Personnel	\$1,132,750	\$1,492,124	\$990,772	\$991,315
Materials and Services	\$935,941	\$1,457,842	\$1,150,745	\$1,199,526
Capital Outlay	\$691,831	\$1,821,520	\$466,363	\$170,388
Interfund Transfers	\$45,893	\$45,636	\$37,325	\$35,574
Other	\$2,389,044	\$3,011,525	\$2,660,906	\$2,887,837
Total Expenditures	\$5,195,459	\$7,828,647	\$5,306,111	\$5,284,640

Note:

4/13/2011

1. Source: City of Gilroy FY 2010 and FY 2011 Revenues
2. Source: City of Gilroy Community Services Department Water System Division 2010-2011

- Increase the unit rate for all tiers except the lowest residential tier (Lifeline Tier) by a percentage, which might be the same for all tiers or larger increases for higher tiers.
- Impose a temporary drought surcharge on each account based on meter size.
- Impose excessive penalties for water use over a specific amount.
- Impose a peaking charge based on the highest billed monthly water use from the previous year.

If at any time SCVWD institutes a tiered pump tax structure, increases in water rates, drought surcharges, and/or excess use penalties may be tied to the SCVWD structure.

An excess water use surcharge may be imposed in order to encourage compliance with the 35 and 50 percent reduction mandates if the customer water allotment is exceeded. The excess water surcharge applies only to the water bill and does not correspond to the water use prohibitions.

5.4.5 Actions During a Catastrophic Interruption

The UWMPA requires the water suppliers to include a water shortage contingency plan that addresses catastrophic interruption of water supplies.

Law

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...

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.

During an imminent shortage, the City Manager will activate a water shortage response team. This team will include: public utilities, water, fire, planning, health, emergency services, and the Mayor's office. Other actions and procedures that are to follow a catastrophic event will be developed by this team.

5.4.6 Reduction Measuring Mechanism

The UWMPA requires the water suppliers to include a water shortage contingency plan that addresses the mechanisms that measure the actual water reductions.

Law

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...

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

Groundwater is the sole source of supply for the City. Each groundwater well includes a flow-monitoring device that tracks water production. Readings from these devices are used to measure and monitor City-wide water conservation.

CHAPTER 6 – DEMAND MANAGEMENT MEASURES

The UWMPA originally outlined best management practices (BMPs) to help mitigate water waste. These BMPs have since evolved into fourteen Demand Management Measures (DMM) that should be addressed by urban water suppliers.

Law

- 10631 (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 prohibitions.
 - (N) Residential ultra-low-flush toilet replacement programs.

This chapter was extracted from the City's 2005 UWMP, which was reviewed by DWR and received a letter of completeness in May 2009. The chapter was updated with recent information since 2009.

In the 1991 Memorandum of Understanding (MOU) regarding Urban Water Conservation, the California Urban Water Conservation Council (CUWCC) was formed. However, the city of Gilroy is not currently a signatory of the MOU, and is, therefore, not on the CUWCC.

While the City is not on the CUWCC, the City recognizes the importance of water as a valuable resource, and duly recognizes the DMMs as a means to ensure a reliable future water supply. Additionally, the City is committed to implementing water conservation and water recycling efforts as a means to provide a sustainable water supply.

6.1 DMM 1 – WATER SURVEY PROGRAMS FOR SINGLE-FAMILY RESIDENTIAL AND MULTI-FAMILY RESIDENTIAL CUSTOMERS

This program consists of water audits for residential users. Within the audit, water usage history, leak detection inside and outside the home, as well as recommendations for improvements are discussed with the customer.

Currently, a free “Water-Wise House Call” program is offered by the City through Santa Clara Valley Water District (SCVWD) to single-family and multi-family residential units. A water specialist visits the residence to provide the resident with ways of maximizing conservation efforts. The specialist will review household appurtenances, such as showerheads, faucets, and toilets, as well as provide an irrigation schedule for landscaping. Also, the specialist will review the resident’s water usage history with them.

6.2 DMM 2 – RESIDENTIAL PLUMBING RETROFIT

The residential plumbing retrofit program is designed to install physical devices that limit the amount of water that can be served to the customer. Since 1978, the State has been actively implementing laws to reduce residential water use, such as the installation of low flow fixtures and ultra-low flush toilets.

The City currently offers free low-flow showerheads as well as aerators through its community services department. Additionally, low-flow showerheads and aerators for kitchen and bathroom faucets have been made available to City residents, through the District, since 1992. Items mentioned above, as well as dye tablets for leak detection, and toilet tank dams are also included in the kits.

The City has implemented the standard use of 5/8 by 3/4 inch water meters in domestic service. The implementation of this standard was seen as a means of reducing the maximum rate of flow delivered without significantly reducing the available pressure.

6.3 DMM 3 – SYSTEM WATER AUDITS, LEAK DETECTION AND REPAIR

When water enters the transmission and distribution system, it is difficult to account for the end result of the water. As a means to better account for water use in the system, a water supplier may use a water audit. Unaccounted for water is the difference between the water supplied to the system and the cumulative total of metered water use. Currently the City does not meter sewer and hydrant flushing, as well as street sweeping, and the City compares well production with water usage to determine these uses. Additionally, unaccounted for water can be an indicator of leaks, meter errors, water system repair or maintenance, or illegal connections.

The City's annual capital improvement budget currently allocates funds for system repairs, including transmission and distribution mains, as well as pump stations and storage tanks.

Leaks within the system are immediately fixed upon detection. The City keeps a record of all repaired leaks in the Public Works Department.

6.4 DMM 4 – METERING WITH COMMODITY RATES FOR ALL NEW CONNECTIONS AND RETROFIT OF EXISTING CONNECTIONS

All new connections to the water system must be equipped with meters that record the volume of use, as well as a program be put in place to convert unmetered connections to meters.

The City has historically had a metering policy in which it replace broken meters, as well as meters 15 years and older. When taking the reading, if an error is suspected, the meter is evaluated by the City, and consumptive use, whether high or low, is taken into account on an individual basis to account for leaks or possible meter error.

The water rate plan for the City is a tiered structure based on meter type and level of use. It has been provided in this report as [Appendix H](#).

6.5 DMM 5 – LARGE LANDSCAPE CONSERVATION PROGRAMS AND INCENTIVES

This DMM requires water suppliers to assign reference evapotranspiration-based (ET_o) water budgets on all accounts with dedicated irrigation meters. Additionally, this DMM requires water-use audits to any accounts with mixed-use water meters.

The City offers the "Landscape Survey Program" through SCVWD, which surveys commercial sites with 5,000 square feet or more of irrigated landscape and recommends improvements for increasing efficiency, analysis of potential savings, and qualifies sites to participate in the Landscape Rebate Program.

Additionally, the District is currently working on an ET_o based water budget for all large landscape sites. This would be implemented into GIS and would help to support the Landscape Survey

Program. It is expected that the budgeting program will reduce County-wide landscape water use, for the included sites, by 10 percent.

Recently, the District has also embarked on a program to provide financial rebates to landscape water users who switched to a weather-based irrigation controller (WBIC). This program provides rebates from \$300 - \$1,000 based on the approved controller installed. In 2010 alone, 142 of the approved controllers were installed. Through additional funding from the Department of Water Resources, the District expanded the WBIC program to include the Irrigation System Hardware Rebate Program (ISHRP). This program sought to incentivize the installation of water efficient irrigation hardware at commercial, industrial, and institutional sites throughout Santa Clara County. This program provided rebates from \$200 to \$2,000 (not to exceed 50 percent of the hardware cost) to users who installed qualifying hardware. From October 2006 to June 2010, 46 ISHRP rebates have been issued, according to the SCVWD 2010 UWMP.

6.6 DMM 6 – HIGH EFFICIENCY WASHING MACHINE REBATE PROGRAM

This DMM requires a rebate program be put in place to encourage the purchase of high efficiency washing machines. SCVWD has historically partnered with PG&E to deliver rebates to customers who switched to high efficiency washing machines.

The District, combined with PG&E, offered a total rebate of \$175 for washing machines located in the Consortium for Energy Efficiency's Tier 3 water efficiency category. This is the most water efficient category. According to the SCVWD 2010 UWMP, 16,559 rebates were allocated throughout the region in fiscal year 2010.

6.7 DMM 7 – PUBLIC INFORMATION PROGRAMS

This DMM consists of distributing water use information to the public through varying methods, which can include brochures, radio or television broadcasts, or through school programs and videos. Additionally, information on water use conservation can be found on the City website and the SCVWD website.

Programs offered by the City and SCVWD include:

- Free showerheads and aerators, as well as water conservation brochures, are offered by the City through either City Hall or the City website. Additional water conservation information and other useful links are also available online through the City website.
- The City has an annual Water Conservation Booth at the fair, where they make available water conservation information, as well as free showerheads and aerators upon request. Additionally, City staff may participate in other community held events to provide water conservation information to the public.

- Water conservation pamphlets are inserted in the water bills, as well as made available on the City's website, in English and Spanish. Also included in the bill are historical use information for the individual account.
- Periodic public information is also provided by means of television commercials on the City's local cable television channel.

In addition to City efforts at informing the public of water conservation efforts, SCVWD incorporates many publications and programs which encompass the City. The dual effort of the City and SCVWD are in an effort to raise public awareness of water conservation practices, as well as establish long-term habits of water conservation among the public.

Information specific to SCVWD and their conveyance of water conservation practices include the following:

- Water Conservation Report – A year-end report produced by the District that details activities and accomplishments in water conservation.
- Program Specific Marketing – Efforts include sending postcards and/or letters with a promotional flyer to users, handing out flyers at events, and programs to promote the purchase of water conserving appliances.
- Nursery Program – This program is aimed at increasing public knowledge of water conserving landscape practices through pamphlets handed out at approximately 20 participating nurseries.
- Water Efficient Landscape Workshop Series – This program consists of classes aimed at teaching the public efficient means of watering landscape. Approximately 150 – 200 people are estimated to attend this workshop each year.
- Water-Wise Gardening CD-ROM – The District started a program in 2005 to create CDs containing water conserving gardening information including information on drought resistant plants and the individual characteristics of the plants. The users of the discs have the option to print a report on the plant to take to local nurseries to aid in the purchase of water-efficient plants.

6.8 DMM 8 – SCHOOL EDUCATION PROGRAM

This DMM requires water suppliers to make water conservation information, such as handouts or instructional assistance, available to schools within the service area.

Currently, the City makes staff available to schools within the service area upon request from the school. The presentations provided by the staff are concentrated efforts to raise water conservation methods and ideology among the youths of the community.

The District continues to enact a wide-reaching program to inform children of water conserving techniques that can be shared at home. The District currently has two full time, credentialed staff, to help educate students on water conservation techniques. In fiscal year 2010, the District allocated \$215,000 to its school education program.

6.9 DMM 9 – CONSERVATION PROGRAMS FOR COMMERCIAL, INDUSTRIAL, AND INSTITUTIONAL ACCOUNTS

This DMM addresses conservation measures implemented to help reduce high volume uses in commercial, industrial, and institutional programs. Currently, the City has no programs in place to address the concerns of this DMM. The City has metered all commercial, industrial, and institutional accounts and bills them according to the volume of water used.

6.10 DMM 10 – WHOLESALE AGENCY PROGRAMS

This DMM applies to wholesale agencies as defined by the UWMPA. The classifications for a wholesale agency's role in the financial, technical, and programmatic assistance are provided to the retail water suppliers implementing the DMM.

6.11 DMM 11 – CONSERVATION PRICING

Currently, the City maintains a tier-rated water billing structure that is designed to support water conservation. The billing structure is based on meter size, use type, and volume of use. With the tiered rate structure, higher volume users are billed at an increased rate, while low volume users have a reduced tiered unit rate (\$/1,000 gallons).

6.12 DMM 12 – WATER CONSERVATION COORDINATOR

This DMM institutes a position within the water supplier's faculty that manages conservation efforts within the service area. In 1991, the City established the position of Resource Management Coordinator, within the Public Works Department, whose responsibilities included the coordination and expansion of water conservation efforts within the City. These roles included establishing water conservation programs, and maintaining communication with City residents about water conservation practices.

6.13 DMM 13 – WATER WASTE PROHIBITION

In response to the Drought of 1992, the City adjusted its water reduction program to promote efficient water use within the City. With the amendments to the Water Reduction Program, the following are currently prohibited water uses:

- Flooding or runoff on sidewalks, driveways, streets, gutters, and similar outdoor surfaces

- Cleaning or washing of sidewalks, driveways, filling station aprons, patios, porches, parking lots or other paved or hard-surfaced areas, except for cleaning and washing for health or safety purposes
- Use of water through an unattended hose without a positive automatic or manual shutdown valve, or a sprinkler device on the outlet end of the hose
- Use of water for construction purposes, such as consolidation of backfill, unless no other source of water or method can be used
- Waste of water due to broken or defective plumbing, sprinklers, and watering/irrigation systems
- Restaurant water service unless upon request
- From April 1 to November 1, outside landscape irrigation for any residential, business, or industrial purpose between the hours of 10:00 a.m. and 6:00 p.m.
 - Exemptions from this provision:
 - Drip irrigation systems and the use of reclaimed water.
 - The watering of landscaping at the time of installation.
- Require water audit for large industrial, commercial, and multi-family residential water users.

6.14 DMM 14 – RESIDENTIAL ULTRA-LOW FLUSH TOILET REPLACEMENT PROGRAMS

In 1994, new California legislation was passed requiring all new construction to install Ultra Low Flush Toilets (ULFT), and only ULFTs can be sold in the State. As a result, homes constructed after this point have been installed with ULFTs; however, the City does not currently have a program in place to incentivize the replacement of toilets in houses built prior to 1994.

SCVWD, from 1992 to 1999, implemented a Rebate Incentive Program to encourage the replacement of older toilets. However, due to the steep decline in participation, the incentive program was cancelled.

In 2004, SCVWD began a new program, offering rebate incentives to residential customers who replaced their aging toilets with High Efficiency Toilets (HETs). The newer HETs use less water than the ULFTs. By acting quickly on enacting rebates for HETs, SCVWD hopes to encourage the market transformation from ULFTs to HETs.

CHAPTER 7 – DWR CHECKLIST

This report is organized in accordance with the outline suggested by the Department of Water Resources for the 2010 Urban Water Management Plans. This optional chapter is included to guide the reviewers to the chapters or sections in this report, and which address the items listed in the DWR Checklist, as published in the Final Guidebook (March 2011).

Since the DWR Checklist is in tabular format, this chapter was formatted accordingly and included on [Table 7.1](#).

Table 7.1 DWR Checklist
 2010 Urban Water Management Plan
 City of Gilroy

DWR Checklist				
No.	UWMP Requirement^a	Calif. Water Code Reference	Additional Clarification	UWMP Location
Plan Preparation (Chapter 1)				
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)		Section 1.6
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)		Section 1.6, Table 1.1
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)		Section 1.5, Appendix A
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)		Table 1.1
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		Section 1.5, Table 1.1
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		Section 1.5, Table 1.1
57	Provide supporting documentation that the plan has been adopted as prepared or modified.	10642		Section 1.5, Appendix A
58	Provide supporting documentation as to how the water supplier plans to implement its plan.	10643		Chapter 5, Chapter 6, SCVWD 2010 UWMP Section 5
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)		Table 1.1
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		Table 1.1

Table 7.1 DWR Checklist
 2010 Urban Water Management Plan
 City of Gilroy

DWR Checklist				
No.	UWMP Requirement^a	Calif. Water Code Reference	Additional Clarification	UWMP Location
System Description (Chapter 2)				
8	Describe the water supplier service area.	10631(a)		Section 2.1
9	Describe the climate and other demographic factors of the service area of the supplier.	10631(a)		Section 2.2, Appendix B; and Section 2.3, Table 2.1
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.	Section 2.4
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.	Figure 2.2
12	Describe other demographic factors affecting the supplier's water management planning.	10631(a)		Section 2.1, Section 2.4, SCVWD 2010 UWMP Section 2.1
System Demand (Chapter 3)				
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)		Section 3.1.4, Table 3.2, Table 3.3, and Appendix C
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	Section 1.5
3	Report progress in meeting urban water use targets using the standardized form.	10608.4		Section 3.1.4, Table 3.2, Table 3.3, and Appendix C
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.	Section 3.1.1, Table 3.1

Table 7.1 DWR Checklist
 2010 Urban Water Management Plan
 City of Gilroy

DWR Checklist				
No.	UWMP Requirement^a	Calif. Water Code Reference	Additional Clarification	UWMP Location
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.	Appendix C
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)		Appendix C
System Supplies (Chapter 4)				
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.	Table 4.3
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.	Table 4.2
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)		Section 4.2.2
16	Describe the groundwater basin.	10631(b)(2)		Section 4.2, Section 4.2.1
17	Indicate whether the groundwater basin is adjudicated? Include a copy of the court order or decree.	10631(b)(2)		Section 4.2
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)		Section 4.2
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)		Appendix C

Table 7.1 DWR Checklist
 2010 Urban Water Management Plan
 City of Gilroy

DWR Checklist				
No.	UWMP Requirement^a	Calif. Water Code Reference	Additional Clarification	UWMP Location
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.	Appendix C
24	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	10631(d)		Section 4.3.2
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)		Section 1.4.3, Section 4.3.4, Section 4.5
31	Describe desalinated water project opportunities for long-term supply, including, but not limited to, ocean water, brackish water, and groundwater.	10631(i)		Section 4.5
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		Section 3.3, Section 3.3.1, Section 3.3.2, Table 3.5
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)		Section 3.3.1
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)		Appendix C
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)		Section 3.3, Section 3.3.1, Section 3.3.2, Table 3.5
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)		Table 3.6
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)		Table 3.5
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)		Appendix C

Table 7.1 DWR Checklist
 2010 Urban Water Management Plan
 City of Gilroy

DWR Checklist				
No.	UWMP Requirement^a	Calif. Water Code Reference	Additional Clarification	UWMP Location
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)		Section 3.3
Water Supply Reliability and Water Shortage Contingency Planning^b (Chapter 5)				
5	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	10620(f)		Section 4.5
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)		Section 5.1, Section 5.1.2, Table 5.1
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)		Section 5.1, Section 5.2, Section 5.3
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)		Table 5.3
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)		Table 4.3
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.	10632(c)		Section 5.4.1.2, Section 5.4.1.3
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)		Section 5.4.3.1, Section 5.4.3.2, Section 5.4.3.3, Table 5.4
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)		Section 3.3
40	Indicated penalties or charges for excessive use, where applicable.	10632(f)		Section 5.4.3.2, Section 5.4.3.3

Table 7.1 DWR Checklist
 2010 Urban Water Management Plan
 City of Gilroy

DWR Checklist				
No.	UWMP Requirement^a	Calif. Water Code Reference	Additional Clarification	UWMP Location
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)		Section 5.4.4, Table 5.5
42	Provide a draft water shortage contingency resolution or ordinance.	10632(h)		Section 5.4.2, Appendix G
43	Indicate a mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.	10632(i)		Section 5.4.6
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	Section 4.4, Table 4.3, Section 5.3, Table 5.2
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)		Section 3.2, Table 3.4
Demand Management Measures (Chapter 6)				
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
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)		Section 6.3, Table 5
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.	SCVWD 2010 UWMP Section 5
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(i)	Signers of the MOU that submit the annual reports are deemed compliant with Items 28 and 29.	Chapter 6

Notes:

- 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 where its UWMP, but is urged to provide clarification to DWR to facilitate review.

APPENDICES

APPENDIX A

UWMP Adopting Resolution and Notifications

RESOLUTION NO. 2011-32

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF
GILROY, ADOPTING THE 2010 URBAN WATER
MANAGEMENT PLAN**

WHEREAS, the California Legislature enacted Water Code Section 10610 et seq., known as the Urban Water Management Planning Act, commencing with Section 10610 of the California Water Code, and as amended subsequently, which mandates that every supplier providing water for municipal purposes to more than 3,000 customers prepare an Urban Water Management Plan; and

WHEREAS, the City of Gilroy is serving more than 3,000 customers; and

WHEREAS, the Plan is updated every five (5) years in years ending with zero (0) and five (5);
and

WHEREAS, the City contracted with Akel Engineering Group Inc. to assist staff in completing the draft 2010 Urban Water Management Plan; and

WHEREAS, the City Council held a public hearing on May 16, 2011 to receive and respond to public comments regarding the draft 2010 Urban Water Management Plan; and

WHEREAS, in accordance with California Water Code Section 10642 and California Government Code Section 6066, at least 14 days' notice of the time and place of said public hearing was given by publication in a newspaper twice at least five (5) days apart, throughout which notice time the 2010 Urban Water Management Plan document was made available for public inspection; and

WHEREAS, the preparation and adoption of urban water management plans and updates thereof are exempt from review under the California Environmental Quality Act (CEQA) pursuant to California Water Code Section 10652 and CEQA Guidelines Section 15282(s).

NOW, THEREFORE, BE IT RESOLVED as follows:

Section 1. The 2010 Urban Water Management Plan for the City of Gilroy is hereby adopted.

Section 2. The City Engineer is hereby authorized to file copies of the Plan with the State Department of Water Resources, the State library, the County of Santa Clara, and the Santa Clara Valley Water District.

Section 3. If the State Department of Water Resources requires revisions prior to acceptance of the 2010 Urban Water Management Plan, any such Plan revisions shall be approved by the City Engineer prior to re-submittal.

Section 4. This resolution shall take effect upon adoption.

PASSED AND ADOPTED at a regular meeting of the City Council this 6th day of June, 2011 by the following vote:

AYES: COUNCILMEMBERS: ARELLANO, BRACCO, DILLON,
LEROE-MUÑOZ, TUCKER, WOODWARD and PINHEIRO

NOES: COUNCILMEMBERS: NONE

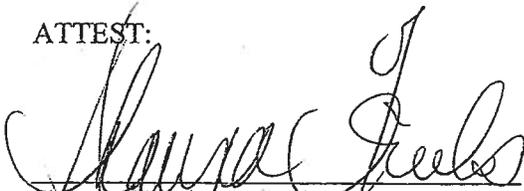
ABSENT: COUNCILMEMBERS: NONE

APPROVED:



Albert Pinheiro, Mayor

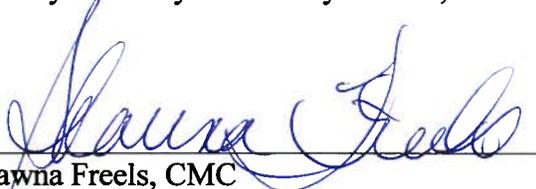
ATTEST:



Shawna Freels, City Clerk

I, SHAWNA FREELS, City Clerk of the City of Gilroy, do hereby certify that the attached Resolution No. 2011-32 is an original resolution, or true and correct copy of a city resolution, duly adopted by the Council of the City of Gilroy at a special meeting of said Council held on the 6th day of June, 2011, at which meeting a quorum was present.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the Official Seal of the City of Gilroy this 7th day of June, 2011.


Shawna Freels, CMC
City Clerk of the City of Gilroy

(Seal)

**GILROY DISPATCH
6400 MONTEREY RD
GILROY CA 95023**

Website: www.southvalleyclassifieds.com

**PROOF OF PUBLICATION
(2015.5 C.C.P.)
STATE OF CALIFORNIA
County of Santa Clara**

I am a citizen of the United States and a resident of the County aforesaid. I am over the age of eighteen years, and not a party to or interested in the above entitled matter.

I am the printer and principal clerk of the publisher of the **GILROY DISPATCH**, printed and published in the city of **GILROY, County of Santa Clara, State of California**. **PRINTED AND PUBLISHED TUESDAY AND FRIDAY & ON LINE** for which said newspaper has been adjudicated a newspaper of general circulation by the Superior Court of the County of **SANTA CLARA, State of California**, under the date of **June 10, 1961, Action Number 80709**, that the notice of which the annexed is a printed copy had been published in each issue thereof and not in any supplement thereof on the following dates: **May 3, 6, 2011**

I declare under penalty of perjury that the foregoing is true and correct and that this declaration ON **April 25, 2011** has been executed in **GILROY, California**.

/s/ *Kesha Dixon*

**Legal Publications Specialist
and Classified Advertising
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Public Notice

**NOTICE OF PUBLIC HEARINGS OF THE GILROY CITY COUNCIL
PLANNING OUR FUTURE WATER USE**

The Gilroy City Council will hold a public hearing on **May 16, 2011**, to review and discuss the 2010 Urban Water Management Plan (2010 UWMP). The public hearing will be held at 6:00 p.m., or as soon thereafter as the item can be heard, at City Hall in the City Council Chambers, 7351 Rosanna Street, Gilroy.

The Gilroy City Council will also hold a public hearing on **June 6, 2011** to adopt the Urban Water Management Plan. The public hearing will be held at 6:00 p.m., or as soon thereafter as the item can be heard, at City Hall in the City Council Chambers, 7351 Rosanna Street, Gilroy.

The City of Gilroy is preparing its 2010 Urban Water Management Plan (2010 UWMP) to continue to provide adequate water supplies to meet existing and future water demands within the City's Urban Growth Boundary.

The 2010 UWMP updates the information in the City's existing 2005 UWMP and which provides an overview of the City's efficient water uses, water supplies, and demand management measures. Additionally, the 2010 UWMP documents the City's plans for establishing water conservation targets needed to reduce potable water consumption by 20 percent by year 2020 in accordance with the Water Conservation Act of 2009.

The draft 2010 UWMP is posted online at www.cityofgilroy.org. A printed copy is also available for review in the office of the City Clerk at City Hall, 7351 Rosanna Street, Gilroy, CA. 95023 during regular business hours, Monday through Thursday, 8:00 a.m. to 5:00 p.m.

Public involvement is encouraged in compliance with the Urban Water Management Planning Act. Questions or comments regarding the plan should be emailed to david.stubchaer@cityofgilroy.org

/s/Shawna Freels, City Clerk of the City of Gilroy

**Publish: May 3, 6, 2011
G/ 09586489**

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/s/Shawna Freels, City Clerk of the City of Gilroy

APPENDIX B

General Plan Land Use

Land Use Plan Map

Residential

- HILLSIDE
- LOW DENSITY
- MEDIUM DENSITY
- HIGH DENSITY
- NEIGHBORHOOD DISTRICT
- RURAL RESIDENTIAL

Commercial

- DOWNTOWN SPECIFIC PLAN
(see map/legend bottom left)
- PROFESSIONAL OFFICE
- GENERAL SERVICES
- VISITOR SERVING

Industrial

- CAMPUS INDUSTRIAL
- INDUSTRIAL PARK
- GENERAL INDUSTRIAL

Other

- HECKER PASS SPECIAL USE DISTRICT
- OPEN SPACE
- PARK/RECREATION FACILITY
- PUBLIC/QUASI-PUBLIC FACILITY
- EDUCATIONAL FACILITY
- GLEN LOMA RANCH SPECIFIC PLAN
- URBAN SERVICE AREA

CIRCULATION LEGEND

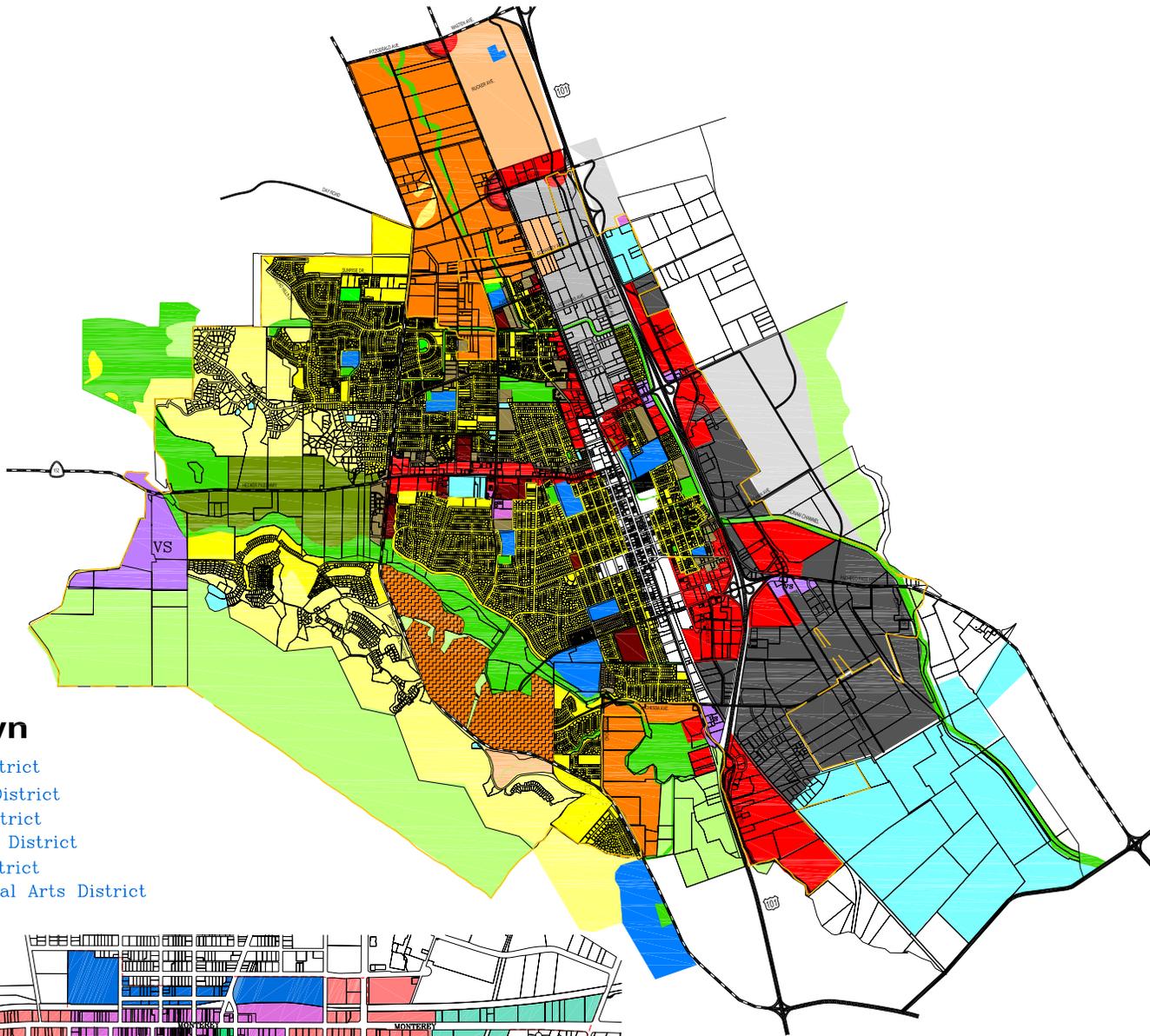
- FREEWAY
- EXPRESSWAY
- ARTERIAL
- COLLECTOR



Gilroy 2020
General Plan

Adopted 6/13/02

Updated September 2007



Downtown

- Gateway District
- Expansion District
- Cannery District
- Transitional District
- Historic District
- Civic/Cultural Arts District



APPENDIX C

DWR Recommended Tables

Table 1 - Coordination with Appropriate Agencies

Coordinating Agencies	Participated in developing the plan	Commented on the draft	Attended Public Meetings	Was Contacted for Assistance	Was sent a copy of the draft plan	Was sent a notice of intention to adopt plan	Not involved / No information
Santa Clara Valley Water District	Yes			Yes	Submitted Draft 4/18/2011	Notice Submitted 3/25/2011	
Santa Clara County	Yes				Submitted Draft 4/18/2011	Notice Submitted 3/25/2011	
General Public					Made Available for Review Online and Hard Copy		

Table 2 - Population - Current and Projected

	2010	2015	2020	2025	2030	2035
Service Area Population	48,821	54,540	59,882	65,224	70,565	75,907

Table 3 - Water Deliveries - Actual, 2005

Water Use Sectors	2005 Metered		2005 Not Metered		Total Volume (AFY)
	# of accounts	Volume (AFY)	# of accounts	Volume (AFY)	
Single Family	10,627	4,647	0	0.00	4,647
Multi-Family	421	787	0	0.00	787
Commercial / Institutional	824	1,275	0	0.00	1,275
Industrial	58	411	0	0.00	411
Landscape	453	841	0	0.00	841
Agriculture	4	2	0	0.00	2
Total	12,387	7,961	0	0.00	7,961

Table 4 - Water Deliveries - Actual, 2010

Water Use Sectors	2010 Metered		2010 Not Metered		Total Volume (AFY)
	# of accounts	Volume (AFY)	# of accounts	Volume (AFY)	
Single Family	11,368	4,210	0	0.00	4,210
Multi-Family	447	790	0	0.00	790
Commercial / Institutional	912	1,135	0	0.00	1,135
Industrial	82	323	0	0.00	323
Landscape	543	861	0	0.00	861
Agriculture	0	0	0	0.00	0
Other	12	4	0	0.00	4
Total	13,364	7,324	0	0.00	7,324

Table 5 - Water Deliveries - Projected, 2015

Water Use Sectors	2015 Metered		2015 Not Metered		Total Volume (AFY)
	# of accounts	Volume (AFY)	# of accounts	Volume (AFY)	
Single Family	12,237	4,853	0	0.00	4,853
Multi-Family	440	870	0	0.00	870
Commercial / Institutional	984	1,277	0	0.00	1,277
Industrial	89	357	0	0.00	357
Landscape	573	1,099	0	0.00	1,099
Agriculture	0	0	0	0.00	0
Other	21	11	0	0.00	11
Total	14,343	8,466	0	0.00	8,466

Water Deliveries - Projected, 2020

Water Use Sectors	2020 Metered		2020 Not Metered		Total Volume (AFY)
	# of accounts	Volume (AFY)	# of accounts	Volume (AFY)	
Single Family	11,993	4,756	0	0.00	4,756
Multi-Family	431	852	0	0.00	852
Commercial / Institutional	965	1,252	0	0.00	1,252
Industrial	87	349	0	0.00	349
Landscape	561	1,077	0	0.00	1,077
Agriculture	0	0	0	0.00	0
Other	20	11	0	0.00	11
Total	14,057	8,297	0	0.00	8,297

Table 7 - Water Deliveries - Projected, 2025, 2030 and Optional 2035

Water Use Sectors	2025 Metered		2030 Metered		2035 (Optional) Metered	
	# of accounts	Volume (AFY)	# of accounts	Volume (AFY)	# of accounts	Volume (AFY)
Single Family	13,063	5,180	14,132	5,604		
Multi-Family	469	929	508	1,005		
Commercial / Institutional	1,051	1,363	1,137	1,475		
Industrial	95	381	102	412		
Landscape	611	1,173	661	1,269		
Agriculture	0	0	0	0		
Other	22	12	24	13		
Total	15,311	9,037	16,564	9,777		

Table 8 - Low-Income Projected Water Demands

Low Income Water Demands	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)	2035 - opt
Single-Family Residential	2669	2616	2849	3082	
Multi-Family Residential	478	469	511	553	
Total	3147	3085	3360	3635	0

Note:

1. Projected demands calculated based on existing land use percentages (low income housing at 55%).

4/18/2011

Table 9 - Sales to Other Water Agencies

Water Distributed	Sales to Other Water Agencies					
	2005	2010	2015	2020	2025	2030
The City currently does not sell water to any other agencies.						

Table 10 - Additional Water Uses and Losses

Water Use	Total Water Use						
	2005 (AFY)	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)	2035 - opt (AFY)
Saline Barriers	-	-	-	-	-	-	-
Groundwater Recharge	-	-	-	-	-	-	-
Conjunctions Use	-	-	-	-	-	-	-
Raw Water Recycled	-	-	-	-	-	-	-
Water System Losses	557	513	593	581	633	684	
Other (Define)	-	-	-	-	-	-	-

Note:

1. System losses are at 7% of total water volume delivered.

Table 11 - Total Water Use

Water Use	Total Water Use						
	2005 (AFY)	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)	2035 - opt (AFY)
Total Water Deliveries (from Tables 3 to 7)	7,961	7,324	8,466	8,297	9,037	9,777	0.00
Sales to Other Water Agencies	0	0	0	0	0	0	0.00
Additional Water Uses and Losses	557	513	593	581	633	684	0.00
Total	8,519	7,836	9,059	8,878	9,670	10,462	0.00

Notes:

1. This table assumes 7% system wide losses.

Table 12 - Retail Agency Demand Projection Provided to Wholesale Suppliers

Wholesaler	Contracted Volume	2010	2015	2020	2025	2030	2035 - opt
The City currently does not provide any water to wholesale agencies.							

Table 13 - Base Period Ranges

Base		Base Period Ranges Parameter	Value	Units
10- to 15- Year Base Period		2008 Total Water Deliveries	3017.46	MG
		2008 Total Volume of Delivered Recycled Water	340.53	MG
		2008 Recycled Water as a Percent of Total Deliveries	11.3%	
		Number of Years in Base Period	15	Years
		Year Beginning Base Period Range	1994	
		Year Ending Base Period Range	2008	
5-Year Base Period		Number of Years in Base Period	5	Years
		Year Beginning Base Period Range	2004	
		Year Ending Base Period Range	2008	

3/7/2011

Table 14 - Base Daily Per Capita Water Use - 10- to 15-Year Range

Base Daily Per Capita Water Use - 10- to 15-Year Range				
Base Period Year		Distribution System Population	Daily System Gross Water Use (mgd)	Annual Daily Per Capita Water Use (gpcd)
Sequence Year	Calendar Year			
Year 1	1994	33,500	5.20	155
Year 2	1995	33,803	5.48	162
Year 3	1996	34,767	5.70	164
Year 4	1997	35,926	6.33	176
Year 5	1998	38,116	5.84	153
Year 6	1999	39,839	6.52	164
Year 7	2000	41,464	6.96	168
Year 8	2001	42,200	7.15	169
Year 9	2002	42,935	7.11	166
Year 10	2003	43,671	7.05	161
Year 11	2004	44,407	7.44	168
Year 12	2005	45,143	7.11	157
Year 13	2006	45,878	7.94	173
Year 14	2007	46,614	8.20	176
Year 15	2008	47,350	8.27	175
Base Daily Per Capita Water Use				166
2015 Interim Per Capita Water Use Target				149
2020 Per Capita Water Use Target (Method 1)				133

3/7/2011

Table 15 - Base Daily Per Capita Water Use - 5-Year Range

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	Calendar Year			
Year 1	2004	44,407	7.03	158
Year 2	2005	45,143	7.11	157
Year 3	2006	45,878	7.43	162
Year 4	2007	46,614	7.61	163
Year 5	2008	47,350	8.27	175
Base Daily Per Capita Water Use				163

3/7/2011

Table 16 - Water Supplies - Current and Projected

Water Supplies - Current and Projected					
Water Supply Sources	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Supplier-Produced Groundwater ¹	7,836	9,059	8,878	9,670	10,462
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 ²	7,504	8,848	9,856	10,864	11,872
Desalinated Water	0	0	0	0	0
Other	0	0	0	0	0
Total	15,340	17,907	18,734	20,534	22,334

Notes:

1. Includes 7% for system losses.
2. Recycled water supply shown as plant tertiary treatment capacity.

Table 17 - Wholesale Supplies - Existing and Planned Sources of Water

Wholesale Supplies - Existing and Planned Sources of Water						
Wholesale Sources	Contracted Volume	2015	2020	2025	2030	2035 - opt
The City currently receives no wholesale supplies.						

Table 18 - Groundwater - Volume Pumped

Basin Name(s)	Metered or Unmetered	Groundwater - Volume Pumped				
		2006	2007	2008	2009	2010
		(AFY)	(AFY)	(AFY)	(AFY)	(AFY)
Llagas Subbasin	Metered	8,897	9,192	9,259	8,477	7,986

Note:

1. The City sole source of supply is groundwater and therefore groundwater pumped is groundwater production.

Table 19 - Groundwater - Volume Projected to be Pumped

Basin Name(s)	Groundwater - Volume Projected to be Pumped				
	2015	2020	2025	2030	2035 - opt
	(AFY)	(AFY)	(AFY)	(AFY)	
Llagas Subbasin	9,059	8,878	9,670	10,462	

Note:

1. The City is not projected to develop another source outside of groundwater to meet future demands.

Table 20 - Transfer and Exchange Opportunities

Transfer Agency	Transfer and Exchange Opportunities		Proposed Volume
	Transfer or Exchange	Short Term or Long Term	
No Existing or Proposed Transfers			

Table 21 - Recycled Water - Wastewater Collection and Treatment

Type of Wastewater	Recycled Water - Wastewater Collection and Treatment					
	2005 (mgd)	2010 (mgd)	2015 (mgd)	2020 (mgd)	2025 (mgd)	2030 (mgd)
2010 UWMP						
Wastewater Collected & Treated in Service Area ^{1,2}	6.91	6.70	7.90	8.80	9.70	10.60
Volume that Meets Recycled Water Standard ³	6.91	6.70	7.90	8.80	9.70	10.60

2005 Gilroy UWMP Supplement

3/8/2011

1. Source: TM - SCRWA Wastewater Flow Projections 2009 (November 9, 2010)
2. Collected and Treated wastewater includes combined flows from Gilroy and the City of Morgan Hill.
3. Recycled Water volume assumed to equal collected wastewater.

Table 22 - Recycled - Non-recycled Wastewater Disposal

Method of Disposal	Treatment Level	Recycled Water - Non-Recycled Wastewater Disposal					
		2010 (mgd)	2015 (mgd)	2020 (mgd)	2025 (mgd)	2030 (mgd)	2035 - opt (mgd)
Percolation Ponds	Secondary	5.8	5.8	5.8	5.8	5.8	
Other Methods							

3/8/2011

Table 23 - Recycled Water - Potential Future Use

Group	Site No.	Site Name	Area ¹ (acres)	Percent Irrigable ¹ (%)	Est. Irr. Area ¹ (acres)	Current Usage ¹ (afy)	Projected Usage ¹ (afy)	Rec. Water Usage ¹ (afy)	Peak Day Demand ¹ (ac-ft)
Existing Users									
Exist.	E-1	Christmas Hill - Ranch Addition				17	17	17	0.15
Exist.	E-2	Christmas Hill Park	8	100%	8	-	30	30	0.26
Exist.	E-3	Eagle Ridge Development				561	561	561	4.86
Exist.	E-4	Obata Farms (near plant)				58	58	58	0.50
Exist.	E-5	Calpine Peaker Plant				45	45	45	0.39
A1	E-6	Gilroy Golf Course	50	80%	40	144	152	144	1.32
A1	E-7	Gilroy Sports Park	70	85%	60	-	226	226	1.96
Agr.	E-8	Obata Farms (North) ²				76	300	300	0.70
	E-9	McCarthy Business Park ²				10	10	10	0.10
	E-10	Calpine Gilroy Power Plant ²				152	307	307	2.30
Exist.		TOTAL EXISTING			108	1063	1707	1699	13
Potential Future Users									
A1	23	Gilroy High	40	40%	16	64	61	61	0.53
A1	44	Eagle Ridge Area Middle	6	50%	3		11	11	0.10
A1		TOTAL GROUP A1			19	64	72	72	0.63
A2	1	Cintas Laundry	N/A	-	-	52	45	45	0.20
A2	2	Inland Packaging	N/A	-	-	62	26	26	0.11
A2		TOTAL GROUP A2			0	114	71	71	0.31
A3	9	Goldsmith Seeds			0		0	0	0.00
A3	6	Bonfante Gardens	250	75%	188	678	713	678	6.18
A3		TOTAL GROUP A3			188	678	713	678	6.18
B	3	Gavilan College	50	40%	20	72	76	72	0.66
B	4	Gavilan Sports Park	8	90%	7.2	26	27	26	0.24
B	5	Gavilan Golf Course	40	90%	36	130	137	130	1.19
B		TOTAL GROUP B			63	228	240	228	2.08
C	24	Glen View Elementary	10	50%	5	4	19	4	0.16
C	25	Gateway School	included with Glen View			-	-	-	-
C	26	EI Roble Elementary	10	50%	5	-	19	19	0.16
C	11	EI Roble Park	3.5	90%	3.2	11	12	11	0.10
C	27	Jordan Elementary	7	50%	3.5	18	13	13	0.12
C	28	Brownell Academy	7	50%	3.5	17	13	13	0.12
C	12	Miller Park	4.75	90%	4.3	15	16	15	0.14
C	17	Gavilan Hills Memorial Park	15	67%	10	16	38	16	0.33
C	18	Saint Mary Cemetery	5	20%	1	2	4	2	0.03
C	38	Vineyard Christian							
C		TOTAL GROUP C			35	83	135	93	1.17
D	30	South Valley Junior High	30	40%	12	36	46	36	0.40
D	31	Gilroy Community Day	included with South Valley Junior High			-	0	0	-
D	32	Gilroy Adult Education	included with South Valley Junior High			-	0	0	-
D	33	St. Mary's School			2	11	8	8	0.07
D	13	San Ysidro Park	9	90%	8.1	21	31	21	0.27
D		TOTAL GROUP D			22	68	84	65	0.73
E	34	Las Animas Elementary	8	50%	4.0	20	15	15	0.13
E	35	Cornerstone Christian	included with Las Animas Elem.			-	0	0	-
E	14	Las Animas Park	28	85%	24	77	90	77	0.78
E	36	Rod Kelley Elementary	13	50%	6.5	33	25	25	0.21
E	37	Mt. Madonna High	included with Rod Kelley Elem.			-	0	0	-
E	15	Rainbow Park	1.2	80%	1.0	7	4	4	0.03
E		TOTAL GROUP E			35	137	134	121	1.16
F	19	Monterey St. Interchange	7	50%	3.5	-	13	13	0.12
F	20	Tenth St. Interchange	20	50%	10	-	38	38	0.33
F	21	Leavesley Rd. Interchange	16	40%	6.4	-	24	24	0.21
F	22	Highway 101 Median	20	90%	18	-	68	68	0.59
F		TOTAL GROUP F			38	0	144	144	1.25
G	39	Adventist Christian	6	50%	3.0	-	11	11	0.10
G	40	Pacific West Christian	Included with Adventist			-	0	0	-
G	41	Luigi Aprea Elementary	8	50%	4	17	15	15	0.13
G	16	Del Rey Park	2.75	60%	1.7	13	6	6	0.05
G		TOTAL GROUP G			9	30	33	33	0.28
H	10	Forest Street Park	1.1	90%	1.0	-	4	4	0.03
H	29	Eliot Elementary	2.5	50%	1.3	8	5	5	0.04
H	42	del Buono Elementary	6	50%	3.0	17	11	11	0.10
H	43	San Ysidro Elementary	4.2	50%	2.1	-	8	8	0.07
H		TOTAL GROUP H			7.3	25	28	28	0.24
Agr.	45	Obata Farms (South) ³			225	344	555	555	6.71

Notes:

1. Source: South County Recycled Water Master Plan, 2004.
2. Source: South County Recycled Water System Report, 2010.
3. Obata Farms (South) estimated based on Obata Farms (North) projections from South County Recycled Water System Report.

4/29/2011

Table 24 - Recycled Water - 2005 UWMP Use Projection Compared to 2010 Actual

Recycled Water - 2005 UWMP Use Projection Compared to 2010 Actual		
Use Type	2010 Actual Use (mgd)	2005 Projection for 2010 (mgd)
Irrigation	1.32	0.63
Commercial	0.02	0
Industrial	1.30	0
Total	2.64	0.63

Table 25 - Methods to Encourage Recycled Water Use

Methods to Encourage Recycled Water Use	
Method Provided by:	Method:
Santa Clara Valley Water District / City of Gilroy	Financial Incentives applied to recycled water supplied by District

Table 26 - Future Water Supply Projects

Future Water Supply Projects								
Project Name	Projected State Date	Projected Completion Date	Potential Project Constraints	Normal Year Supply	Single-Dry Year Supply	Multiple-Dry Year Supply	Multiple-Dry Year Second Year Supply	Multiple-Dry Year Third Year Supply
No supply projects projected.								

Table 27 - Basis of Water Year Data

Basis of Water Year Data	
Water Year Type	Base Year(s)
Average Water Year	1985
Single-Dry Water Year	1977
Multiple-Dry Water Years	1987-1992

Table 28 - Supply Reliability - Historic Conditions

Supply Reliability - Historic Conditions						
Supply Units	Average / Normal	Single Dry Water	Multiple Dry Water Years ²			
	Water Year ¹	Year ¹	Year 1	Year 2	Year 3	Year 4
MGD	-	-	-	41.0	37.1	38.0
AFY	-	-	-	45,900	41,500	42,600

Note:

1. Historical groundwater records were not available prior to 1988.
2. Values given are groundwater production as recorded by SCVWD in the 2002/2003 Groundwater Conditions Report.

Table 29 - Factors Resulting in Inconsistency of Supply

Water Supply Sources	Specific Source Name, If Any	Factors Resulting in Inconsistency of Supply					Additional Information
		Limitation Quantification	Legal	Environmental	Water Quality	Climatic	
Groundwater	Well 1	Groundwater	no	no	no	no	
	Well 2	Groundwater	no	no	no	no	
	Well 3-02	Groundwater	no	no	no	no	
	Well 4	Groundwater	no	no	no	no	
	Well 5-02	Groundwater	no	no	no	no	
	Well 6	Groundwater	no	no	no	no	
	Well 7	Groundwater	no	no	no	no	
	Well 8	Groundwater	no	no	no	no	
	Well 8A	Groundwater	no	no	no	no	

Table 30 - Water Quality - Current and Projected Water Supply Impacts

Water Quality - Current and Projected Water Supply Impacts							
Water Source	Description of Condition	2010	2015	2020	2025	2030	2035 - opt
There are no current water quality concerns that are considered to negatively impact the water supply.							

Table 31 - Supply Reliability - Current Water Sources

Water Supply Sources	Average / Normal Water Year Supply	Multiple Dry Water Year Supply		
		Year 2011	Year 2012	Year 2013
Groundwater	23,000	21,000	21,000	21,000

Note:

1. Supply reliability is assumed to equal the availability of natural recharge.

Table 32 - Supply and Demand Comparison - Normal Year

	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Supply Totals (from Table 16)	17,907	18,734	20,534	22,334
Demand Totals (From Table 11)	9,059	8,878	9,670	10,462
Difference	8,848	9,856	10,864	11,872
Difference as % of Supply	49%	53%	53%	53%
Difference as % of Demand	98%	111%	112%	113%

Table 33 - Supply and Demand Comparison - Single Dry Year

Supply and Demand Comparison - Single Dry Year				
	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Supply Totals (from Table 16)	17,907	18,734	20,534	22,334
Demand Totals (From Table 11)	9,059	8,878	9,670	10,462
Difference	8,848	9,856	10,864	11,872
Difference as % of Supply	49%	53%	53%	53%
Difference as % of Demand	98%	111%	112%	113%

Table 34 - Supply and Demand Comparison - Multiple Dry-Year Events

		2015	2020	2025	2030
		(AFY)	(AFY)	(AFY)	(AFY)
Multiple-Dry Year First Year Supply	Supply Totals (from Table 16)	17,907	18,734	20,534	22,334
	Demand Totals (From Table 11)	9,059	8,878	9,670	10,462
	Difference	8,848	9,856	10,864	11,872
	Difference as % of Supply	49%	53%	53%	53%
	Difference as % of Demand	98%	111%	112%	113%
Multiple-Dry Year Second Year Supply	Supply Totals (from Table 16)	17,907	18,734	20,534	22,334
	Demand Totals (From Table 11)	9,059	8,878	9,670	10,462
	Difference	8,848	9,856	10,864	11,872
	Difference as % of Supply	49%	53%	53%	53%
	Difference as % of Demand	98%	111%	112%	113%
Multiple-Dry Year Third Year Supply	Supply Totals (from Table 16)	17,907	18,734	20,534	22,334
	Demand Totals (From Table 11)	9,059	8,878	9,670	10,462
	Difference	8,848	9,856	10,864	11,872
	Difference as % of Supply	49%	53%	53%	53%
	Difference as % of Demand	98%	111%	112%	113%

Table 35 - Water Short Contingency - Rationing Stages to Address Water Supply Shortages

Water Short Contingency - Rationing Stages to Address Water Supply Shortages		
Stage No.	Water Supply Conditions	% Shortage
1	Mild Shortage Potential	10 Percent
2	Moderate shortage Potential	25 Percent
3	Severe Shortage Potential	35 Percent
4	Critical Shortage Potential	50 Percent

Table 36 - Water Shortage Contingency - Mandatory Prohibitions

Water Shortage Contingency - Mandatory Prohibitions	
Examples of Prohibitions	Stage When
Stage 1 contains no prohibitions, only Supplier Actions	1
No Excessive Water Flow or Runoff	2
Fountains and Decorative Water Features without Recirculating Water	2
Commercial Lodging Establishments Must Provide Guests Option to Decline Daily Linen Services	2
Installation of Single Pass Cooling Systems	2
Installation of No-Recirculating in Commercial Car Wash and Laundry Systems	2
Restaurants Using Non-Conserving Dish Wash Spray Valves	2
Car Wash Systems without Recirculating Water	2
All Stage 2 Items, also including the following:	3
Filling Ornamental Lakes or Ponds beyond the extent needed to sustain aquatic life	3
Washing vehicles outside of commercial facilities	3
Limits on Filling Residential Swimming Pools and Spas	3
All Stage 2 and 3 Items, also including the following:	4
Watering or Irrigating except under special provisions	4

Table 37 - Water Shortage Contingency - Consumption Reduction Methods

Water Shortage Contingency - Consumption Reduction Methods		
Consumption	Stages When	Projected
Limits on Watering Days	2	
Limits on Watering Hours (9:00 am - 5:00 pm PST)	2	
Limits on Washing Down Hard or Paved Surfaces	2	
Obligation to Fix Leaks, Breaks or Malfunctions (7 days)	2	
Limits on Vehicle Washing	2	
Drinking Water Served Upon Request Only	2	
All Stage 2 Items, also including the following:	3	
Water Use Reduction Program with either: Surcharges or incentives on a per customer basis, or a rate increase or establishment of a tiered rate structure	3	
Watering Days Limited to two (2) days per week	3	
Obligation to Fix Leaks, Breaks or Malfunctions (3 days)	3	
All Stage 2 and 3 Items, also including the following:	4	
Obligation to Fix Leaks, Breaks or Malfunctions (24 hours)	4	
Limits on New Potable Water Service	4	
Discontinue Service to Violators	4	

Table 38 - Water Shortage Contingency - Penalties and Charges

Water Shortage Contingency - Penalties and Charges	
Penalties or Charges	Stage When Penalty Takes Effect
Misdemeanor punishable by a fine of \$500 or imprisonment not more than 30 days	Stage 3

Note:

1. Source: City of Gilroy Water Reduction Program, Revised 1992

APPENDIX D

SB610 Reports



City of Gilroy

**2008 Urban Service Area
Amendments**

**WATER SUPPLY
ASSESSMENT**

Prepared for

EMC Planning Group, Inc.

FINAL
(Revised)

Not all Amendments in this Report have
been approved, as of May 2011.

September 2009

A K E L
ENGINEERING GROUP, INC.



September 2, 2009

EMC PLANNING GROUP, INC.
301 Lighthouse Avenue, Suite C
Monterey, California 93940

Attention: Teri Wissler Adam
Principal

**Subject: City of Gilroy 2008 Urban Service Area Amendments
Water Supply Assessment**

Dear Teri:

We are pleased to submit this Water Supply Assessment (WSA) report for the 2008 Urban Service Area Amendments. This report is intended to evaluate the impact of these projects on the water supplies through a 20-year horizon.

The report quantifies the supply requirements for these projects and includes their potential impact on the City's supply availability, a revised City-wide water demand balance through 2030, discussions on the supply reliability, and supply vs. demand comparisons.

Many sections in this report refer to the City's 2005 Urban Water Management Plan, to the Santa Clara Valley Water District 2005 Urban Water Management Plan, and to other relevant reports and documents.

We are extending our thanks to EMC staff and to City staff, whose courtesy and cooperation were valuable components in completing this study and producing this report.

Sincerely,

AKEL ENGINEERING GROUP, INC.

Tony Akel, P.E.
Principal

Enclosure: Report

Copy: Rick Smelser, City Engineer
City of Gilroy

City of Gilroy
2008 Urban Service Area Amendments
Water Supply Assessment

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City of Gilroy
2008 Urban Service Area Amendments
Water Supply Assessment

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2008 Urban Service Area Amendments Water Supply Assessment

1.0 PURPOSE

This Water Supply Assessment (WSA) report for the Urban Service Area Amendments is intended to evaluate the impact of the projects' water demands on water supplies through a 20-year horizon.

The report includes a discussion of the projects' water demand requirements and potential impacts on the City of Gilroy's (City's) supply availability. This water supply assessment includes four separate projects within the City's 2008 Urban Service Area and an evaluation and discussion of the combined impact of the four projects.

The report also includes relevant excerpts from the City of Gilroy 2004 Water System Master Plan (2004 WSMP) and 2005 Urban Water Management Plan (2005 UWMP).

2.0 PROJECTS DESCRIPTIONS

The 2008 Urban Service Area Amendments describe four project sites, as shown on [Figure 1](#) and described in this section.

- **Shapell Industries** – This project is located south of the City of Gilroy, east of Thomas Road and Santa Teresa Boulevard, and south of Luchessa Avenue. This project is also known as the Thomas Neighborhood District and Gilroy Sports Park Properties.

The project area includes approximately 294.2 acres ([Figure 2](#)). The area is comprised of 181.4 acres of Neighborhood District, 85.5 acres Park/Recreational Facility, and 27.3 acres of General Service Commercial land use designation.

- **Gavilan College** – The Gavilan College USA Amendment is located at 5055 Santa Teresa Boulevard, south of the City of Gilroy.

The area consists of approximately 148 acres that includes the Gavilan College campus and a golf course. The project site has a land use designation of Educational Facility. Gavilan College anticipates that at some undetermined time in the future, they will redevelop the 37-acre golf course with 470 residential units and a Lifelong Learning Center ([Figure 3](#)).

- **Lucky Day** – This project is located on a property east of Burchell Road, north of Hecker Pass Highway, and adjacent to the City of Gilroy Municipal Golf Course.

The 284.7 acre project site land use designations are 221 acres of Park/Recreational Facility, 22.9 acres of Open Space, 31.5 acres of Hillside Residential, and 9.3 acres of Low Density Residential ([Figure 4](#)).

- **Wren Investors** – The Wren Investors project area is located north of the City of Gilroy between Wren and Kern Avenues, and Tatum and Vickery Avenues.

The 48 acre project site's land use designation is Neighborhood District ([Figure 5](#)).

[Table 1](#) lists the 2002 General Plan land use designations and acreages, and the current (September 2005) General Plan land use designations and acreages for each project. [Table 1](#) also includes the anticipated land uses as identified in the 2008 USA Amendments. [Appendix A](#) lists additional land use information, including number of dwelling units and commercial floor space, of the 2008 USA Amendments land uses for each of these projects.

3.0 RELEVANT REPORTS

Several reports provide detailed information and factual data related to this analysis. Exhibits from these reports were included in the appendices for ease of referencing.

- **2008 Urban Service Area Amendments.** These documents include information specific to the Urban Service Area (USA) Amendments for each of the included project areas. The documents describe the location, size, and land uses for the amendments.
- **City of Gilroy, 2005 Urban Water Management Plan (2005 UWMP).** The City's 2005 Urban Water Management Plan, which has been adopted by Council and submitted to the Department of Water Resources (DWR), addresses the requirements of the Urban Water Management Planning Act and includes the following elements: existing and future water demand projections, existing water supply facilities, groundwater basin condition, water demand management measures, and a water shortage contingency plan. This plan was the basis for developing the WSA for this project.
- **City of Gilroy, 2004 Water System Master Plan (2004 WSMP).** The City's 2004 Water System Master Plan presents historical and projected water demands through 2030, identifies existing and future water system capacity deficiencies, recommends projects to correct these deficiencies, and identifies major water facilities for servicing future developments. These facilities include transmission mains, storage reservoirs, and supply wells. Population projections in the City's 2005 UWMP are consistent with this WSMP.
- **South County Recycled Water Master Plan (2004 SCRWMP).** This study, which was prepared for the SCVWD and the South County Regional Water Authority (SCRWA), evaluates the potential immediate term and long-term users and proposes recommended expansions of the existing recycled water system.

- **Santa Clara Valley Water District, 2005 Urban Water Management Plan (SCVWD 2005 UWMP).** This report is intended to meet the requirements of the California Urban Water Management Planning Act and to present important information on water supply, water usage, recycled water and water use efficiency programs in Santa Clara County. It also serves as a valuable resource for securing and sustaining the water supply future for Santa Clara County, through 2030.
- **Santa Clara Valley Water District, Integrated Water Resources Planning Study (SCVWD 2003 IWRPS).** This report documents the planning framework and supporting modeling tools that enable the District to identify and select specific water investment resources. The planning framework serves as a guide to assist ongoing analysis of the water supply alternatives and challenges that face the District.
- **City of Gilroy General Plan (2002).** This plan was the basis for the preparation of the 2004 Water System Master Plan.
- **Santa Clara Valley Water District, Groundwater Management Plan (SCVWD 2001 GMP).** This report documents groundwater management programs and goals for ensuring the groundwater resources are sustained and protected throughout the Santa Clara Valley Water District (District). The report includes groundwater supply management programs that replenish the groundwater basin, sustain the basin's water supplies, address groundwater conditions, and sustain storage reserves for use during dry periods. The report also includes groundwater monitoring programs that provide data to assist the District in evaluating and managing the groundwater basin.

4.0 PROJECTS WATER REQUIREMENTS

The projected water demands in the 2005 UWMP were based on assumptions documented in the 2004 WSMP. The subject project sites have been within the City's ultimate growth boundary since the 2002 General Plan was completed and were included in the demand calculations in the 2004 WSMP.

Therefore, the 2005 UWMP generally addressed the water supply requirements for development on these properties, based on the City's 2002 Land Use Element of the General Plan.

Since the Land Use Element of the General Plan was updated in September 2005, the projects' water demand requirements also needed to be updated accordingly.

The land uses for the Shapell Industries, Lucky Day, and Gavilan College projects are generally consistent with the 2002 General Plan land use assumptions, as used in the 2004 WSMP, for estimating water demands. The Wren Investors project land use assumptions have been modified slightly from the 2002 General Plan land use assumptions.

However, more specific land use information regarding the anticipated uses for the project areas was provided as part of the 2008 USA Amendments. These anticipated land uses include

changes from the 2002 General Plan land use designations for the Gavilan College and Wren Investors properties. Although the 2008 USA Amendments anticipated land uses do not create a change in the current (September 2005) General Plan land use designations, they are considered to be relevant to the project areas' water demands and were thus used for the purposes of this Water Supply Assessment.

4.1 Demand Analysis Using 2004 WSMP Methodology

The methodology for estimating and projecting water demands in the 2004 WSMP (and 2005 UWMP) is typical of water master plans and was based on water demand coefficients. These coefficients are unit factors based on acreages and they vary depending on the land use types. They are higher for land use types requiring larger amounts of water.

These coefficients, which are usually expressed in gallons per day per acre, are applied to acres (based on their land use designation) for calculating the average water demands. It should be noted that the coefficients used in the 2004 WSMP are considered conservative and have generally yielded conservative projections of water demands.

As an example, historical water consumption data, 1990 through 2000, compared with historical populations yielded an average of 161 gpd/c. More recent per capita consumptions, 2006 through 2008, indicate this coefficient averages at 164 gpd/c. The 2004 WSMP demand projections are based on a water consumption factor of 180 gpd/c, which is approximately 10 percent higher than actual water use.

The 2002 General Plan land uses, 2004 WSMP land use coefficients, and corresponding water requirements for the projects are listed in [Table 2](#). The 2004 WSMP and 2005 UWMP estimated the demand projections at buildout for the combined projects at approximately 1,025 acre feet per year (AFY).

4.2 Updated Demands and Comparison with 2004 WSMP

In comparison, applying the same unit factors to the revised land use information from the 2008 USA Amendments yields the revised projections shown on [Table 2](#). The demands for the individual projects were calculated as follows: 537 AFY for the Shapell Industries project, 149 AFY for the Gavilan College property, 268 AFY for the Lucky Day project, and 70 AFY for the Wren Investors site.

[Table 2](#) also shows the increase in demand estimates, between the 2004 WSMP and the 2008 USA Amendments revised land uses, totaling **108 AFY**.

5.0 CITY-WIDE WATER BALANCE UPDATE

This study included a City-wide water balance update that revisited the assumptions used in the 2002 Water System Master Plan and 2005 Urban Water Management Plan. [Table 3](#) provides a

summary of the water balance listing the water demand projections developed in the 2004 WSMP and used in the 2005 UWMP.

5.1 2004 WSMP and 2005 UWMP City-Wide Water Balance

The projected 2030 water demands, as calculated in the 2004 WSMP and as reflected in the 2005 UWMP, are estimated at 14,786 AFY (Table 3). It should be noted that the coefficients used for these projections reflect low conservation efforts for residential and non-residential land uses.

The coefficients used in Table 2 for estimating water demands at 2030 are deemed conservative, and equate to approximately 180 gallons per day per capita (gpcd). These are considered conservative, compared to actual and recent per capita consumptions of 164 gpcd, as discussed in a previous section.

The City's 2005 UWMP used the same projections as the 2004 WSMP and did not take credit for additional water conservation practices.

5.2 Projected vs. Actual Domestic Water Demands

For comparison purposes, Table 3 also lists the actual water productions between 2005 and 2008 and compares them with projected values listed in the 2004 WSMP and 2005 UWMP. The comparison is further shown graphically on Figure 6. The following conclusions are drawn from the comparisons on that table:

- In 2005, there was a demand surplus of 1,345 AFY
- This surplus is tracked back to the 2004 WSMP, where for the 2005 period used coefficients that were equivalent to 180 gpcd, compared to the actual per capita consumption of 160-164 gpcd. Thus the surplus consists of a conservative allowance used for master planning purposes.
- Comparisons for 2006 and 2007 indicate no change in 2004 WSMP surplus.
- Comparisons for 2008 indicate the surplus has increased to 1,569 AFY. The increase in the surplus of approximately 224 AFY may be attributed to many factors including conservation efforts or slower than anticipated growth.

6.0 ANTICIPATED FUTURE DOMESTIC WATER REDUCTIONS

It is expected that the projected surplus will be maintained or increased in future forecasts due to the City's conservation practices, the revised District projections for the Llagas Subbasin and which account for the District's ongoing water conservation programs, impact of land use conversion from agricultural to municipal and industrial, and water recycling.

6.1 Impact of Land Use Conversion from Agricultural to Municipal and Industrial

The current City inventory of agricultural lands was obtained from the Farmland Mapping and Monitoring Program (FMMP) maintained by the California Department of Conservation Division of Land Use Resource Protection ([Figure 7](#)). The mapping, dated 2007, indicates the agricultural lands anticipated to convert to municipal and industrial uses, within the City's 20-year planning boundary, is approximately 12,990 acres.

This study did not include a detailed analysis of historical crops on the existing agricultural lands, but it is anticipated that such a study may demonstrate a reduction in groundwater pumping when the agricultural lands convert to municipal and industrial uses. The City's 2005 UWMP did not account for reduction in pumping that may result from this conversion.

6.2 South County Recycled Water System

The South County Regional Wastewater Authority (SCRWA) operates an existing recycled water system in the City of Gilroy. The Santa Clara Valley Water District and SCRWA intend to expand the use of the existing system by converting potential users. The South County Recycled Water Master Plan (October 2004) identified the potential immediate term and long-term users. The plan recommended a phased implementation for converting users to the recycled water system

The SCVWD and SCRWA are currently in the process of updating the immediate-term users and implementing the phased construction of the expanded recycled water system, as shown on [Figure 8](#). The figure also shows that the Shapell Industries and Gavilan College projects, as well as the Lucky Day project, are within reasonable proximity to the existing and planned recycled water infrastructure.

The opportunities for recycled water from each project was estimated and summarized in [Table 4](#). The demand forecasts for recycled water opportunities for each project are as follows: 306 AFY for the Shapell Industries project, 21 AFY for the Gavilan College property, 256 AFY for the Lucky Day project, and 57 AFY for the Wren Investors site. It should be noted that the Gavilan College has existing demands that may also be converted to the recycled water system.

The opportunity for conversion to the recycled water system is thus estimated at **641 AFY**.

6.3 SCVWD South County Water Supply Plan - 2030 Groundwater Demands (June 26, 2007)

The purpose of this memorandum was to document 2030 groundwater demands and pumping distribution for the purpose of determining the baseline water supply conditions for the South County Water Supply Plan project. The groundwater demands were based on documented assumptions and were generally consistent with the District 2005 Urban Water Management Plan.

One of the assumptions of this plan included 2030 municipal and industrial (M&I) conservation estimated at 4,092 acre-feet per year (AFY), based on 2000 Baseline and 2003 Integrated Water

Resources Plan (2003 IWRP) “No Regrets” Conservation. A conservation factor of 0.87, equal to 2030 conservation divided by 2030 M&I demand, was applied in this memorandum.

According to District staff, and as documented by the memorandum calculations, the water conservation efforts are anticipated to result with reduction of the City of Gilroy 2030 demands from the Llagas Subbasin to 10,914 AFY. Comparing this new projection to the City’s 2005 UWMP projection for the Llagas subbasin of 14,786 AFY, results with an estimated conservation of **4,311 AFY** in 2030 ([Table 5](#)).

6.4 Water Conservation Recommendations

The District recommends that new residential and commercial developments incorporate baseline water conservation measures, as well as enhanced conservation as identified in the District’s 2005 UWMP to the maximum extent practicable. This includes water-saving measures and the most current water conserving technologies/practices available.

In order to meet water supply goals for normal, single dry and multiple dry years, enhanced conservation is recommended to the maximum extent practicable, including, but not limited to:

- Construction standards that require high-efficiency fixtures (for example, high-efficiency washing machines and high-efficiency 1.2 gallons-per-flush toilets rather than the 1.6 gallon per flush as required by Code);
- Implementation of high-efficiency devices for outdoor water uses (such as self-adjusting weather-based irrigation controllers - also known as “Smart Controllers”)
- Enforcement of the City’s Model Efficient Landscape Ordinance (as per AB325 1990);
- Metering or sub-metering is highly recommended for each individual unit
- Dual plumbing for interior recycled water use where practical;
- Promotion and use of low-water using and climate appropriate plants

The District recommends that water conservation measures be employed both indoor and outdoor to the maximum extent practicable.

7.0 GROUNDWATER BASIN

The groundwater basin underlying the City, the Llagas Subbasin, is a part of the Gilroy/Hollister Valley Basin, though it is managed by the Santa Clara Valley Water District. The Gilroy/Hollister Valley Basin is not an adjudicated groundwater basin, as defined by the California Water Plan Update 2005.

According to the SCVWD 2001 Groundwater Management Plan, the groundwater basin is divided into three interconnected subbasins that transmit, filter, and store water. These basins are shown

in [Appendix E](#). The Llagas Subbasin is approximately 15 miles long and extends southward, from Cochran Road near Morgan Hill to the County's southern boundary. It should be noted that the Llagas Subbasin is not part of the Santa Clara Valley Basin, but rather a part of the Gilroy/Hollister Valley Basin.

Current and projected water supplies from the Llagas and Coyote subbasins, shown on [Table 6](#), were extracted from the District's 2005 UWMP and from the City's 2005 UWMP.

The District's 2003 IWRP created the "No Regrets" portfolio of supply alternatives to help ensure reliability. The portfolio was assigned that name because its implementation is unlikely to cause future regrets. The portfolio projects County-wide annual savings from agricultural and municipal and industrial conservation, additional groundwater recharge capacity, and an additional capacity in the Semitropic Water Bank. Other projects and programs included conservation, water recycling, and desalination. The District's current water recycling program map, including the south county, is shown in [Appendix E](#).

The Coyote Subbasin is 7 miles long and extends north of the Llagas Subbasin divide. The Coyote Subbasin generally drains into the Santa Clara Valley Subbasin.

According to the California Water Plan Update 2005, the City of Gilroy lies within the Central Coast Hydrologic Region ([Appendix F, Figure 1.1](#)). This hydrologic region's water balance summary is shown in [Appendix F, Table 4.1](#).

The Santa Clara Valley groundwater management plan includes groundwater supply management programs that replenish the groundwater basin, sustain the basin's water supplies, help to mitigate groundwater overdraft, and sustain storage reserves for use during dry periods. The report also includes groundwater monitoring programs that provide data to assist the District in evaluating and managing the groundwater basin.

In the current consecutive dry years, imported water, which is utilized to replenish Llagas sub-basin, has experienced cutbacks due to regulatory and environmental constraints in the Delta. In addition, the District is projecting that climate change will provide a negative impact to the Sierra snowpack, further reducing the reliability of the imported water, and that the Llagas subbasin will experience a shortfall of 4,000 to 16,000 acre-feet of water.

Over-drafting the subbasin could alter the hydraulic gradient and thus resulting in adverse impacts to water quality, particularly in Gilroy area. Therefore, it is very important that new developments use recycled water to mitigate the new water demand. Installing recycled water facilities in new development is also a cost effective way of maximizing use of recycled water because the retrofit cost is avoided.

Additionally, the City of Gilroy is aggressively pursuing overdraft prevention through Demand Management Measures (DMM) and recycling, as delineated in the 2005 UWMP.

8.0 WATER SUPPLY RELIABILITY

The supply reliability is considered for the near-term needs (present to 2010) and the long term needs (2010-2025). There are two aspects of supply reliability to be considered. The first relates to immediate service needs and is primarily a function of the availability and adequacy of the supply facilities. This aspect is considered for emergency reliability. The second aspect is climate-related, and involves the availability of water during mild or severe drought periods.

8.1 Groundwater Supply Facilities

The City of Gilroy currently utilizes local groundwater as its primary source of supply, and utilizes recycled water as the supplemental supply. Water supply for the municipal water system is extracted from underground aquifers via eight active groundwater wells scattered throughout the City ([Table 7](#)). The City pays a groundwater production charge to the Santa Clara Valley Water District (SCVWD), which is the principal groundwater management agency in the Santa Clara Valley. The District also serves as a major water wholesaler for the County and is the contracting agency for both the State Water Project and the Federal Central Valley Project.

The City has been constructing water transmission main facilities and storage reservoirs, in accordance with the 2004 WSMP. For enhanced City-wide reliability to the water supply, the City recently added Well No. 3 with a design capacity of 3.4 MGD. The City's storage facilities will also enhance long-term reliability. These facilities provide emergency storage sufficient to handle the service area needs during power outages or other emergencies. Adding supply and distribution system enhancements will also add reliability through redundancy.

It should be noted that there has been some preliminary discussion with the District regarding the potential planning of a potable water treatment plant to be located in the South County area as reported in the 2003 Integrated Water Resources Planning Study. However, there has been no proposal for this project, and no current plans suggest this as a potential opportunity. The District currently owns and operates three treatment facilities in the North County and sells treated surface water to retailers.

8.2 Supply during Single Dry and Multiple Dry Years

As stipulated in the City's 2005 UWMP, the District findings indicate "that they can maintain reliable supplies under historic hydrology for the period from 2005 through 2030, with development of additional supplies they outlined." Supply reliability for single dry and multiple dry years were discussed in the City's 2005 UWMP, as summarized on [Table 8](#) and shown on [Figure 9](#).

The annual quantity of available groundwater is addressed in the District' 2005 UWMP, Section 6, on a County basis.

9.0 SUPPLY AND DEMAND COMPARISON

City-wide comparisons of projected supplies and demands are shown in [Table 9](#). Based on the analysis in this study, the 2030 water demand projections are expected to remain as documented in the City's 2005 UWMP. Based on the City's current plans to increase the water supply capabilities to meet maximum day demands and to provide standby production capabilities, the supply capacity will meet the demand requirements through 2030.

[Table 9](#) indicates a total water demand of approximately 14,786 acre-feet projected for year 2030, compared with a similar projected supply capability for that same year.

10.0 SUMMARY

The City of Gilroy and the Santa Clara Valley Water Districts have both completed and adopted their 2005 Urban Water Management Plans, and both submitted their plans to the Department of Water Resources (DWR). The plans address the requirements of the Urban Water Management Planning Act and include the elements intended to meet the requirements of the Act including quantifying existing and future water demand projections, existing water supply facilities, groundwater basin conditions, water demand management measures, water shortage contingency plans, and collaborative efforts and strategies for managing the water supply resource.

The projected water demands in the 2005 UWMP were based on assumptions documented in the 2004 WSMP. The subject project sites have been within the City's ultimate growth boundary since the 2002 General Plan was completed and were included in the 2004 WSMP demand projections, through the planning year of 2030.

The 2005 UWMP generally addressed the water demands required for development on these properties, based on the City's 2002 Land Use Element of the General Plan. Since the Land Use Element of the General Plan was updated in September 2005, the projects' water demand requirements were updated accordingly.

More specific information regarding the anticipated land uses for the project areas was also provided in the 2008 Urban Service Area Amendments and was used for verifying the projects water demands. [Table 2](#) shows the increase in demand estimates, between the 2004 WSMP and the 2008 USA Amendments revised land uses, totals **108 AFY**.

The 2004 Water System Master Plan included a conservative projection surplus estimated at **1,345 AFY**. It is expected that the projected surplus will be maintained or increased in future forecasts due to the City's conservation practices, the revised District projections for the Llagas Subbasin and which account for the District ongoing water conservation programs, impact of land use conversion from agricultural to municipal and industrial, and water recycling.

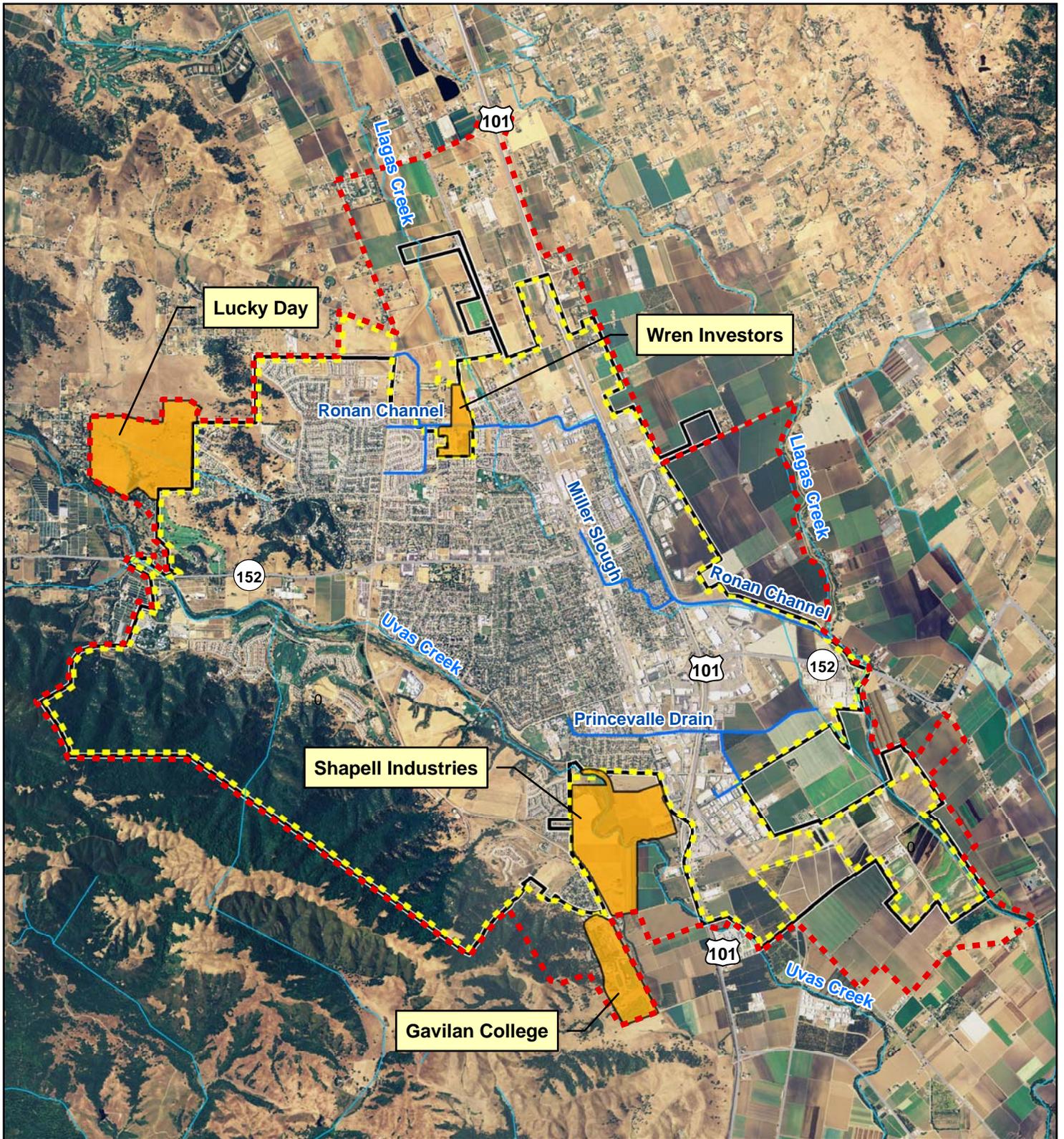
11.0 CONCLUSIONS

The following conclusions were discussed in the report and are summarized herein:

- The 2005 UWMP generally addressed the water supply requirements through 2030 for development on these properties, based on the City's 2002 Land Use Element of the General Plan.
- The demand projection update indicates that the USA Amendments will increase the 2004 WSMP demand projections by **108 AFY**
- The 2004 Water System Master Plan included a conservative projection surplus estimated at 1,345 AFY.
- Recycled water opportunities from the projects are estimated at 641 AFY.
- There is projected conservation of approximately 4,311 AFY from the Llagas Subbasin, per the District's memorandum (2007).

Therefore, the demand increase for the 2008 USA Amendments is offset by the 2004 WSMP surplus demand, the recycled water opportunities, and the projected conservation from the Llagas Subbasin.

FIGURES

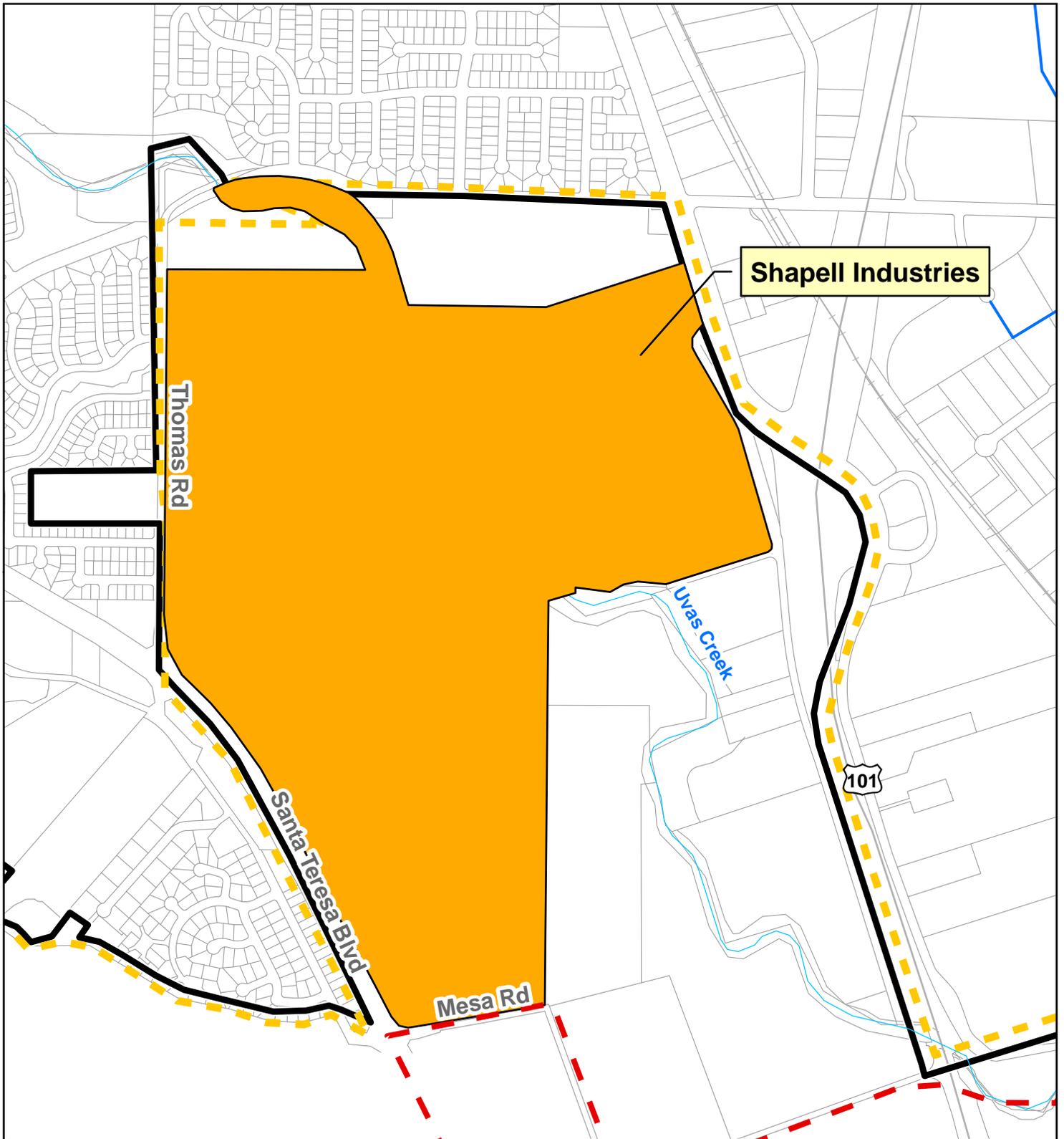


Legend

- Project Areas
- 20 Year Planning Boundary
- Urban Service Area
- City Limits
- Water Channels
- Creeks
- Roads
- Railroads
- Highways

Figure 1
Project Locations
 Water Supply Assessment
 City of Gilroy





Shapell Industries

Thomas Rd

Santa Teresa Blvd

Mesa Rd

Uvas Creek

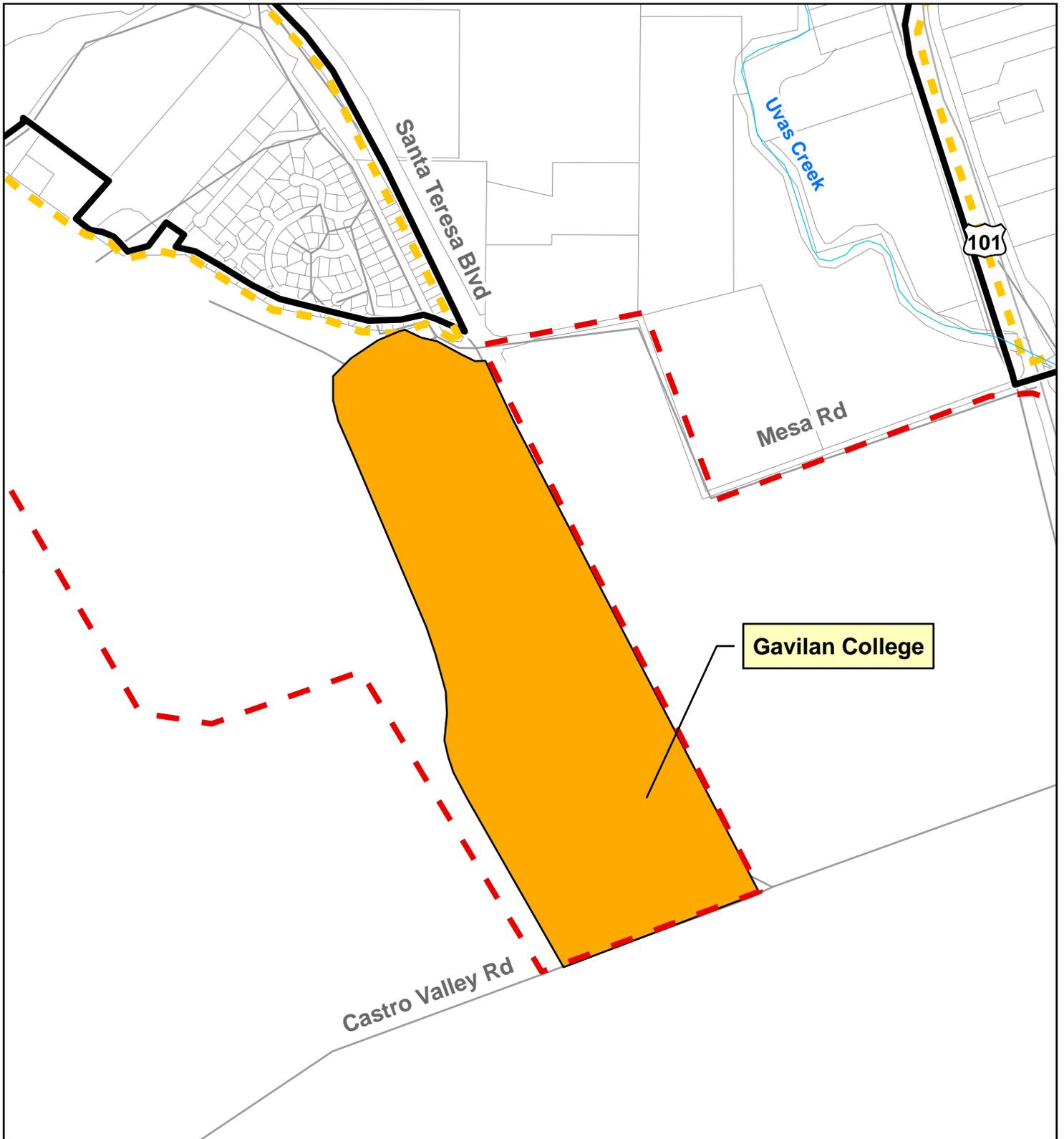
101

Legend

-  Shapell Industries
-  20 Year Planning Boundary
-  Urban Service Area
-  City Limits
-  Water Channels
-  Creeks
-  Base Map
-  Roads
-  Railroads
-  Highways

Figure 2
Shapell Industries
 Water Supply Assessment
 City of Gilroy



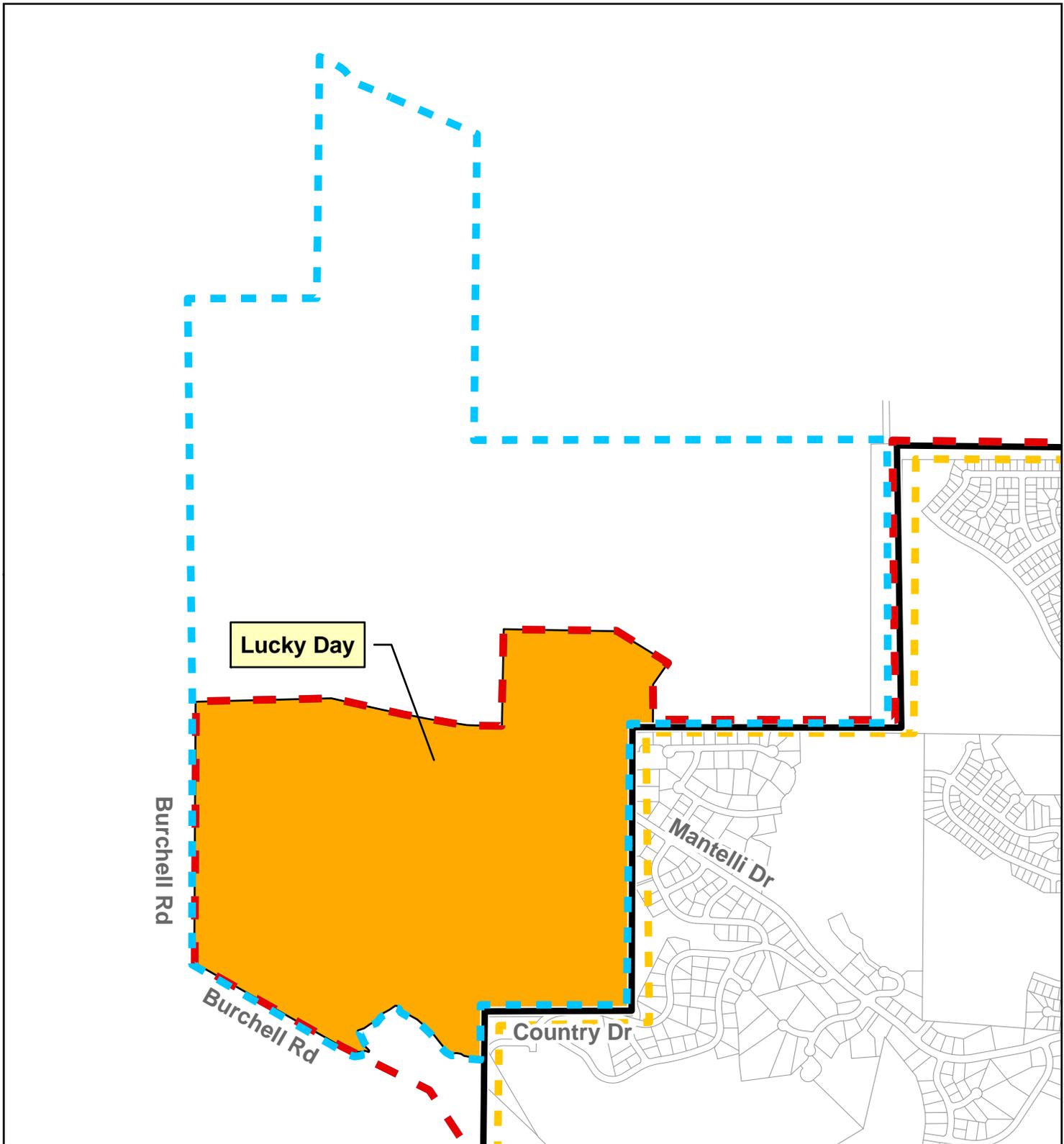


Legend

-  Gavilan College
-  20 Year Planning Boundary
-  Urban Service Area
-  City Limits
-  Water Channels
-  Creeks
-  Base Map
-  Roads
-  Railroads
-  Highways

Figure 3
Gavilan College
 Water Supply Assessment
 City of Gilroy





Legend

- Lucky Day
- Property Boundary
- 20 Year Planning Boundary
- City Limits
- Urban Service Area
- Water Channels
- Creeks
- Roads
- Railroads
- Base Map
- Highways

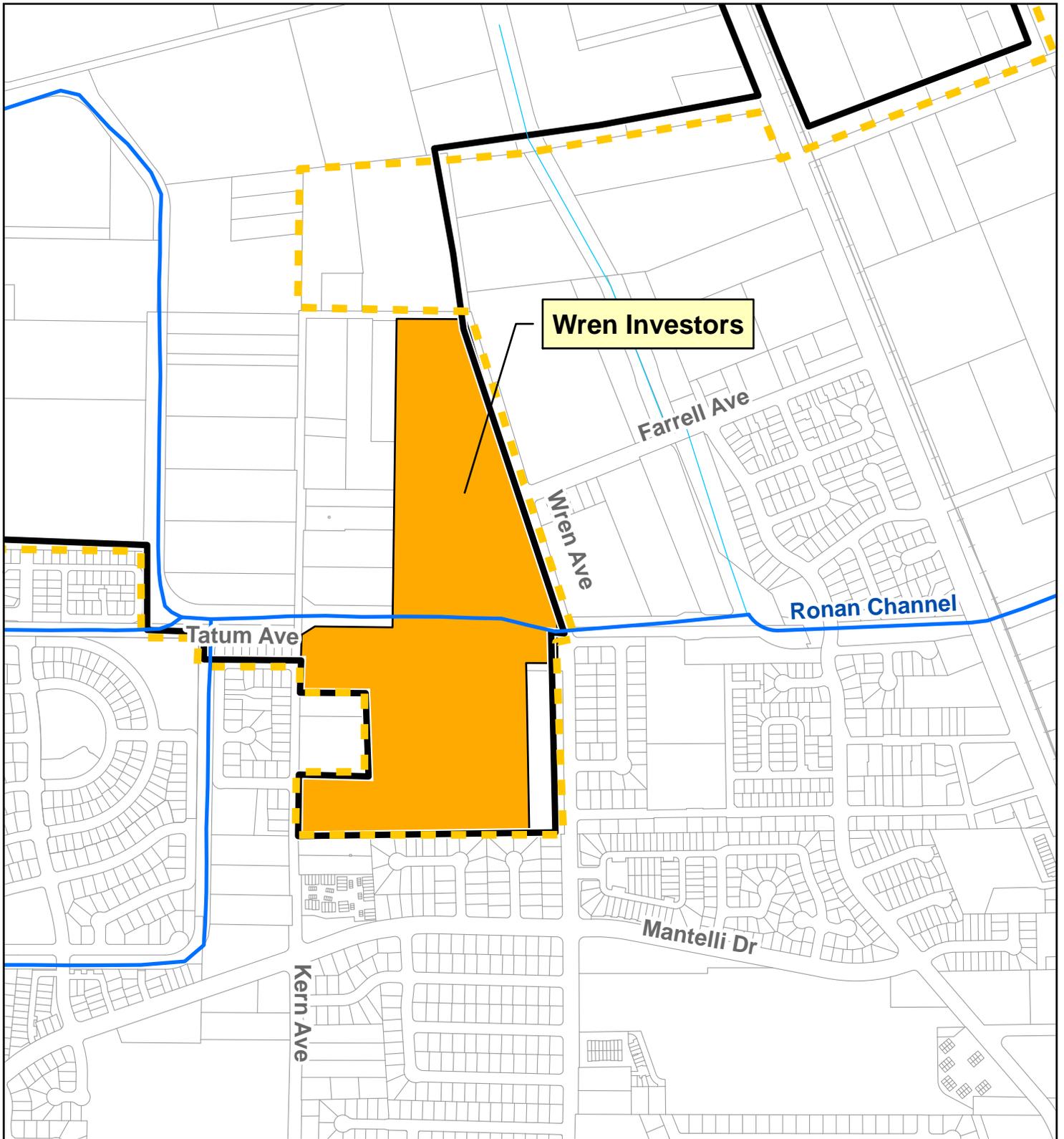
Figure 4
Lucky Day
 Water Supply Assessment
 City of Gilroy



Updated: August 28, 2009

0 250 500 1,000 Feet





Wren Investors

Farrell Ave

Wren Ave

Ronan Channel

Tatum Ave

Kern Ave

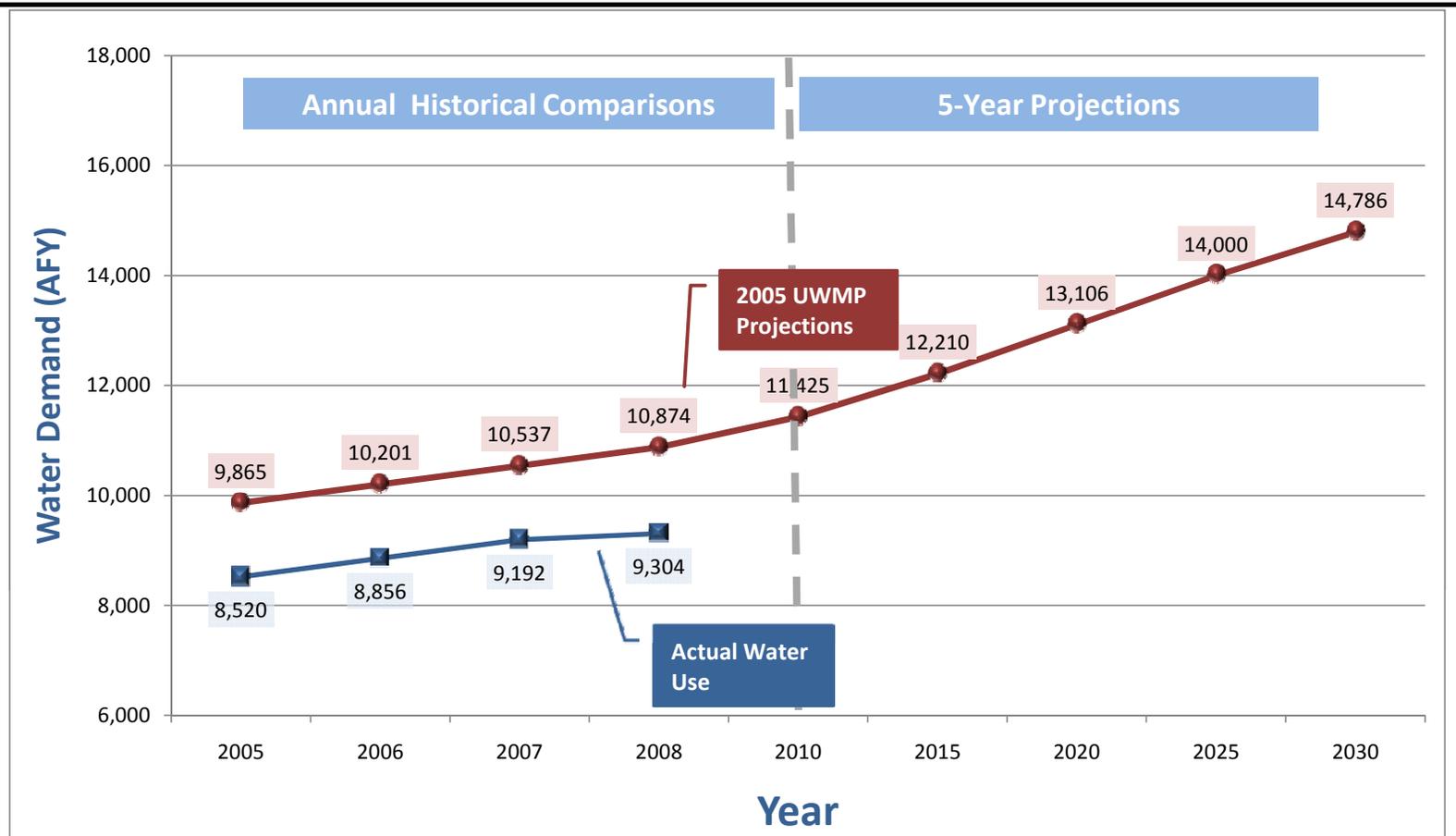
Mantelli Dr

Legend

-  Wren Investors
-  20 Year Planning Boundary
-  Urban Service Area
-  City Limits
-  Water Channels
-  Creeks
-  Base Map
-  Roads
-  Railroads
-  Highways

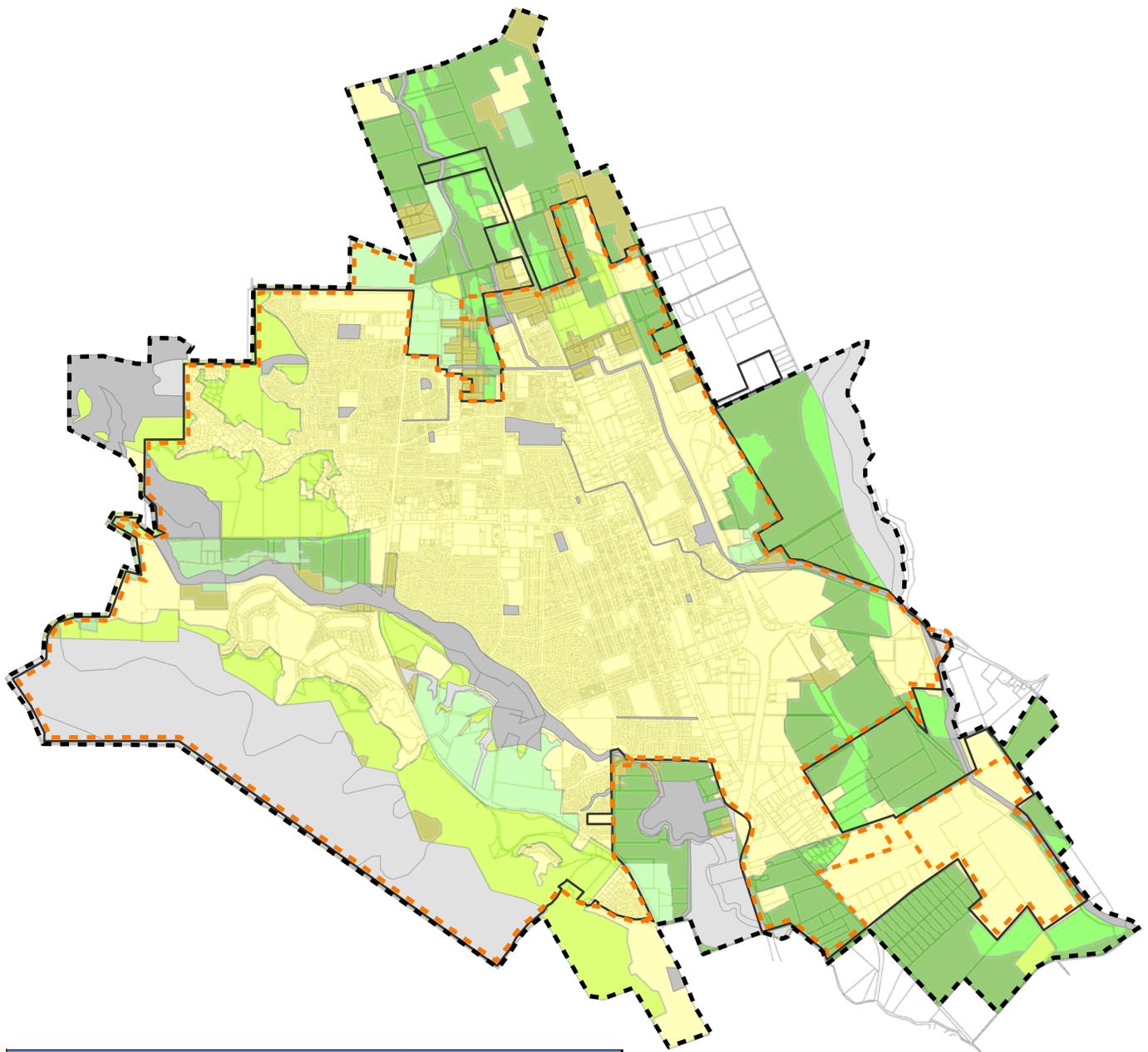
Figure 5
Wren Investors
 Water Supply Assessment
 City of Gilroy





3/2/2009

Figure 6
 Projected and Actual Water Demands Comparison
 2008 USA Amendments - Water Supply Assessment
 City of Gilroy



Land Type	Total Area (Acres)	Open Space	Park & Recreation	Net Conversion
Prime Farmland	2,882.1	239.0	132.4	2,643.1
Farmland of Statewide Importance	758.2	112.4	32.7	645.8
Unique Farmland	221.0	20.9	39.2	200.1
Farmland of Local Importance	515.8	5.3	9.7	510.5
Grazing Land	2,416.1	610.8	278.1	1,805.3
Urban & Built-up Land	6,496.9	21.2	266.3	6,475.7
Other Land	1,542.4	832.8	177.9	709.6
Totals:	14,832.5	1,842.5	936.3	12,990.1

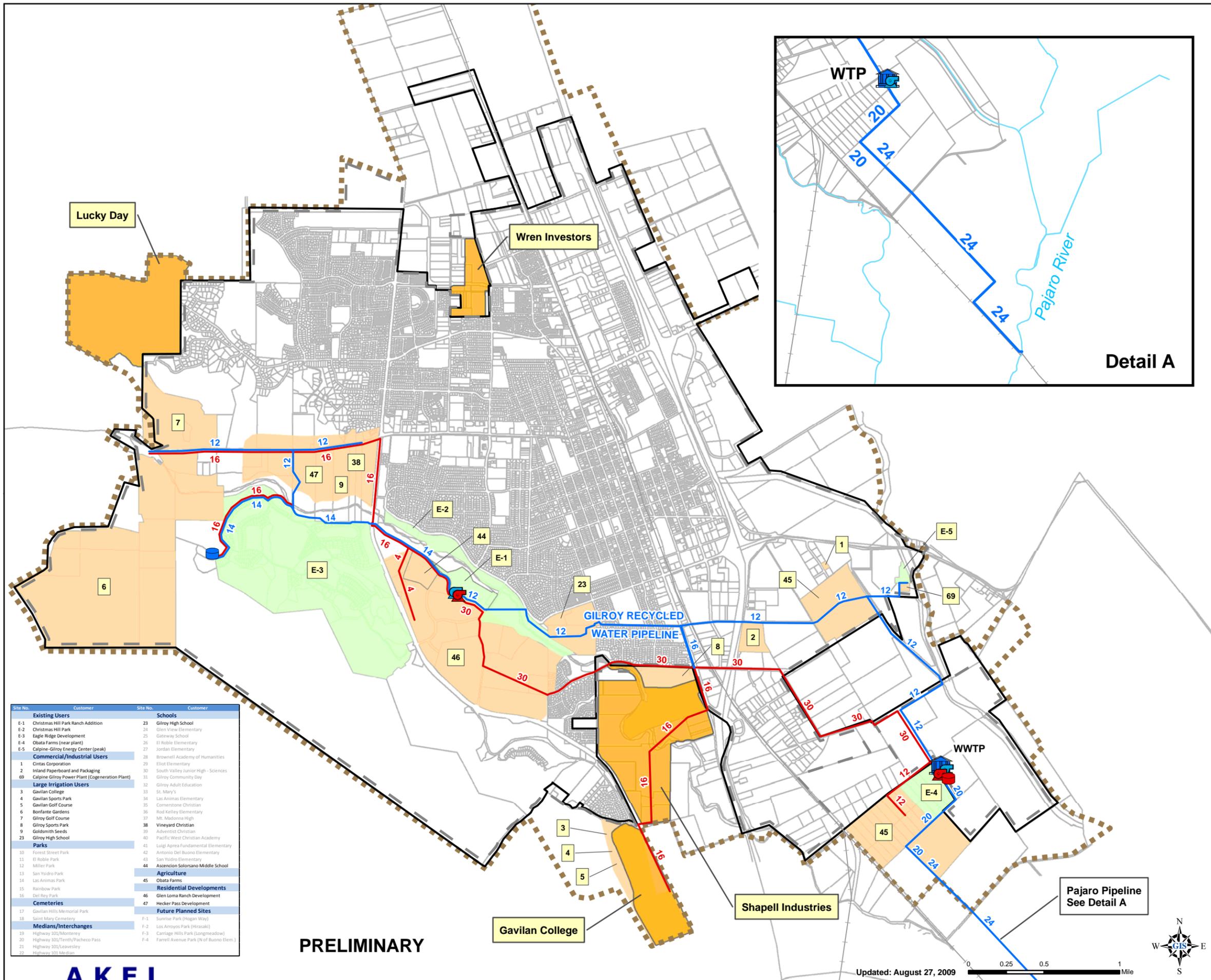
Data Source: State of California Department of Conservation Division of Land Resource Protection/Farmland Mapping & Monitoring Program (FMMP)

Legend

- FMMP 2006 Land Designations**
- Urban & Built-up Land
 - Grazing Land
 - Farmland of Local Importance
 - Prime Farmland
 - Farmland of Statewide Importance
 - Unique Farmland
 - Other Land
 - Park and Recreation
 - Open Space
 - Base Map
 - City Limits
 - Urban Service Area
 - 20 Year Planning Boundary

Figure 7
Agricultural Lands
Conversion within the 20 Year
Planning Boundary
 Water Supply Assessment
 City of Gilroy





Legend

Existing

- WWTP
- Booster Station
- Storage Tank
- Existing Recycled Water Pipeline

Future

- Storage Tank
- Booster Station
- Future Recycled Water Pipeline
- Existing Users
- Future Users
- USA Amendment Project Areas
- City Limits
- Urban Service Area
- 20 Year Planning Boundary
- Roads
- Railroads

Site No.	Customer	Site No.	Customer
Existing Users			
E-1	Christmas Hill Park Ranch Addition	23	Gilroy High School
E-2	Christmas Hill Park	24	Green View Elementary
E-3	Eagle Ridge Development	25	Gateway School
E-4	Obata Farms (near plant)	26	El Roble Elementary
E-5	Calpine-Gilroy Energy Center (peak)	27	Jordan Elementary
Commercial/Industrial Users			
1	Cintas Corporation	28	Brownell Academy of Humanities
2	Inland Paperboard and Packaging	29	Elliot Elementary
69	Calpine Gilroy Power Plant (Cogeneration Plant)	30	South Valley Junior High - Sciences
Large Irrigation Users			
3	Gavilan College	31	Gilroy Community Day
4	Gavilan Sports Park	32	Gilroy Adult Education
5	Gavilan Golf Course	33	St. Mary's
6	Bonifant Gardens	34	Las Animas Elementary
7	Gilroy Golf Course	35	Cornerstone Christian
8	Gilroy Sports Park	36	Rodi Kelley Elementary
9	Goldsmith Seeds	37	Mt. Madonna High
23	Gilroy High School	38	Vineyard Christian
Parks			
10	Forest Street Park	39	Adventist Christian
11	El Roble Park	40	Pacific West Christian Academy
12	Miller Park	41	Lugo Agnes Fundamental Elementary
13	San Ysidro Park	42	Antonio Del Buono Elementary
14	Las Animas Park	43	San Ysidro Elementary
15	Rainbow Park	44	Ascension Solaresano Middle School
16	Del Rey Park	Agriculture	
Cemeteries			
17	Gavilan Hills Memorial Park	45	Obata Farms
18	Saint Mary Cemetery	Residential Developments	
Medians/Interchanges			
19	Highway 101/Monterey	46	Glen Loma Ranch Development
20	Highway 101/Tenth/Pacheco Pass	47	Hecker Pass Development
21	Highway 101/Leavesley	Future Planned Sites	
22	Highway 102 Median	F-1	Joanne Park (Wagon Way)
		F-2	Los Arroyos Park (Hirasaki)
		F-3	Carriage Hills Park (Longmeadow)
		F-4	Farrell Avenue Park (N of Buono Elem.)

PRELIMINARY



Figure 8
Existing and Future Recycled Water System and Users
Water Supply Assessment
City of Gilroy



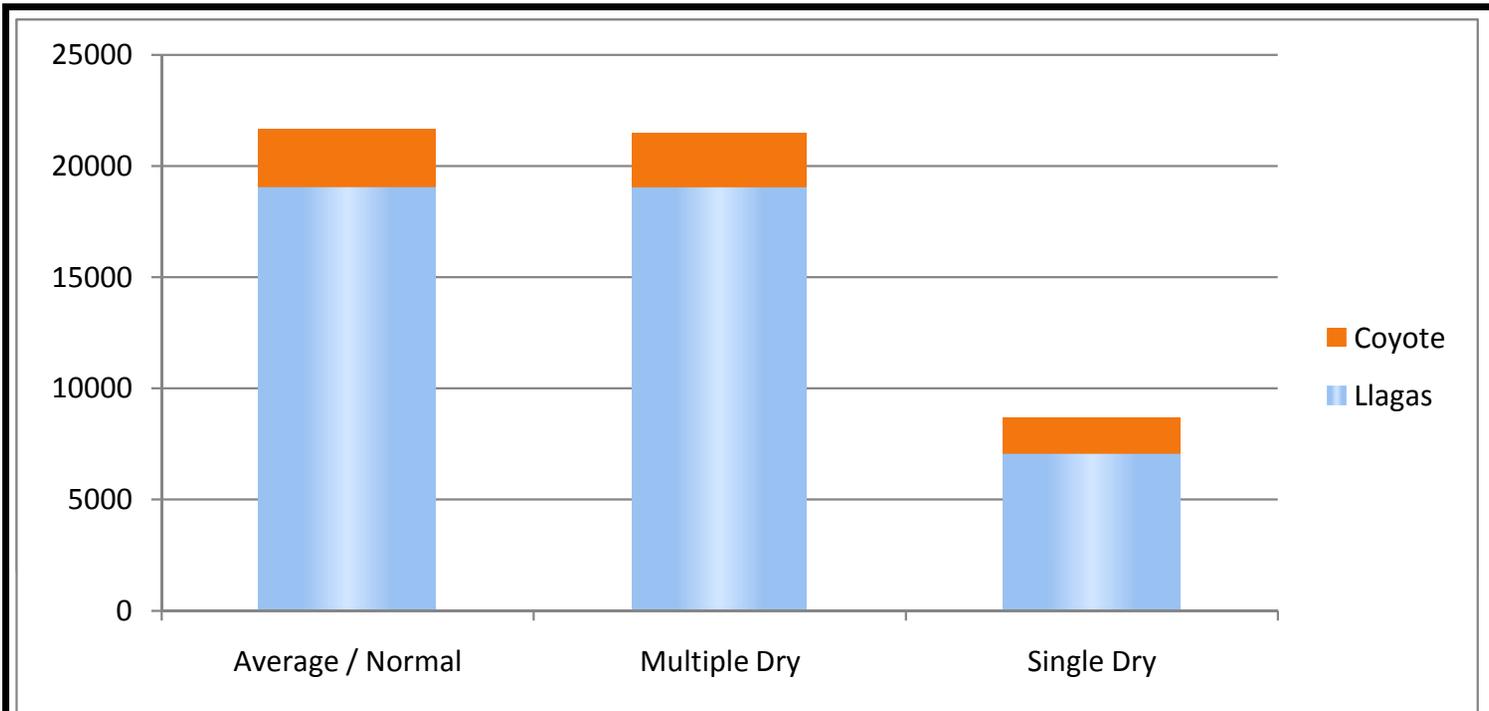


Figure 9
Supply Reliability for Llagas and Coyote Subbasins
 2008 USA Amendments - Water Supply Assessment
 City of Gilroy

**2008 Urban Service Area Amendments
Water Supply Assessment**

TABLES

Table 1 Projects Land Use

2008 USA Amendments - Water Supply Assessment

City of Gilroy

Land Use	General Plan Land Use Designations										Anticipated Land Uses 2008 USA Amendments ²				
	2002 General Plan ¹					2005 General Plan					Shapell Industries	Gavilan College	Lucky Day	Wren Investors	Total
	Shapell Industries	Gavilan College	Lucky Day	Wren Investors	Total	Shapell Industries	Gavilan College	Lucky Day	Wren Investors	Total					
(AC)	(AC)	(AC)	(AC)	(AC)	(AC)	(AC)	(AC)	(AC)	(AC)	(AC)	(AC)	(AC)	(AC)	(AC)	
Hillside Residential			31.5		31.5			31.5		31.5			31.5	31.5	
Low Density Residential			9.3	48.0	57.3			9.3		9.3			9.3	9.3	
High Density Residential					0					0	22.5			22.5	
Neighborhood District	181.4				181.4	181.4			48.0	229.4	181.4			48.0	229.4
General Services Commercial	27.3				27.3	27.3				27.3	27.3			27.3	
Educational Facility		148.0			148		148.0			148		113.0		113	
Park/ Recreational	85.5				85.5	85.5				85.5	85.5			85.5	
Golf Course			221.0		221			221.0		221			221.0	221	
Open Space			22.9		22.9			22.9		22.9	12.5	22.9		35.4	
Total	294.2	148.0	284.7	48.0	774.9	294.2	148.0	284.7	48.0	774.9	294.2	148.0	284.7	48.0	774.9

Notes:

1. 2004 WSMP land uses were based on the 2002 General Plan land use

2. Project area description provided by City Staff, prepared by EMC Planning group, dated 1/14/09. More detailed descriptions are included in Appendices.

Table 2 Demand Analysis Based on 2004 WSMP Methodology
 2008 USA Amendments - Water Supply Assessment
 City of Gilroy

Land Use	2004 WSMP Demand Coefficient (gpd/ac)	Domestic Water Demands														
		2004 WSMP ¹					2008 USA Amendments ²					Change in Demand from 2004 WSMP to 2008 USA Amendments				
		Shapell Industries (gpd)	Gavilan College (gpd)	Lucky Day (gpd)	Wren Investors (gpd)	Total (gpd)	Shapell Industries (gpd)	Gavilan College (gpd)	Lucky Day (gpd)	Wren Investors (gpd)	Total (gpd)	Shapell Industries (gpd)	Gavilan College (gpd)	Lucky Day (gpd)	Wren Investors (gpd)	Total (gpd)
Residential																
Hillside Residential	900			28,350		28,350			28,350		28,350			0		0
Low Density Residential	1,300			12,090	62,400	74,490			12,090		12,090			0	-62,400	-62,400
High Density Residential	4,000					0	90,000			90,000	90,000					90,000
Neighborhood District	2,100	380,940				380,940	380,940			100,800	481,740	0			100,800	100,800
Non-Residential																
General Services Commercial	800	21,840				21,840	21,840				21,840	0				0
Educational Facility	900		133,200			133,200		101,700			101,700		-31,500			-31,500
Park/ Recreational	900	76,950				76,950	76,950				76,950	0				0
Golf Course	900			198,900		198,900			198,900		198,900			0		0
Open Space	0			0		0	0	0	0		0		0	0		0
Totals																
	(gpd)	479,730	133,200	239,340	62,400	914,670	479,730	191,700	239,340	100,800	1,011,570	0	58,500	0	38,400	96,900
	(gpm)	333	93	166	43	635	333	133	166	70	702	0	41	0	27	67
	(AFY)	537	149	268	70	1,025	537	215	268	113	1,133	0	66	0	43	108

Notes:

8/20/2009

8/31/2009

1. 2004 Water System Master Plan (2004 WSMP) demands were calculated using 2002 General Plan land use designations

2. 2008 USA Amendments demands were updated information on land uses.

Table 3 Projected and Actual Water Demands Comparison
 2008 USA Amendments - Water Supply Assessment
 City of Gilroy

Year	2004 WSMP and 2005 UWMP Projections ¹		Actual Water Production ²		City-Wide Comparison of Projections vs. Actual Water Demands ⁴	
	(MGD)	(AFY)	(MGD)	(AFY)	(MGD)	(AFY)
Comparison Between Previous Projections and Actual Water Use						
2005	8.8	9,865	7.6	8,520	1.2	1,345
2006	9.1	10,201	7.9	8,856	1.2	1,345
2007	9.4	10,537	8.2	9,192	1.2	1,345
2008	9.7	10,874	8.3	9,304	1.4	1,569
2005 UWMP Projections						
2010	10.2	11,425				
2015	10.9	12,210				
2020	11.7	13,106				
2025	12.5	14,000				
2030	13.2	14,786				

Notes:

8/20/2009

1. Source: 2004 Water System Master Plan and 2005 Urban Water Management Plan
2. Source: Water production records provided by City staff
3. Revised projections are based on the water balance credit relationship for 2005-2008.
4. Water balance compares the difference between previous projections and actual water use for 2005-2008 and between previous projections and revised projections for 2009-2030.

Table 4 Opportunities for Recycled Water Use
 2008 USA Amendments - Water Supply Assessment
 City of Gilroy

Land Use	Indoor Water Use	Outdoor Water Use	Shapell Industries	Gavilan College	Lucky Day	Wren Investors	Total
	(%)	(%)	(gpd)	(gpd)	(gpd)	(gpd)	(gpd)
Residential							
Hillside Residential	50%	50%			19,530		19,530
Low Density Residential	50%	50%	173,545		10,218	45,903	229,665
Two-Family Residential	80%	20%	6,846			1,806	8,652
Medium Density Residential	80%	20%	9,760			2,600	12,360
High Density Residential	80%	20%	3,240			840	4,080
Student Housing	80%	20%		3,200			3,200
Faculty & Staff Housing	80%	20%		1,600			1,600
Lifelong Learning Housing	80%	20%		14,000			14,000
Non-Residential							
Lifelong Learning Center	80%	20%		360			360
General Services Commercial	80%	20%	3,200				3,200
Park/Golf/Recreation Facility	0%	100%	76,950		198,900		275,850
Open Space	0%	100%		0	0		0
Totals							
	(gpd)		273,541	19,160	228,648	51,149	572,497
	(gpm)		190	13	159	36	398
	(AFY)		306	21	256	57	641

Table 5 Anticipated Conservation from the Llagas Subbasin
 2008 USA Amendments - Water Supply Assessment
 City of Gilroy

Groundwater Subbasin	Amount of Groundwater Projected to be Pumped (AFY)					
	2005	2010	2015	2020	2025	2030
2005 UWMP ⁽¹⁾						
Llagas Subbasin	9,857	11,425	12,210	13,106	14,000	14,786
2007 Santa Clara Valley Water District Memorandum ⁽²⁾						
Llagas Subbasin						10,475
Anticipated Conservation from the Llagas Subbasin						
						4,311

Notes:

8/28/2009

1) City of Gilroy, 2005 Urban Water Management Plan

2) Santa Clara Valley Water District, South County Water Supply Plan - 2030 Groundwater Demands (June 26, 2007)

Table 6 Current and Projected Water Supplies - SCVWD 2005 UWMP
 2008 USA Amendments - Water Supply Assessment
 City of Gilroy

Groundwater Subbasin	Amount of Groundwater Projected to be Pumped (AFY)					
	2005	2010	2015	2020	2025	2030
Llagas Subbasin						
Llagas Subbasin	45,876	49,300	47,600	45,600	47,300	48,100
Recycled Water	2,500	2,500	3,100	3,100	3,100	3,100
Total	48,376	51,800	50,700	48,700	50,400	51,200
Coyote Subbasin						
Coyote Subbasin	8,000	8,000	8,000	8,000	8,000	2,204
Recycled Water and Additional Supplies		0	3,200	1,700	3,200	5,500
Total	8,000	8,000	11,200	9,700	11,200	7,704

Notes:

8/28/2009

1) Source: Santa Clara Valley Water District, 2005 Urban Water Management Plan (Table 6-9 and Table 6-10)

Table 7 Existing Water Supply Facilities
 2008 USA Amendments - Water Supply Assessment
 City of Gilroy

Well No.	Design Capacity (MGD)	Actual Capacity (MGD)
1	2.2	1.7
2	1.7	1.6
3	3.4	3.4
4	1.7	1.7
5	2.6	2.3
6	2.6	2.2
7	2.6	2.4
8	3.3	3.2
8A	0.6	0.3
Total	20.7	18.9

8/28/2009

Notes:

1. Source: 2004 Water System Master Plan

Table 8 Supply Reliability for Llagas and Coyote Subbasins
 2008 USA Amendments - Water Supply Assessment
 City of Gilroy

Groundwater Subbasin	Water Year Supplies (AFY)		
	Average / Normal (1985)	Multiple Dry (1987-1992)	Single Dry (1977)
Llagas	19,000	19,000	7,000
Coyote	2,600	2,400	1,600
Total	21,600	21,400	8,600
% of Normal	100%	99%	40%

Notes:

8/28/2009

1) Source: City of Morgan Hill, 2005 Urban Water Management Plan (Tables 9 and 10)

Table 9 2005 UWMP Supply and Demand Comparison

2008 USA Amendments - Water Supply Assessment
City of Gilroy

Demand Condition	Demand		Available Supply		Supply Deficit (MGD)
	(AFY)	(MGD)	(AFY)	(MGD)	
Near-Term					
Normal	9,857	8.8	9,857	8.8	none
Single Dry Water Year	9,857	8.8	9,857	8.8	none
Multi-year Drought					
Year 1	9,857	8.8	9,857	8.8	none
Year 2	9,857	8.8	9,857	8.8	none
Year 3	9,857	8.8	9,857	8.8	none
2010					
Normal	11,425	10.2	11,425	10.2	none
Single Dry Water Year	11,425	10.2	11,425	10.2	none
Multi-year Drought					
Year 1	11,425	10.2	11,425	10.2	none
Year 2	11,425	10.2	11,425	10.2	none
Year 3	11,425	10.2	11,425	10.2	none
2015					
Normal	12,210	10.9	12,210	10.9	none
Single Dry Water Year	12,210	10.9	12,210	10.9	none
Multi-year Drought					
Year 1	12,210	10.9	12,210	10.9	none
Year 2	12,210	10.9	12,210	10.9	none
Year 3	12,210	10.9	12,210	10.9	none
2020					
Normal	13,106	11.7	13,106	11.7	none
Single Dry Water Year	13,106	11.7	13,106	11.7	none
Multi-year Drought					
Year 1	13,106	11.7	13,106	11.7	none
Year 2	13,106	11.7	13,106	11.7	none
Year 3	13,106	11.7	13,106	11.7	none
2025					
Normal	14,000	12.5	14,000	12.5	none
Single Dry Water Year	14,000	12.5	14,000	12.5	none
Multi-year Drought					
Year 1	14,000	12.5	14,000	12.5	none
Year 2	14,000	12.5	14,000	12.5	none
Year 3	14,000	12.5	14,000	12.5	none
2030					
Normal	14,786	13.2	14,786	13.2	none
Single Dry Water Year	14,786	13.2	14,786	13.2	none
Multi-year Drought					
Year 1	14,786	13.2	14,786	13.2	none
Year 2	14,786	13.2	14,786	13.2	none
Year 3	14,786	13.2	14,786	13.2	none

Notes:

8/20/2009

1. Supply projections assume that groundwater yield is not being reduced due to water quality issues.
2. Source: 2005 Urban Water Management Plan, City of Gilroy



MEMORANDUM

To: Rick Smelser
City Engineer, City of Gilroy

From: Tony Akel

Date: March 29, 2004

Subject: Water Supply Assessment – Provisions of SB 610
Glen Loma Specific Plan

WO#: 6580A.00

This technical memorandum provides a water supply assessment for the Glen Loma Specific Plan (Project) to address the potential impact of the Project water requirements on the City-wide water supply conditions. The memorandum also includes excerpts from the Water System Master Plan (2004 WMP) and 2000 Urban Water Management Plan (2000 UWMP) comparing water supply vs. demand, in accordance with SB 610 requirements. The technical memorandum includes the following sections:

- Relevant Current Reports
- Project Description
- Project Water Requirements
- Groundwater Supply
- Groundwater Basin
- Water Supply Reliability
- Supply and Demand Comparison

Relevant Current Reports

The City's 1993 WMP (adopted 1993) presents historical and existing water demands, defines the criteria for projecting water demands through the project horizon year of 2020, identifies existing and future water system capacity deficiencies, recommends projects to correct these deficiencies, and identifies major water facilities for servicing future developments.

The City's 2004 WMP (completed 2004) updates the 1993 WMP with more recent information on the water distribution facilities, planning projections, revised planning criteria, revised demand projections, and corresponding revised capital improvement projects.

The City's 1990 UWMP (adopted 1993) addresses the requirements of the Urban Water Management Planning Act (UWMPA) and includes the following elements: existing and future water demand projections, existing and future water supply facilities, existing and future demand

vs. supply comparison, groundwater basin condition, water supply reliability, water demand management measures, water recycling, and a water shortage contingency plan.

The City's 2000 UWMP (completed 2004) provides an update to comply with the most recent requirements of the UWMPA.

Project Description

The Glen Loma Ranch specific plan area, which is approximately 360 acres, is located within the western portion of the City of Gilroy limits. The area includes Neighborhood Districts that are comprised of a variety of land uses, including:

- The development of eighteen distinct residential neighborhoods (178.9 acres);
- Ascension Solarsano Middle School (17 acres);
- An elementary school site (12.1 acres) (Acquisition of this site, and construction of the elementary school is currently under consideration by the Gilroy Unified School District. Separate environmental review is currently underway with the school district as the lead agency);
- Two neighborhood park sites (20.6 acres);
- A new fire station site (1.5 acres);
- Town center commercial areas (7.8 acres);
- Preserved open space (41.8 acres); and
- Major bicycle and pedestrian trail system.

Area for streets totals approximately 32.4 acres and buffers are calculated at 46.4 acres. These areas include the bicycle and pedestrian trail system. The proposed project also includes the development of new roadways, and extensions to existing public streets, sewer and water infrastructure, recycled water infrastructure, storm drains and site drainage provisions for flood control and water quality.

Project Water Requirements

The subject development site has been within the City's boundary since the previous 1990 Urban Water Management Plan (1990 UWMP) was completed and adopted in May 1993. The projected water demands in the 1990 UWMP were based on assumptions documented in the City's previous Water System Master Plan, which was also completed in May 1993 (1993 WMP). The 1990 UWMP, therefore, addressed the water supplies required for development on this property, based on the City's 1993 Land Use Element of the General Plan.

The previous land use designations included a mix of open space, residential, and commercial uses. A comparison between the City's 1993 land use conditions, as used in the 1990 UWMP, and the 2003 land use conditions, as used in the 2000 UWMP, indicates an increase of land use in the Glen Loma Pass Specific Plan. Table 1 provides a summary of proposed project developments by land designations.

This analysis further evaluated the impact of this increase in land use to the projected water requirements. The methodology for estimating and projecting water demands in the 1993 WMP is typical of water master plans and was based on water demand coefficients. These

coefficients are factors that vary depending on the land use types and are higher for land uses requiring larger amounts of water. The coefficients, which are usually expressed in gallons per day per acre, are applied to acres (based on their land use designation) for calculating the average water demands. It should be noted that the coefficients used in the 1993 WMP are considered conservative and have generally yielded conservative projections of water demands.

The methodology used in projecting water demands in the 2004 WMP is identical to the one used in the 1993 WMP. Though the methodology is the same, the coefficients used in the 2004 WMP were adjusted down based on more recent analysis of water use patterns. This resulted in a City-wide decrease of water demand projections throughout the planning area.

A comparative analysis of water demand projections for the Glen Loma Ranch Specific Plan, between the 1993 WMP and the 2004 WMP, was then conducted. The analysis indicates that this proposed project will result with an increase in water demand requirements of 145 acre-feet from the previous 1993 WMP and 1990 UWMP planning assumptions.

This water assessment considers that most of the water demands associated with this development have already been accounted for in the most recently adopted UWMP (1993 UWMP). Furthermore, this assessment does not consider the increase in water demands to represent a significant impact on City-wide supply conditions, especially since this increase is largely offset by reductions of demands in other planning areas.

Groundwater Supply

The City of Gilroy (City) currently utilizes local groundwater as its sole source of supply. The City's municipal water system extracts its water supply from underground aquifers via eight active groundwater wells scattered throughout the City. The City pays a groundwater pumping tax to the Santa Clara Valley Water District (SCVWD), which is the principal groundwater management agency in the Santa Clara Valley. The SCVWD also serves as a major water wholesaler for the County and is the contracting agency for both the State Water Project and the Federal Central Valley Project.

It should be noted that there has been some preliminary discussion with SCVWD regarding the potential planning of a potable water treatment plant to be located in the South County area. SCVWD currently owns and operates three treatment facilities in the North County and sells treated surface water to retailers. A conceptual siting of the future water treatment plant favors a location between the City of Gilroy and the City of Morgan Hill.

Groundwater Basin

The groundwater basin underlying the City is part of the Santa Clara Valley Groundwater. The Santa Clara Valley Groundwater basin is not an adjudicated groundwater basin, as defined by the California Water Plan Update, Bulletin 160-98, Figure 3-28 on page 3-54 and Table 3-16 on page 3-55. The groundwater basin is divided into three interconnected subbasins that transmit, filter, and store water. These basins consist of the Santa Clara Valley Subbasin to the north, the Coyote Subbasin, and the Llagas Subbasin to the south

The California Water Plan Update, Bulletin 160-98 page 3-50, Table 3-15, lists the 1995 and 2020 level overdraft for the central coast of 214 thousand acre feet (taf). As shown in Table 3-15, groundwater overdraft is expected to decline to 102 taf during 2020 average and drought years. During drought periods, water levels in these basins may decline. However, during wet

periods, most of these basins recover, thus making application of overdraft or perennial yield concepts difficult.

The California Department of Water resources is currently evaluating the Central Coast region groundwater use to better estimate overdraft, but this evaluation has not been completed. Overdraft in the Central Coast region is expected to decline as demand shifts from groundwater to imported surface water, provided through the recently completed Coastal Branch of the California Aqueduct.

The regional Coyote and Llagas Subbasin conditions are addressed in the SCVWD reports on groundwater. Historical SCVWD records indicate that the volume in annual storage has been historically fluctuating in these Subbasins. The City of Gilroy is aggressively pursuing overdraft reduction through Demand Management Measures (DMM) and proactive water recycling.

Water Supply Reliability

The supply reliability is considered for the near-term needs (present to 2010) and the long term needs (2010-2020). There are two aspects of supply reliability to be considered. The first relates to immediate service needs and is primarily a function of the availability and adequacy of the supply facilities. This aspect is considered for emergency reliability. The second aspect is climate-related, and involves the availability of water during mild or severe drought periods.

In the near term, the addition of two new groundwater wells will provide enhanced City-wide reliability to the supply. These additions were included in the UWMP 1990. Addition of storage facilities will also enhance long-term reliability. These facilities will provide emergency storage sufficient to handle the service area needs during power outages or other emergencies. Adding supply and distribution system enhancements will also add reliability through redundancy

The annual quantity of available groundwater in the City is not expected to vary significantly in relation to wet or dry years, as shown in Table 2 for the estimated year 2020 City-wide supplies. This assumes that groundwater yield is not reduced due to water quality issues. During extended drought periods, groundwater levels generally decline and will require more aggressive demand management practices and continued implementation of recycled water. The reliability and vulnerability of the water supply to seasonal or climatic shortages remains constant.

Supply and Demand Comparison

City-wide comparisons of projected supplies and demands are shown on Table 3. Based on the City's current plans to increase the water supply capabilities to meet maximum day demands and to provide standby production capabilities, the supply capacity will consistently meet the demand requirements for any given year.

Table 3 indicates a total demand of approximately 13,106 acre-feet projected for year 2020, compared with a projected supply capability for that same year of 34,500 acre-feet.

Table 1 Proposed Developments by Land Use Designation Glen Loma Specific Plan City of Gilroy	
Land Use	Approximate Acreage (Acres)
Open Space	62.4
Natural Open Space	41.8
Recreational Open Space	20.6
Private Open Space	0
Residential	178.9
R1	105.6
R2	33.5
R3	22.7
R4	17.1
Commercial	8.8
Streets	32.4
Buffers	46.4
Community Facilities	30.6
TOTAL Specific Plan Area	359.6
Source: RJA Associates	

Table 2 Water Supply Reliability 2000 Urban Water Management Plan City of Gilroy					
Supply Units	Average/Normal Water Year	Single Dry Water Year	Multiple Dry Water Years		
			Year 1	Year 2	Year 3
MGD	30.8	30.8	30.8	30.8	30.8
AFY	34,500	34,500	34,500	34,500	34,500
Note: Supply projections through the planning horizon of 2020.					

**Table 3 Projected Supply and Demand Comparison
2000 Urban Water Management Plan
City of Gilroy**

Condition		Demand		Available Supply		Supply Deficit
		(AF)	(MGD)	(AF)	(MGD)	(MGD)
Near-Term						
Normal		9,297	8.3	17,362	15.5	none
Multi-year Drought						
	Year 1	9,297	8.3	17,362	15.5	none
	Year 2	9,297	8.3	17,362	15.5	none
	Year 3	9,297	8.3	17,362	15.5	none
2005						
Normal		9,857	8.8	25,539	22.8	none
Multi-year Drought						
	Year 1	9,857	8.8	25,539	22.8	none
	Year 2	9,857	8.8	25,539	22.8	none
	Year 3	9,857	8.8	25,539	22.8	none
2010						
Normal		11,425	10.2	32,036	28.6	none
Multi-year Drought						
	Year 1	11,425	10.2	32,036	28.6	none
	Year 2	11,425	10.2	32,036	28.6	none
	Year 3	11,425	10.2	32,036	28.6	none
2015						
Normal		12,210	10.9	32,036	28.6	none
Multi-year Drought						
	Year 1	12,210	10.9	32,036	28.6	none
	Year 2	12,210	10.9	32,036	28.6	none
	Year 3	12,210	10.9	32,036	28.6	none
2020						
Normal		13,106	11.7	34,500	30.8	none
Multi-year Drought						
	Year 1	13,106	11.7	34,500	30.8	none
	Year 2	13,106	11.7	34,500	30.8	none
	Year 3	13,106	11.7	34,500	30.8	none

Notes

1. Supply projections assume that groundwater yield is not being reduced due to water quality issues.



MEMORANDUM

To: Rick Smelser
City Engineer, City of Gilroy

From: Tony Akel

Date: March 29, 2004

Subject: Water Supply Assessment – Provisions of SB 610
Hecker Pass Specific Plan

WO#: 6580A.00

This technical memorandum provides a water supply assessment for the Hecker Pass Specific Plan (Project) to address the potential impact of the Project water requirements on the City-wide water supply conditions. The memorandum also includes excerpts from the Water System Master Plan (2004 WMP) and 2000 Urban Water Management Plan (2000 UWMP) comparing water supply vs. demand, in accordance with SB 610 requirements. The technical memorandum includes the following sections:

- Relevant Current Reports
- Project Description
- Project Water Requirements
- Groundwater Supply
- Groundwater Basin
- Water Supply Reliability
- Supply and Demand Comparison

Relevant Current Reports

The City's 1993 WMP (adopted 1993) presents historical and existing water demands, defines the criteria for projecting water demands through the project horizon year of 2020, identifies existing and future water system capacity deficiencies, recommends projects to correct these deficiencies, and identifies major water facilities for servicing future developments.

The City's 2004 WMP (completed 2004) updates the 1993 WMP with more recent information on the water distribution facilities, planning projections, revised planning criteria, revised demand projections, and corresponding revised capital improvement projects.

The City's 1990 UWMP (adopted 1993) addresses the requirements of the Urban Water Management Planning Act (UWMPA) and includes the following elements: existing and future water demand projections, existing and future water supply facilities, existing and future demand

vs. supply comparison, groundwater basin condition, water supply reliability, water demand management measures, water recycling, and a water shortage contingency plan.

The City's 2000 UWMP (completed 2004) provides an update to comply with the most recent requirements of the UWMPA.

Project Description

The Specific Plan area is located within the western portion of the City of Gilroy limits. The area is essentially bisected by State Route 152, locally referred to as Hecker Pass Highway, and is approximately three miles to the west of State Highway 101. The Specific Plan area is approximately 423 acres in size. Hecker Pass Highway bisects the area from north to south. The northernmost property lines of parcels located north of Hecker Pass Highway define the northern extent of the specific plan area.

The Specific Plan area contains 12 land use designations that can be grouped into three primary designations: residential, agriculture, and open space. Table 1 includes a breakdown of acreage contained within each land use designation. The Specific Plan proposes a total of 466 to 530 dwelling units within the residential land use designations. Maximum buildable area within the two commercial land use designations is 30 percent of the 60 gross acres within these designations or approximately 18 acres.

Project Water Requirements

The subject development site has been within the City's boundary since the previous 1990 Urban Water Management Plan (1990 UWMP) was completed and adopted in May 1993. The projected water demands in the 1990 UWMP were based on assumptions documented in the City's previous Water System Master Plan, which was also completed in May 1993 (1993 WMP). The 1990 UWMP, therefore, addressed the water supplies required for development on this property, based on the City's 1993 Land Use Element of the General Plan.

The previous land use designations included a mix of open space, rural residential, commercial, and low density residential uses. A comparison between the City's 1993 land use conditions, as used in the 1990 UWMP, and the 2003 land use conditions, as used in the 2000 UWMP, indicates an increase of land use in the Hecker Pass Specific Plan. Table 1 provides a summary of proposed project developments by land designations.

This analysis further evaluated the impact of this increase in land use to the projected water requirements. The methodology for estimating and projecting water demands in the 1993 WMP is typical of water master plans and was based on water demand coefficients. These coefficients are factors that vary depending on the land use types and are higher for land uses requiring larger amounts of water. The coefficients, which are usually expressed in gallons per day per acre, are applied to acres (based on their land use designation) for calculating the average water demands. It should be noted that the coefficients used in the 1993 WMP are considered conservative and have thus yielded conservative projections of water demands.

The methodology used in projecting water demands in the 2004 WMP is identical to the one used in the 1993 WMP. Though the methodology is the same, the coefficients used in the 2004 WMP were adjusted down based on more recent analysis of water use patterns. This resulted in a City-wide decrease of water demand projections throughout the planning area.

A comparative analysis of water demand projections for the Hecker Pass Specific Plan, between the 1993 WMP and the 2004 WMP, was then conducted. The analysis indicates that

this proposed project will result with a decrease in water demand requirements of 224 acre-feet from the previous 1993 WMP and 1990 UWMP planning assumptions.

This water assessment considers that the water demands associated with this development have already been accounted for in the most recently adopted UWMP (1993 UWMP).

Groundwater Supply

The City of Gilroy (City) currently utilizes local groundwater as its sole source of supply. The City's municipal water system extracts its water supply from underground aquifers via eight active groundwater wells scattered throughout the City. The City pays a groundwater pumping tax to the Santa Clara Valley Water District (SCVWD), which is the principal groundwater management agency in the Santa Clara Valley. The SCVWD also serves as a major water wholesaler for the County and is the contracting agency for both the State Water Project and the Federal Central Valley Project.

It should be noted that there has been some preliminary discussion with SCVWD regarding the potential planning of a potable water treatment plant to be located in the South County area. SCVWD currently owns and operates three treatment facilities in the North County and sells treated surface water to retailers. A conceptual siting of the future water treatment plant favors a location between the City of Gilroy and the City of Morgan Hill.

Groundwater Basin

The groundwater basin underlying the City is part of the Santa Clara Valley Groundwater. The Santa Clara Valley Groundwater basin is not an adjudicated groundwater basin, as defined by the California Water Plan Update, Bulletin 160-98, Figure 3-28 on page 3-54 and Table 3-16 on page 3-55. The groundwater basin is divided into three interconnected subbasins that transmit, filter, and store water. These basins consist of the Santa Clara Valley Subbasin to the north, the Coyote Subbasin, and the Llagas Subbasin to the south

The California Water Plan Update, Bulletin 160-98 page 3-50, Table 3-15, lists the 1995 and 2020 level overdraft for the central coast of 214 thousand acre feet (taf). As shown in Table 3-15, groundwater overdraft is expected to decline to 102 taf during 2020 average and drought years. During drought periods, water levels in these basins may decline. However, during wet periods, most of these basins recover, thus making application of overdraft or perennial yield concepts difficult.

The California Department of Water resources is currently evaluating the Central Coast region groundwater use to better estimate overdraft, but this evaluation has not been completed. Overdraft in the Central Coast region is expected to decline as demand shifts from groundwater to imported surface water, provided through the recently completed Coastal Branch of the California Aqueduct.

The regional Coyote and Llagas Subbasin conditions are addressed in the SCVWD reports on groundwater. Historical SCVWD records indicate that the volume in annual storage has been historically fluctuating in these Subbasins. The City of Gilroy is aggressively pursuing overdraft reduction through Demand Management Measures (DMM) and proactive water recycling.

Water Supply Reliability

The supply reliability is considered for the near-term needs (present to 2010) and the long term needs (2010-2020). There are two aspects of supply reliability to be considered. The first relates to immediate service needs and is primarily a function of the availability and adequacy of the supply facilities. This aspect is considered for emergency reliability. The second aspect is climate-related, and involves the availability of water during mild or severe drought periods.

In the near term, the addition of two new groundwater wells will provide enhanced City-wide reliability to the supply. These additions were included in the UWMP 1990. Addition of storage facilities will also enhance long-term reliability. These facilities will provide emergency storage sufficient to handle the service area needs during power outages or other emergencies. Adding supply and distribution system enhancements will also add reliability through redundancy

The annual quantity of available groundwater in the City is not expected to vary significantly in relation to wet or dry years, as shown in Table 2 for the estimated year 2020 City-wide supplies. This assumes that groundwater yield is not reduced due to water quality issues. During extended drought periods, groundwater levels generally decline and will require more aggressive demand management practices and continued implementation of recycled water. The reliability and vulnerability of the water supply to seasonal or climatic shortages remains constant.

Supply and Demand Comparison

City-wide comparisons of projected supplies and demands are shown on Table 3. Based on the City's current plans to increase the water supply capabilities to meet maximum day demands and to provide standby production capabilities, the supply capacity will consistently meet the demand requirements for any given year.

Table 3 indicates a total demand of approximately 13,106 acre-feet projected for year 2020, compared with a projected supply capability for that same year of 34,500 acre-feet.

Table 1 Proposed Developments by Land Use Designation Hecker Pass Specific Plan City of Gilroy	
Land Use	Approximate Acreage (Acres)
Open Space	139
Natural Open Space	68
Recreational Open Space	24
Private Open Space	47
Residential	206
Hillside	60
Agricultural Estate	18
Agricultural Cluster	27
Low Density	8
Rural Cluster (5 du/ac)	82
Rural Cluster (8 du/ac)	11
Commercial	60
Agriculture	33
Agri-tourist	27
Community Facilities	18
TOTAL Specific Plan Area	423
Source: RJA Associates	

Table 2 Water Supply Reliability 2000 Urban Water Management Plan City of Gilroy					
Supply Units	Average/Normal Water Year	Single Dry Water Year	Multiple Dry Water Years		
			Year 1	Year 2	Year 3
MGD	30.8	30.8	30.8	30.8	30.8
AFY	34,500	34,500	34,500	34,500	34,500
Note: Supply projections through the planning horizon of 2020.					

**Table 3 Projected Supply and Demand Comparison
2000 Urban Water Management Plan
City of Gilroy**

Condition		Demand		Available Supply		Supply Deficit
		(AF)	(MGD)	(AF)	(MGD)	(MGD)
Near-Term						
Normal		9,297	8.3	17,362	15.5	none
Multi-year Drought						
	Year 1	9,297	8.3	17,362	15.5	none
	Year 2	9,297	8.3	17,362	15.5	none
	Year 3	9,297	8.3	17,362	15.5	none
2005						
Normal		9,857	8.8	25,539	22.8	none
Multi-year Drought						
	Year 1	9,857	8.8	25,539	22.8	none
	Year 2	9,857	8.8	25,539	22.8	none
	Year 3	9,857	8.8	25,539	22.8	none
2010						
Normal		11,425	10.2	32,036	28.6	none
Multi-year Drought						
	Year 1	11,425	10.2	32,036	28.6	none
	Year 2	11,425	10.2	32,036	28.6	none
	Year 3	11,425	10.2	32,036	28.6	none
2015						
Normal		12,210	10.9	32,036	28.6	none
Multi-year Drought						
	Year 1	12,210	10.9	32,036	28.6	none
	Year 2	12,210	10.9	32,036	28.6	none
	Year 3	12,210	10.9	32,036	28.6	none
2020						
Normal		13,106	11.7	34,500	30.8	none
Multi-year Drought						
	Year 1	13,106	11.7	34,500	30.8	none
	Year 2	13,106	11.7	34,500	30.8	none
	Year 3	13,106	11.7	34,500	30.8	none

Notes

1. Supply projections assume that groundwater yield is not being reduced due to water quality issues.

City of Gilroy

**WATER SUPPLY ASSESSMENT
PROVISIONS OF SB 610**

DOWNTOWN SPECIFIC PLAN PROJECT

FINAL

July 2005



**WATER SUPPLY ASSESSMENT
PROVISION OF SB 610**

DOWNTOWN SPECIFIC PLAN PROJECT

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WATER SUPPLY ASSESSMENT - PROVISIONS OF SB 610 DOWNTOWN SPECIFIC PLAN PROJECT

1.0 PURPOSE

This Water Supply Assessment (WSA) was prepared to assist the City of Gilroy (City) in satisfying the requirements of Senate Bill 610 (SB 610). This WSA is specific to the Downtown Specific Plan Project (Project) and addresses the potential impact of the Project's water requirements on the citywide water supply conditions. This WSA includes the following:

- Information on the City's water supplies consistent with Water Code Sections 10620 et. seq. (the Urban Water Management Planning Act) and 10910 et. seq. (Water Supply Planning to Support Existing and Planned Future Users)
- Information on current water demands and projected water demands, based on the City's adopted General Plan and specific project proposals currently under review by the City including the Downtown Specific Plan
- Comparison of water supplies and water demands for normal, single dry and multiple dry years
- Information to make the sufficiency findings required by the California Environment Quality Act (CEQA)

The City has commissioned the preparation of this WSA in its role as the lead agency under CEQA for various planned development projects.

2.0 APPROVAL PROCESS

The City Council may approve the WSA, after hearing testimony and evidence presented at a hearing. Upon conclusion of the hearing, the City Council may determine whether the projected water supplies will be sufficient to satisfy the proposed project demands. The City must include the assessment in the environmental documents prepared for the designated project pursuant to CEQA requirements.

3.0 SENATE BILL 610

Senate Bill 610 (SB 610) became effective January 1, 2002. SB 610 amended the California Public Resources Code to incorporate Water Code findings within the CEQA process for certain types of projects. SB 610 amended the Water Code to broaden the types of information included in Urban Water Management Plans (Water Code Section 10620 et. seq.) and to add Water Code part 2.10 Water Supply Planning to Support Existing and Planned Future Uses (Section 10910 et. seq.).

Water Code part 2.10 clarifies the roles and responsibilities of the Lead Agency under CEQA and the “water supplier” with respect to describing current and future supplies compared to current and future demands.

Part 2.10 also defines the “Projects” that are subject to a WSA and the Lead Agency’s responsibilities related to the WSA. A WSA is required for the following:

- A proposed residential development of more than 500 dwelling units.
- A proposed shopping center or business establishment employing more than 1,000 people or having more than 500,000 square feet of floor space.
- A proposed commercial office building employing more than 1,000 people or having more than 250,000 square feet of floor space.
- A proposed hotel or motel, or both, having more than 500 rooms.
- A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 people, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
- A mixed-use development that includes one or more of the uses described above.
- A development that would demand an amount of water equivalent to or greater than the amount of water required by a 500-dwelling unit project.
- For Lead Agencies with fewer than 5,000 water service connections, any new development that will increase the number of water service connections in the service area by ten percent or more.

Under Part 2.10, the Lead Agency must identify the affected water supplier and research whether the new demands are included in the suppliers’ Urban Water Management Plan (UWMP). If the UWMP includes the demands it may be incorporated by reference. If not the Lead Agency must prepare the WSA (Water Code Section 10912(c)).

4.0 URBAN WATER MANAGEMENT PLANNING ACT

The Urban Water Management Planning Act requires the supplier to document water supplies available during normal, single dry, and multiple dry water years during a 20-year projection. The Act requires that the projected supplies and demands be presented in 5-year increments for the 20-year projection.

5.0 2000 URBAN WATER MANAGEMENT PLAN

The 2000 Urban Water Management Plan (UWMP), which was prepared by the City after the adoption of SB 610, includes information required by SB 610, including the City’s groundwater and recycled water supplies. The 2000 UWMP was adopted by the City on May 3, 2004 and approved by the Department of Water Resources (DWR) on

November 23, 2004. A correspondence dated November 23, 2004, indicates that it has completed the review of the City of Gilroy 2000 UWMP and that it deemed it complete.

The 2000 UWMP includes the following elements: existing and future water demand projections, existing and future water supply facilities, existing and future demand versus supply comparison, groundwater basin conditions, water supply reliability, water demand management measures, water recycling, and water shortage contingency plan.

In order to comply with SB 610 requirements, the 2000 UWMP includes the following:

- A description of the water service area including climate, current and projected population and other demographic factors that affect water management planning. Demographic data is presented in 5-year increments for 20-years.
- A description and quantification of the existing and planned water sources.
- A description of the reliability and vulnerability of the water supply to seasonable or climatic shortages in the average water year, single dry water year and multiple dry water year. Contingency plans including demand management and conjunctive use potential are discussed.
- A description of current and projected water demands among all user classes in 5-year increments.
- A description of all water supply projects and water supply programs that may be undertaken by the City, the Agency and the Subregional Water Reclamation Project to meet the total projected water use.
- A description of demand management measures employed and scheduled to be employed.
- A description of any groundwater basin (or basins) from which the City pumps groundwater.
- Information that characterizes the condition of the groundwater basin and a description of the measures currently being taken by the City to minimize any potential for overdraft conditions occurring.
- A detailed description and analysis of the amount and location of groundwater pumped by the City for the past five years from any groundwater basin from which the proposed project will be supplied.
- An analysis of the location, amount, and sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed projects.

A copy of the City of Gilroy 2000 UWMP can be obtained by contacting City staff.

6.0 2005 URBAN WATER MANAGEMENT PLAN

Although the City's 2000 UWMP was adopted on May 3, 2004 and approved by DWR on November 23, 2004, the City initiated the preparation of the 2005 UWMP. This document, which will incorporate the most recent requirements is being prepared and shall be released for review in October 2005.

7.0 WATER SYSTEM MASTER PLAN

The City's Water System Master Plan (WSMP), which was completed and adopted in May 2004, presents historical and existing water demands, defines the criteria for projecting water demands through the year 2040, identifies existing and future water system capacity deficiencies, recommends projects to correct these deficiencies, and identifies major water facilities for servicing future developments. The WSMP also addresses the supply facilities and includes a capital improvement program. This WSA extracts relevant information presented in the City's WSMP.

8.0 PROJECT DESCRIPTION

The Downtown Specific Plan (Project) is contained within the City Limits and is located in the City's downtown area covering approximately 189 gross acres, along Monterey Street (Figure 1). The Project area extends from Leavesley/Welburn on the north end to Luchessa on the south. The alley on the east side of Railroad Street serves as the primary boundary on the east side of the Project, and the alley between Egleberry and church streets is the primary boundary on the west (extending westward to Dowdy Street in the area between Sixth Street and Seventh Street to include the Civic Center area).

The project site is contained within the Planning Boundary of the 2001 General Plan. The Project area is divided into six planning districts. Each district has a particular vision for future development. Land use and development standards, as well as design guidelines, will give direction for each area of the Project. Table 1 includes a breakdown of acreage contained within each land use designation or planning district. The Project proposes a total of 189 gross acres of commercial and residential land use designations.

9.0 PROJECT WATER REQUIREMENTS

Under Water Code Part 2.10, the Lead Agency must identify the affected water supplier and research whether the new demands are included in the suppliers' UWMP. If the UWMP includes the demands, then it may be incorporated by reference.

The subject Project site has been within the City's boundary since the 2000 UWMP was completed and adopted in April 2004. The projected water demands in the 2000 UWMP were based on assumptions documented in the City's Water System Master Plan. The

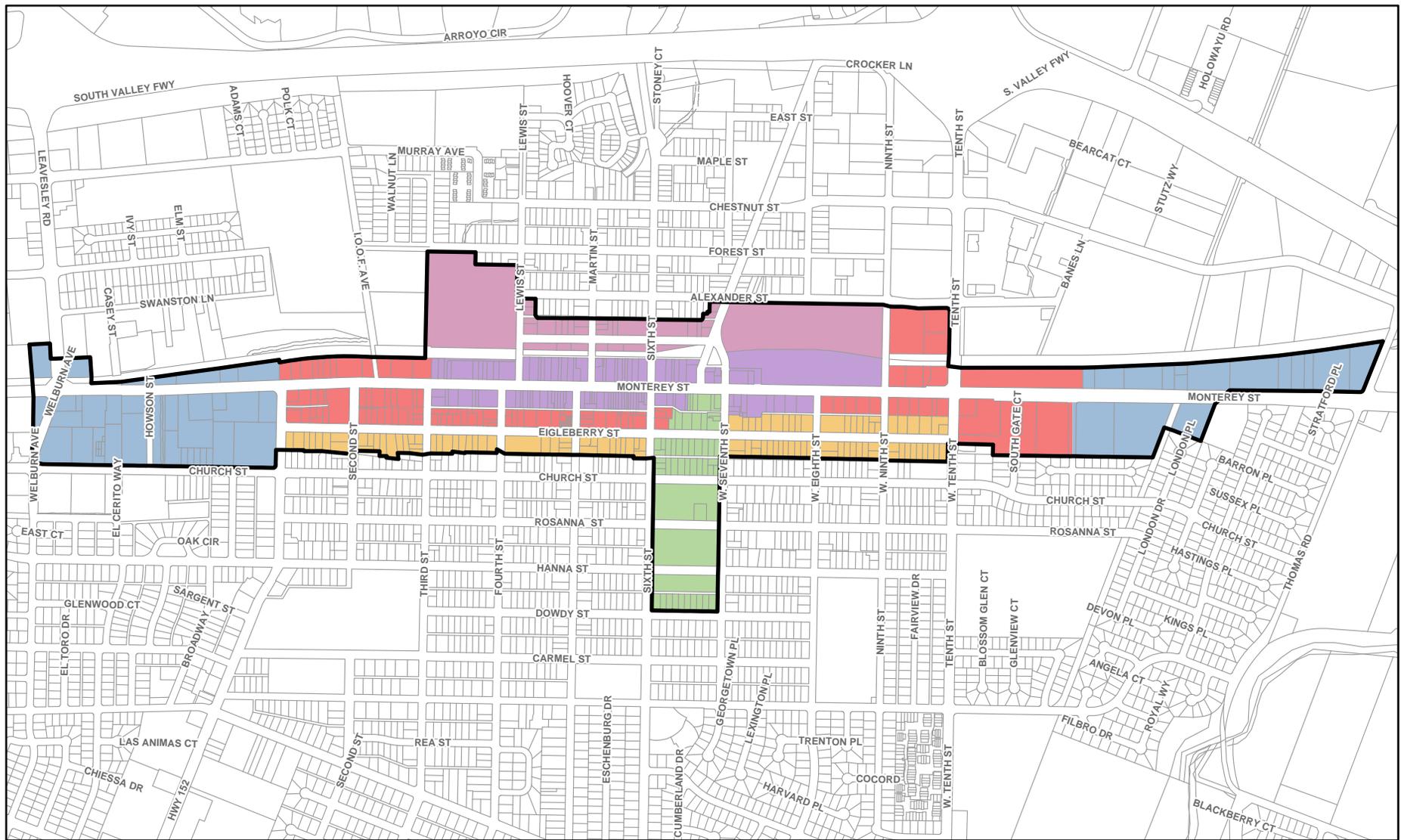
Table 1 Proposed Project by Land Use Designation Water Supply Assessment - Provisions of SB 610 Downtown Specific Plan Project City of Gilroy	
Land Use	Acreage (Acres)
Districts	
Downtown Historic	26
Downtown Expansion	40
Civic/Cultural Arts	17
Transition	21
Cannery	31
Gateway	54
Total Project Area	189
Source: City of Gilroy Downtown Specific Plan, June 30, 2005.	

2000 UWMP, therefore, addressed the water supplies required for development on this property, based on the City's projected population element of the General Plan.

The land use designations for the subject Project, summarized in Table 1, are similar to the land uses identified in the 2001 General Plan. These land uses included a mix of mostly commercial, and residential.

The methodology used in projecting water demands in the 2000 UWMP were based on future trends in population obtained from the 2001 General Plan, and the established per-capita consumption rate of 180 gallons per day per capita (gpcd). The 2000 UWMP lists City-wide water requirements for 2005 at 8.8 million gallons per day (MGD) or 9,857 acre-feet (AF).

This analysis further evaluated the impact of the proposed Project to the City-wide water requirements. The methodology for estimating and projecting water demands in the 2004 WMP is typical of water master plans and was based on water demand coefficients. These coefficients are factors that vary depending on the land use types and are higher for land uses requiring larger amounts of water. The coefficients, which are usually expressed in gallons per day per acre, are applied to acres (based on their land use designation) for calculating the average water demands.



Legend

-  Specific Plan Boundary
-  Civic/Cultural Arts District
-  Downtown Historic District
-  Transitional District
-  Downtown Expansion District
-  Cannery District
-  Gateway District

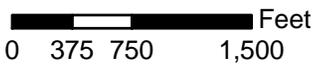


Figure 1
Proposed Project Districts
Water Supply Assessment Provisions of SB 610
Downtown Specific Plan Project
City of Gilroy

A comparative analysis of water demand projections using the land use designations from the Downtown Specific plan and the 2001 General Plan was conducted (Table 2). The analysis indicates that this proposed Project will result in an increase in water demand requirements of approximately 120 AF for the 2000 UWMP and 2004 WMP assumptions.

This water supply assessment considers that most of the water demands associated with this development have already been accounted for in the most recently adopted 2000 UWMP (Adopted April 2004). Furthermore, this assessment does not consider the increase in water demands to represent a significant impact on City-wide supply conditions, especially since the increase is largely offset by reductions of demands in other planning areas, including the Hecker Pass Specific Plan area and the South County Regional Wastewater Authority (SCRWA) ambitious recycled water program.

10.0 GROUNDWATER SUPPLY

The City currently utilizes local groundwater as its sole source of supply. The City's municipal water system extracts its water supply from underground aquifers via eight active groundwater wells scattered throughout the City. The total pumping capacity of the City wells is 15.5 MGD (10,740 gpm). Gilroy's municipal water receives only a light chlorination at the well sites. The City routinely tests its wells, and the water quality of its active wells is generally considered to be good.

The City pays a groundwater user fee to the Santa Clara Valley Water District (SCVWD), which is the principal groundwater management agency in the Santa Clara Valley. This groundwater fee provides funding for operating costs associated with the District's groundwater recharge program as well as the District's imported water program, which contributes water to the recharge program in South County. The SCVWD also serves as a major water wholesaler for the County and is the contracting agency for both the State Water Project and the Federal Central Valley Project.

It should be noted that there has been some preliminary discussion with SCVWD regarding the potential planning of a potable water treatment plant to be in the South County area. SCVWD currently owns and operates three treatment facilities in the North County and sells treated surface water to retailers. A conceptual siting of the future water treatment plant favors a location between the City of Gilroy and the City of Morgan Hill.

11.0 GROUNDWATER BASIN

The groundwater basin underlying the City is part of the Santa Clara Valley Groundwater Basin. The groundwater basin is divided into three interconnected subbasins that transmit, filter, and store water. These basins consist of the Santa Clara Valley Subbasin to the north, the Coyote Subbasin, and the Llagas Subbasin to the south.

Table 2 Land Use and Water Demands Comparison Water Supply Assessment Provisions of SB 610 Downtown Specific Plan Project City of Gilroy										
District/Land Use	Acreage (Acres)	City-Wide Demand (MGD)	General Plan/Master Plan Adjusted ¹ Demand Coefficient (gpd/gr. ac.)	Project Demand (MGD)	Estimated Commercial Development (%)	Estimated Residential Development (%)	Downtown Specific Plan Commercial ¹ Demand Coefficient (gpd/gr. ac.)	Residential ¹ Demand Coefficient (gpd/gr. ac.)	Composite Demand Coefficient (gpd/gr. ac.)	Project Demand (MGD)
Cannery District										
Downtown Commercial (DCOM)	5.1		800	0.004						
General Services Commercial (GCOM)	15.3		800	0.012						
Low Density Residential (LD)	6.1		1,300	0.008						
Medium Density Residential (MD)	4.3		2,100	0.009						
Open Space (NFG)	0.6		0	0						
Subtotal	31.4		1,061	0.033	29%	71%	800	2,100	1,723	0.054
Civic/Cultural Arts District										
Downtown Commercial (DCOM)	7.1		800	0.006						
Low Density Residential (LD)	1.7		1,300	0.002						
OTHER	8.0		900	0.007						
Subtotal	16.8		899	0.015	40%	60%	800	2,100	1,580	0.027
Downtown Expansion District										
Downtown Commercial (DCOM)	22.8		800	0.018						
General Services Commercial (GCOM)	17.4		800	0.014						
Subtotal	40.2		800	0.032	44%	56%	800	2,100	1,528	0.061
Downtown Historic District										
Downtown Commercial (DCOM)	20.7		800	0.017						
General Services Commercial (GCOM)	4.9		800	0.004						
Subtotal	25.6		800	0.020	44%	56%	800	2,100	1,528	0.039
Gateway District										
Downtown Commercial (DCOM)	26.4		800	0.021						
General Services Commercial (GCOM)	23.8		800	0.019						
General Industrial (GIND)	0.2		800	0.000						
Visitor Services (HCOM)	2.4		800	0.002						
Industrial Park (IP)	1.1		800	0.001						
Open Space (NFG)	0.4		0	0.000						
OTHER	0.1		900	0.000						
Subtotal	54.4		794	0.043	73%	27%	800	2,100	1,151	0.063
Transitional District										
Downtown Commercial (DCOM)	20.6		800	0.016						
General Services Commercial (GCOM)	0.1		800	0.000						
Subtotal	20.7		800	0.017	69%	31%	800	2,100	1,203	0.025
Total	189	8.80	850	0.16					1,421	0.27

1. Source: 2004 City of Gilroy Water System Master Plan

The Santa Clara Valley Groundwater basin is not an adjudicated groundwater basin, as defined by the California Water Plan Update, Bulletin 160-98, Figure 3-28 on page 3-54 and Table 3-16 on page 3-55.

The California Water Plan Update, Bulletin 160-98 page 3-50, Table 3-15, lists the 1995 and 2020 level overdraft for the central coast of 214 thousand acre feet (taf). As shown in Table 3-15 of the report, groundwater overdraft is expected to decline to 102 taf during 2020 average and drought years. During drought periods, water levels in these basins may decline. However, during wet periods, most of these basins recover, thus making application of overdraft or perennial yield concepts difficult.

The California Department of Water Resources is currently evaluating the Central Coast region groundwater use to better estimate overdraft, but this evaluation has not been completed. Overdraft in the Central Coast region is expected to decline as demand shifts from groundwater to imported surface water, provided through the recently completed Coastal Branch of the California Aqueduct.

The Regional Llagas Subbasin conditions are addressed in the SCVWD reports on groundwater and mentioned in the 2000 UWMP. Historical SCVWD records indicate that the volume in annual storage had been historically fluctuating in these Subbasins. The City is aggressively pursuing overdraft reduction through Demand Management Measures (DMM) and proactive water recycling (as described in the 2000 UWMP).

The Santa Clara Valley Subbasin in the northern part of the county extends from Coyote Narrows at Metcalf road to the County's northern boundary. The Diablo mountain range bounds it on the east and the Santa Cruz Mountains on the west. These two ranges converge at the Coyote Narrows to form the southern limits of the subbasins. The Santa Clara Valley Subbasin is approximately 22 miles long and 15 miles wide, with a surface area of 225 square miles. A confined zone within the northern areas of the subbasin is overlaid with a series of clay layers resulting in a low permeability zone. The southern area is the unconfined zone, or fore bay, where the clay layer does not restrict recharge.

The Coyote Subbasin extends from Metcalf Road south to Cochran Road, where it joins the Llagas Subbasin at a groundwater divide. The Coyote Subbasin is approximately 7 miles long and 2 miles wide and has a surface area of approximately 15 square miles. The subbasin is generally unconfined and has no thick clay layers. This subbasin generally drains into the Santa Clara Valley Subbasin.

The Llagas Subbasin, which the City is located in, extends from Cochran road, near Morgan Hill, south to the County's southern boundary. It is connected to the Bolsa Subbasin of the Hollister Basin and bounded to the south by the Pajaro River (the Santa Clara-San Benito County line). The Llagas Subbasin is approximately 15 miles long, 3 mile wide along its northern boundary, and 6 miles wide along the Pajaro River. The subbasin surface area is approximately 74 square miles. A thick clay layer which extends north from

the Pajaro River divides this subbasin into confined and fore bay zones. The operational storage capacity of this subbasin is estimated to be 150,000 AF.

The three subbasins serve multiple functions. They transmit water through the gravelly alluvial fans of streams into the deeper confined aquifer of the central part of the valley. They filter water making it suitable for drinking and for municipal, industrial and agricultural uses. They also have a vast storage capacity, together they supply as much as half of the annual water needs of the county.

12.0 WATER RECYCLING

In 1977, the Santa Clara Valley Water District (SCVWD), the City of Gilroy, and the Gavilan Water Conservation District began a partnership to construct and operate a recycled water system extending from the South County Regional Wastewater Authority (SCRWA) treatment plant in southeast Gilroy to several customers along Princevalle Drain and Hecker Pass Road. In 1999, the SCVWD and SCRWA agreed to enter a partnership with SCRWA as a supplier, the SCVWD as wholesaler, and the City as a retailer to develop a water recycling program in the South County and to provide for future expansion of the treatment plant and delivery system. The recycled water delivery system in the South County is now referred to as the South County Recycled Water System. Currently, the SCVWD takes delivery of the recycled water at the SCRWA treatment plant in southeast Gilroy and pumps it through a distribution system to a City park and a championship golf course in southwest Gilroy.

SCRWA operates and maintains its regional wastewater treatment facilities under an agreement with the Operations Management International, Inc. (OMI) and treats an average daily wastewater flow of 6.3 million gallons per day (MGD) derived from the cities of Gilroy and Morgan Hill. SCRWA currently recycles up to 3 MGD of tertiary treated recycled water (Title 22 water), which it distributes to five existing customers for a combined usage of above 700 AF per year for non-potable uses, all irrigation uses. In a long term, SCRWA projects the average daily wastewater flow will increase from the existing 6.3 MGD to 11 MGD in the next 20 years (Table 3). The district and SCRWA plan to recycle all wastewater that flows into the treatment plant.

Table 3 Recycled Water Use Water Supply Assessment - Provisions of SB 610 Downtown Specific Plan Project City of Gilroy					
Year	2000	2005	2010	2015	2020
Recycled Water Use	3 MGD	9 MGD	9 MGD	11 MGD	11 MGD

Currently, SCRWA is upgrading its tertiary treatment facilities to 9 MGD capacity. The SCVWD, in the partnership with SCRWA, is proposing to expand its recycled water distribution program in conjunction with SCRWA's expansion plan. The expansion plan

includes a new 3.0 million gallon (MG) recycled water storage tank to service the existing and proposed recycled water users, and plans to add another 3.0 MG tank in the future for a total of 6.0 MG of on site recycled water storage.

13.0 WATER SUPPLY RELIABILITY

The supply reliability is considered for the near-term needs (present to 2010) and the long term needs (beyond 2010). There are two aspects of supply reliability to be considered. The first relates to immediate service needs and is primarily a function of the availability and adequacy of the supply facilities. This aspect is considered for emergency reliability. The second aspect is climate-related, and involves the availability of water during mild or severe drought periods.

In the near term, the addition of two new groundwater wells will provide enhanced reliability to the supply. Addition of storage facilities will also enhance long-term reliability. These facilities will provide emergency storage sufficient to handle the service area needs during power outages or other emergencies. Adding supply and distribution system enhancements will also add reliability through redundancy.

The annual quantity of available groundwater in the City is not expected to vary significantly in relation to wet or dry years, as shown in Table 4 for the estimated year 2020 supplies. This assumes that groundwater yield is not reduced due to water quality issues. During extended drought periods, groundwater levels generally decline and will require more aggressive demand management practices and continued implementation of recycled water. The reliability and vulnerability of the water supply to seasonal or climatic shortages remains constant.

Table 4 Water Supply Reliability Water Supply Assessment - Provisions of SB 610 Downtown Specific Plan Project City of Gilroy					
Supply Units	Average/Normal Water Year	Single Dry Water Year	Multiple Dry Water Years		
			Year 1	Year 2	Year 3
MGD	30.8	30.8	30.8	30.8	30.8
AFY	34,500	34,500	34,500	34,500	34,500

Note: Supply projections through the planning horizon of 2020.

14.0 SUPPLY AND DEMAND COMPARISON

City-wide comparisons of projected supplies and demands are shown on Table 5. Based on the City’s current plans to increase the water supply capabilities to meet maximum day demands (MDD) and to provide standby production capabilities, the supply capacity will consistently meet the demand requirements for any given year.

Table 5 indicates a total demand of approximately 13,100 AF projected for year 2020, compared with a projected supply capability for that same year of 34,500 AF.

15.0 SUMMARY AND CONCLUSION

This Water Supply Assessment (WSA) was prepared to assist the City of Gilroy in satisfying the requirements of SB 610. The WSA included a review of the City's Urban Water Management Plan, the City's Water System Master Plan, and this Project's water requirements.

In accordance with this review, and supported by the conclusion drawn in Section 9.0, This water supply assessment considers that most of the water demands associated with this development have already been accounted for in the most recently adopted 2000 UWMP (Adopted April 2004 and approved by DWR November 2004). Furthermore, this assessment does not consider the 1 percent increase in City-wide water demands to represent a significant impact on City-wide supply conditions, especially since the increase is largely offset by reductions of demands in other planning areas, including the Hecker Pass Specific Plan area and the South County Regional Wastewater Authority (SCRWA) ambitious recycled water program.

Table 5 Projected Supply and Demand Comparison Water Supply Assessment - Provisions of SB 610 Downtown Specific Plan Project City of Gilroy					
Condition	Demand		Available Supply		Supply Deficit
	(AF)	(MGD)	(AF)	(MGD)	(MGD)
Near-Term					
Normal	9,297	8.3	17,362	15.5	none
Multi-year Drought					
Year 1	9,297	8.3	17,362	15.5	none
Year 2	9,297	8.3	17,362	15.5	none
Year 3	9,297	8.3	17,362	15.5	none
2005					
Normal	9,857	8.8	25,539	22.8	none
Multi-year Drought					
Year 1	9,857	8.8	25,539	22.8	none
Year 2	9,857	8.8	25,539	22.8	none
Year 3	9,857	8.8	25,539	22.8	none
2010					
Normal	11,425	10.2	32,036	28.6	none
Multi-year Drought					
Year 1	11,425	10.2	32,036	28.6	none
Year 2	11,425	10.2	32,036	28.6	none
Year 3	11,425	10.2	32,036	28.6	none
2015					
Normal	12,210	10.9	32,036	28.6	none
Multi-year Drought					
Year 1	12,210	10.9	32,036	28.6	none
Year 2	12,210	10.9	32,036	28.6	none
Year 3	12,210	10.9	32,036	28.6	none
2020					
Normal	13,106	11.4	34,500	30.8	none
Multi-year Drought					
Year 1	13,106	11.4	34,500	30.8	none
Year 2	13,106	11.4	34,500	30.8	none
Year 3	13,106	11.4	34,500	30.8	none
<p>Note: Supply projections assume that groundwater yield is not being reduced due to water quality issues.</p> <p>Source: City of Gilroy 2000 Urban Water Management Plan (Adopted April 2004 Approved by DWR November 2004)</p>					

APPENDIX E

Groundwater Studies

KENNETH D. SCHMIDT AND ASSOCIATES

GROUNDWATER QUALITY CONSULTANTS

600 WEST SHAW, SUITE 250

FRESNO, CALIFORNIA 93704

TELEPHONE (559) 224-4412

April 14, 2003

Mr. Tony Akel
Carollo Engineers
7580 N. Ingram Ave.
Fresno, CA 93711

Re: City of Gilroy
Groundwater Conditions

Dear Tony:

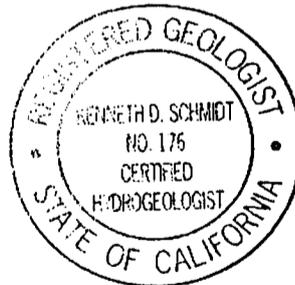
Submitted herewith is our report on groundwater conditions
beneath the City of Gilroy.

Sincerely yours,



Kenneth D. Schmidt
Geologist No. 1578
Certified Hydrologist
No. 176

KDS:ld



GROUNDWATER CONDITIONS
BENEATH THE CITY OF GILROY

prepared for
Carollo Engineers
Fresno, California

by
Kenneth D. Schmidt and Associates
Ground Water Quality Consultants
Fresno, California

March 2003

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GROUNDWATER CONDITIONS
BENEATH THE CITY OF GILROY

INTRODUCTION

This report provides information on groundwater conditions beneath the City of Gilroy. The study area is approximately bounded on the north by the intersection of Highway 101 and Los Animas Avenue, on the west by Santa Teresa Boulevard, on the south by Southside Drive, and on the east by Camino Arroyo. The California Department of Water Resources (1981) discussed regional groundwater conditions in south Santa Clara County, which included Gilroy. The City is located in the Llagas sub-basin of the south Santa Clara Valley. The City is located between Uvas Creek and Llagas Creek, which flow through the area to the south. This evaluation focuses on City wells. Well construction data are first discussed. This is followed by a discussion of subsurface geologic conditions beneath the city. Water levels are then discussed, followed by well production and aquifer characteristics. Lastly, groundwater quality is discussed.

CITY WELL DATA

Table 1 summarizes construction data for active City wells. The locations of these wells are shown in Figure 1. Depths of the eight active wells range from 302 to 920 feet deep. In general,

TABLE 1 - CONSTRUCTION DATA FOR ACTIVE
CITY SUPPLY WELLS

Well No.	Date	Depth Drilled (feet)	Casing Diameter (inches)	Depth Cased (feet)	Perforated Interval (feet)	Annular Seal (feet)
1	11/32	701	16	700	65-690	-
2	11/47	407	14	470	180-460	-
4	5/60	302	14	302	120-300	0-72
5-02	6/98	880	16	860	390-840	0-370
6	7/79	715	16	530	200-510	0-190
7	5/77	515	-	410	130-400	0-50
8	9/87	500	16	470	240-460	0-215
8A	8/87	920	16	800	530-790	0-505

Note: The perforated interval is from the top to the bottom of the perforations, which are not continuous.

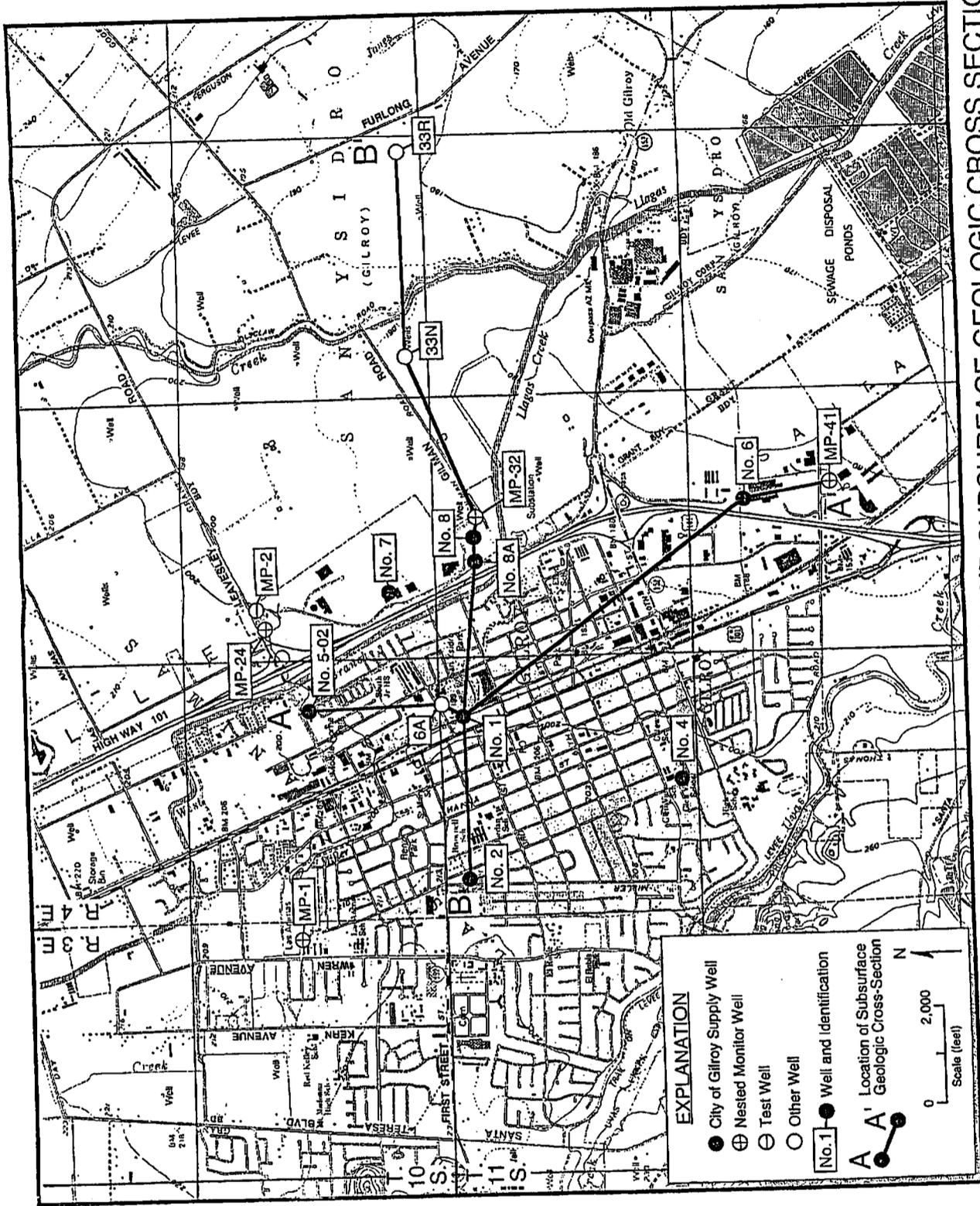


FIGURE 1 - LOCATION OF SELECTED WELLS AND SUBSURFACE GEOLOGIC CROSS SECTIONS

the older wells have shallower perforations. Wells drilled after 1978 have deeper annular seals than the earlier wells, extending from a depth of 190 feet to as deep as 505 feet. City Wells No. 5-02 and 8A tap strata only below a depth of 390 feet, and thus tap the deepest strata of the City wells. In addition to the supply wells, there are four nested monitor well sites in the City. Depth of the holes for these wells were from 460 to 1,200 feet.

SUBSURFACE GEOLOGIC CONDITIONS

The California Department of Water Resources (1981) extensively discussed subsurface geologic conditions beneath the Gilroy vicinity. They presented two generalized subsurface geologic cross sections extending through Gilroy. The Franciscan Formation generally comprises the bedrock or hardrock in the area. Consolidated silt, clay, and sand of the Santa Clara Formation underlie the valley fill or unconsolidated deposits. Alluvial deposits comprise the aquifer beneath the City. Lacustrine deposits (primarily clay) are found at depth, particularly in the south part of the Gilroy area. These were deposited in the ancestral Lake San Benito.

The California Department of Water Resources (1981) presented a map showing the elevation of the base of the water-bearing alluvial deposits in west part of the Gilroy area. Elevations

beneath the west part of the City ranged from about 200 feet above sea level to the west, to more than 200 feet below sea level to the east. At the time the map was prepared, there were no wells deep enough to reach the base of alluvium in the area east of Monterey Street. Information from City of Gilroy wells that were drilled after 1986 indicates that alluvial deposits extend to a depth of at least 900 feet beneath part of the City. These deposits thus thicken to the east beneath the City.

Figure 1 shows the location of two subsurface geologic cross sections that were developed as part of this evaluation. Cross section A-A' (Figure 2) extends from the north at City Well No. 5-02 to the south-southeast through City Wells No. 1 and 6, to nested monitor well MP-41. Coarse-grained deposits (sand or gravel), fine-grained deposits (clay), and intermediate textured deposits are shown. Several distinctive blue clay layers have been identified. One of these is near sea level along the south part of the section (City Well No. 6 and MP No. 41). This clay is about 40 to 50 feet thick, and appears to be associated with Lake San Benito. Two additional deeper clay layers are shown along the south edge of the section, between 100 and 200 feet below sea level. Several blue clay layers mixed with gravel were found at City Wells farther north. Deposits along Section A-A' are generally coarser to the north. Several stream channel deposits are present at city well

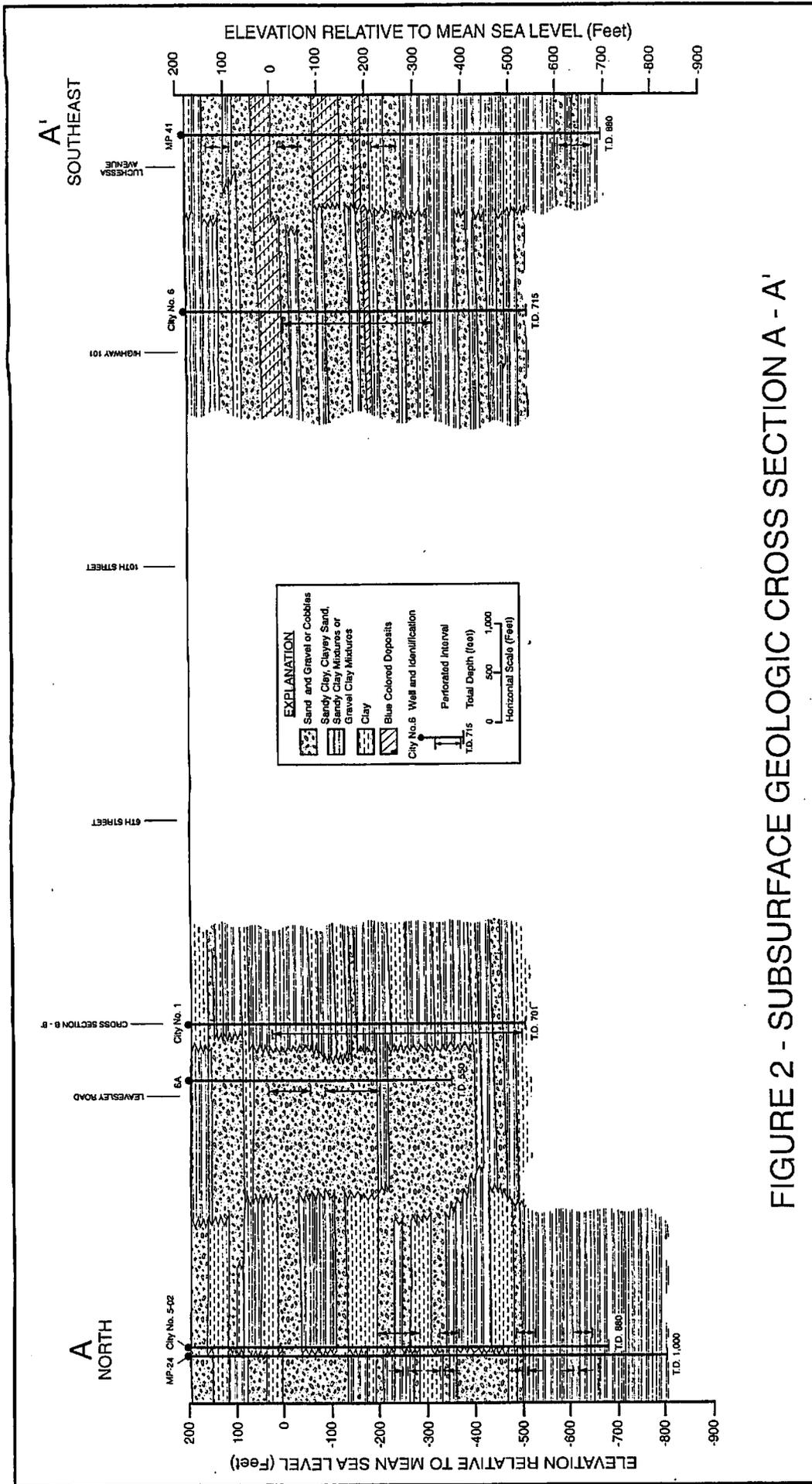


FIGURE 2 - SUBSURFACE GEOLOGIC CROSS SECTION A - A'

No. 5-02. Deposits below a depth of about 700 feet are indicated to be primarily fine grained along the north part of the section. Near the south edge of the section, deposits below a depth of about 450 feet are predominately fine-grained.

Cross Section B-B' (Figure 3) extends from the west at City Well No. 2, then east through City Wells 1, 8A, 8 and several other wells east of the city. City Well No.2 apparently encountered the top of the Franciscan Formation at a depth of about 470 feet. Deeper City wells further to the east did not encounter the bedrock. A thick coarse-grained sequence is present above a depth of about 450 feet along the central and eastern parts of this section. These coarse-grained deposits appear to be related to the ancestral Llagas Creek. Fine-grained deposits are predominant below a depth of about 750 feet along this section. Deposits of an intermediate texture are predominant at City Well No. 1, and water-producing zones are relatively thin and deep.

WATER LEVELS

Semi-annual water-level measurements are available for the Gilroy Area since 1969. The California Department of Water Resources (1981) provided water-level maps for Fall 1974 and Fall 1974. Both maps indicated a south-southeasterly direction of groundwater flow beneath Gilroy. Groundwater flowed from northwest

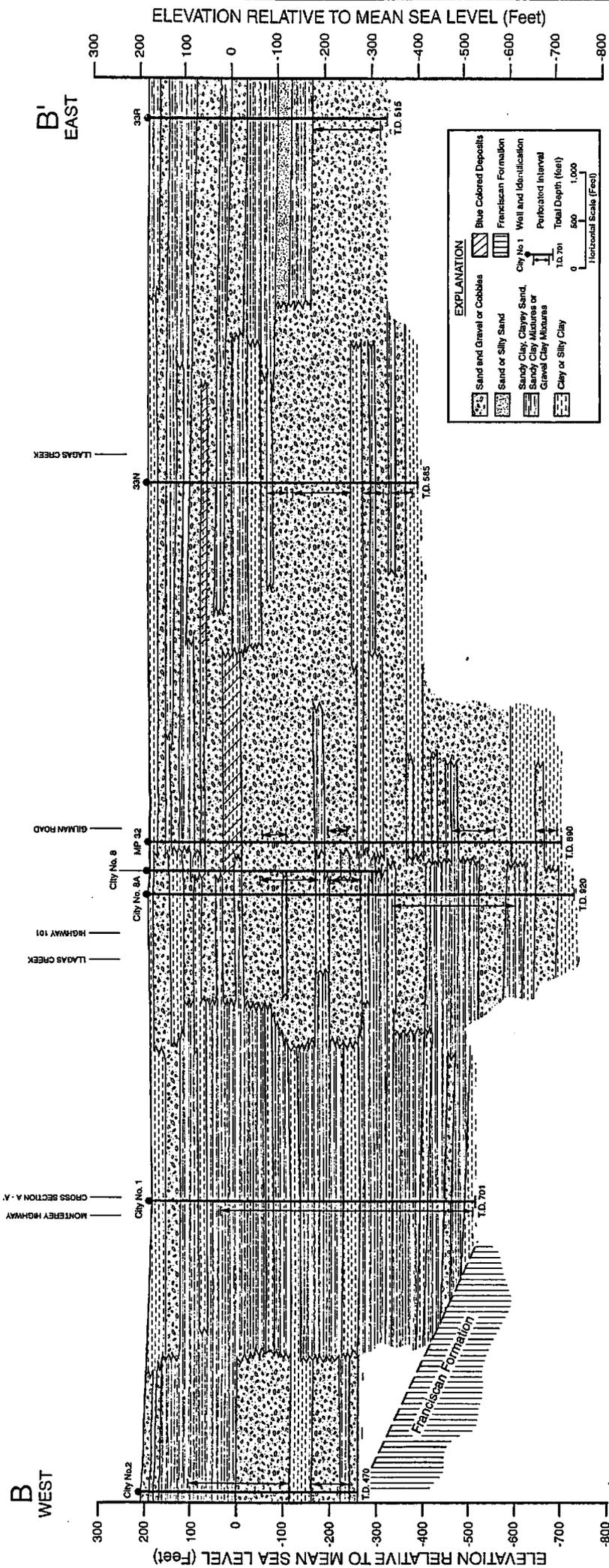
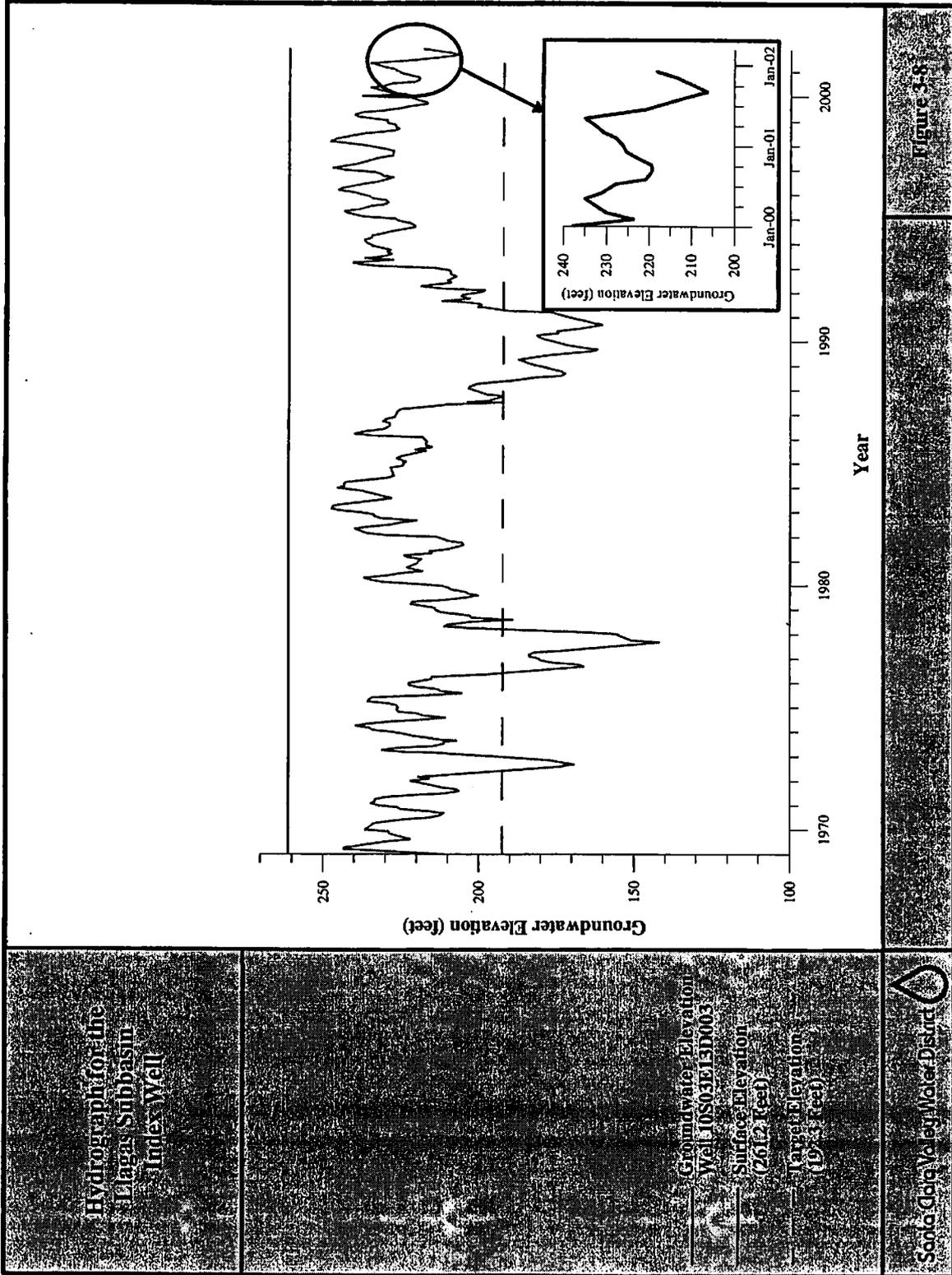


FIGURE 3 - SUBSURFACE GEOLOGIC CROSS SECTION B - B'

of Gilroy into the City, and from near the mountain fronts toward the central part of the Llagas sub-basin. Water levels in the Gilroy area were about 30 feet deeper in 1974 compared to 1914. Groundwater tapped by most wells in the Llagas sub-basin is generally present under unconfined conditions. However, groundwater in some of the deeper strata (below a depth of about 500 feet) is indicated to be confined. South of Gilroy, extensive lacustrine deposits are present, and groundwater at most depths is generally confined. There were a number of flowing wells in 1914 south of Old Gilroy, prior to the on-set of large scale pumpage. The Santa Clara Valley Water District (2002) presented a water-level elevation map for Spring 2001. This map indicates a southeasterly direction of groundwater flow.

Water-level decline in the Llagas sub-basin have been offset in recent decades by recharge in percolation basin along Llagas and Uvas Creeks. One such site is located southwest of Gilroy along Uvas Creek. Figure 4 is a water-level hydrograph for the SCVWD index well in the Llagas sub-basin (T10S/R3E-13D3). Water-level measurements for this well indicate no long term overdraft between 1969 and 2001. Water-levels have risen and fallen, and fluctuations are generally related to climatic periods. The deepest water levels were during the 1976-77 and 1987-93 drought periods.



Hydrograph for the
Blagas Subbasin
Index Well

Groundwater Elevation
Well 10S03B131003
Surface Elevation
(26.2 feet)
Tide Elevation
(19.7 feet)

State College Water District

Figure 5-8

FIGURE 4

TABLE 2 - PUMP TEST RESULTS FOR
CITY OF GILROY WELLS

<u>Well No.</u>	<u>Date</u>	<u>Pumping Rate (gpm)</u>	<u>Drawdown (feet)</u>	<u>Specific Capacity (gpm/ft)</u>
1	2/11/00	1,971	58.0	34.0
2	2/11/00	1,197	16.6	72.1
4	3/3/01	1,279	39.6	32.3
5-02	2/21/01	1,917	26.1	73.4
6	2/1/00	2,210	19.8	111.6
7	2/1/00	2,527	17.8	141.9
8	2/1/00	2,878	40.7	70.7
8A	2/1/00	348	-	-

Pump tests conducted by Monterey County Pump Testing Service of Spreckels, California.

WELL YIELDS AND AQUIFER CHARACTERISTICS

Table 2 provides the results of pump tests for City wells that were tested during 2000-2001. Except for Well No. 8A, pumping rates ranged from about 1,200 to 2,900 gpm. Pumping rates for five of the City wells exceeded 1,900 gpm. Specific capacities of the City wells ranged from 32 to 142 gpm per foot, and exceeded 70 gpm per foot for five of the wells. Specific capacities were the highest (exceeding 110 gpm per foot) for Wells No. 6 and 7. Both of these wells tap the thick coarse-grained deposits above a depth of about 500 feet that were previously discussed for Cross Section B-B'. Based on specific capacities, transmissivities of the strata tapped by City wells likely range from about 100,000 to 200,000 gpd per foot. These indicate a prolific aquifer.

GROUNDWATER QUALITY

High nitrate concentrations are present in shallow groundwater beneath irrigated lands in much of the Llagas Sub-basin (Santa Clara Valley Water District, 2001). Typical nitrate concentrations in water from shallow wells are near the MCL of 45 mg/l. City of Gilroy wells tap either deep groundwater or both shallow and deep groundwater. Table 3 summarizes results of analyses of water from City wells during 2000-2001 for inorganic chemical constituents and alpha activity. TDS concentrations ranged for about 250 to 330

TABLE 3 - INORGANIC CHEMICAL QUALITY OF
WATER FROM CITY WELLS

<u>Constituent (mg/l)</u>	<u>No. 1</u>	<u>No. 2</u>	<u>No. 4</u>	<u>No. 5-02</u>
Calcium	49	49	40	50
Magnesium	30	30	24	24
Sodium	24	24	18	28
Potassium	-	-	-	1
Carbonate	-	-	-	-
Bicarbonate	221	211	221	239
Sulfate	35	41	44	30
Chloride	26	25	16	28
Nitrate	33	29	18	31
pH	7.6	7.4	7.4	7.5
Electrical Conductivity (micromhos/cm @ 25°C)	497	502	456	517
Total Dissolved Solids	296	326	258	324
Iron	<0.1	<0.1	<0.1	<0.1
Manganese	<0.02	<0.02	<0.03	<0.02
Arsenic	<0.002	<0.002	<0.002	<0.002
Chromium	<0.01	<0.01	<0.01	<0.01
Alpha Activity (picocuries/l)	1.3	1.7	0.0	0.3
Date	4/12/00	4/12/00	6/6/00	10/5/01
Perforated Interval (feet)	65-690	180-460	120-300	390-840

Continued:

TABLE 3 - INORGANIC CHEMICAL QUALITY OF
WATER FROM CITY WELLS (Continued)

Constituent (mg/l)	No. 6	No. 7	No. 8	No. 8A
Calcium	52	51	53	50
Magnesium	28	28	25	9
Sodium	26	25	26	53
Potassium	-	-	1	1
Carbonate	-	-	-	-
Bicarbonate	237	234	245	234
Sulfate	34	28	29	30
Chloride	20	25	29	31
Nitrate	22	29	36	15
pH	7.6	7.5	7.7	7.9
Electrical Conductivity (micromhos/cm @ 25°C)	449	502	500	515
Total Dissolved Solids	310	326	254	304
Iron	<0.1	<0.1	<0.1	<0.1
Manganese	<0.02	<0.02	<0.03	<0.03
Arsenic	<0.002	<0.002	<0.004	<0.002
Chromium	<0.01	<0.01	0.025	<0.01
Alpha Activity (picocuries/l)	1.0	0.7	1.6	2.7
Date	4/12/00	4/12/00	7/20/00	6/6/00
Perforated Interval (feet)	200-510	130-400	240-460	530-790

Samples were analyzed by Sequoia Analytical of Morgan Hill.

mg/l. The lowest concentrations were in water from Wells No. 4 and 8, which are relatively shallow wells. Nitrate concentrations ranged from 15 to 36 mg/l, below the MCL of 45 mg/l. The lowest concentrations were in water from Wells No. 4 and 8A. Well No. 4 is the shallowest City well, but is also downgradient from much urban land, and is relatively distant from irrigated agricultural land. Well No. 8A has the deepest perforated interval of the City wells.

The County of Santa Clara conducted an extensive well testing program for nitrate in the area in 1988, and the SCVWD conducted a similar program in 1998. Since February 1999, the SCVWD has been conducting a routine quarterly nitrate monitoring program for about 55 wells in the Coyote and Llagas sub-basins.

The water from City wells is either of the mixed cation bicarbonate or calcium-sodium bicarbonate type. Concentrations of iron, manganese, and arsenic were well below the respective MCLs. The only detectable arsenic and chromium concentrations were present in water from Well No. 8.

Perchlorate contaminated groundwater is present in part of the Llagas Sub-basin. However, water from all of the City wells has had no detectable concentrations. Tetrachloroethylene (PCE) has been detected in water from the oldest two active City Wells (No. 1 and 2) at concentrations below the MCL of 5 ppb in water. Water

from Well No. 1 had PCE concentrations ranging from 0.5 to 1.0 ppb during 2000 and 2002. This well has perforations extending up to a depth of 65 feet. Water from Well No. 2 had PCE concentrations ranging from 0.6 to 1.7 ppb during 2000-2002. Neither of these two wells has a documented annular seal, according to DOHS records. Potential sources of PCE in groundwater in the area include dry cleaners and other facilities that have handled solvents.

REFERENCES

California Department of Water Resources, 1981 "Evaluation of Groundwater Resources, South San Francisco Bay, Vol IV, South Santa Clara County Area", Bulletin 118-1, 143 p.

Santa Clara Valley Water District, 2001, "Santa Clara Valley Water District Groundwater Management Plan"

Santa Clara Valley Water District, 2002, "Groundwater Conditions, 2001".

APPENDIX F

Water Reduction Program

City of Gilroy

Water Reduction Program

REVISED 1992

Water Uses Prohibited:

1. Water waste, including, but not limited to, flooding or runoff on sidewalks, driveways, streets, gutters and similar outdoor surfaces.
2. Cleaning/washing of sidewalks, driveways, filling station aprons, patios, porches, parking lots or other paved or hard-surfaced areas, except for cleaning/washing for health or safety purposes.
3. Use of water through an unattended hose without a positive automatic or manual shutdown valve, or a sprinkler device on the outlet end of the hose.
4. Use of water for construction purposes, such as consolidation of backfill, unless no other source of water or method can be used.
5. Waste of water due to broken or defective plumbing, sprinklers, and watering/irrigation systems.
6. Restaurant water service unless upon request.
7. From April 1 to November 1, outside landscape irrigation for any residential, business or industrial purpose between the hours of 10:00 a.m. and 6:00 p.m.
 - a. Exemptions from this provision:
 - (1) Drip irrigation systems and the use of reclaimed water.
 - (2) The watering of landscaping (trees, shrubs, flowers, grass, etc.) at the time of installation.
8. Require water audit for large industrial, commercial, and multi-family residential water users.

Revised 04/21/92

REVISEDCITY OF GILROY
1991
WATER REDUCTION PROGRAMWater Uses Prohibited:

1. Water waste, including, but not limited to, flooding or runoff on sidewalks, driveways, streets, gutters and similar outdoor surfaces.
2. Cleaning/washing of sidewalks, driveways, filling station aprons, patios, porches, parking lots or other paved or hard-surfaced areas, except for cleaning/washing for health purposes, as required by the Public Health Code.
3. Washing of the exterior of dwellings, buildings and structures with the exception of window washing and washing in direct conjunction with the painting of the structure.
4. Use of water through a hose without a positive automatic or manual shutdown valve on the outlet end of the hose. Commercial automobile washing is permitted when water is recycled within an approved tolerance.
5. Operation of decorative fountains, unless they utilize a recirculating system.
6. Use of water for construction purposes, such as consolidation of backfill, unless no other source of water or method can be used.
7. Waste of water due to broken or defective plumbing, sprinklers, and watering/irrigation systems.
8. Restaurant water service unless upon request.
9. Hydrant flushing, except where required for public health and safety.
10. Re-filling of existing private pools, except to maintain water levels. (Solar blankets/covers are recommended.)
11. Outside landscape irrigation for any residential, business or industrial purpose between the hours of 10:00 a.m. and 6:00 p.m.
 - a. Drip irrigation systems and the use of reclaimed water are exempt from the provisions of this section.

Other Requirements

1. Require water audit for large industrial, commercial, and multi-family residential water users.

Revised 05/07/91

DRAFT ORDINANCE - 35 PERCENT WATER USE REDUCTION PROGRAM

**AN ORDINANCE OF THE CITY OF GILROY
DECLARING THE EXISTENCE OF A CONDITION OF DROUGHT
AND/OR WATER SHORTAGE AND
PROVIDING FOR MANDATORY REDUCTIONS IN
AND SPECIFIED PROHIBITIONS OF WATER USE**

The City Council of Gilroy does hereby enact as follows:

ARTICLE I

The Council finds and determines that a severe state of drought and/or 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.

ARTICLE II

From and after the effective date of this Ordinance, a Stage 3 Water Use Reduction Program is in effect. All provisions of the Stage 2 Water Use Reduction Program remain in effect. In addition, it shall be unlawful to make any of the following uses of potable water:

- 1 through 11. As specified in Stage 2 Water Reduction Program.
12. Golf course watering; except for tees, greens, and landing areas.
13. New installation of landscaping or landscaping renovation unless in compliance with applicable City/County/SCVWD policies and guidelines, as posted by the Public Works Department.
14. Washing cars, except in automatic car washes.
15. Filling new swimming pools.
16. Notice of drought conditions must be posted in hotels, motels, restaurants, restrooms.

ARTICLE III

Any affected water user aggrieved by the application of the foregoing prohibitions may petition the Council for relief, specifying the petitioner's claim of special hardship or inequality of burden and stating the relief requested. The Council will hear the petition without avoidable delay and may take action to grant it, grant it in part or deny it, following the hearing or following any continuation thereof.

ARTICLE IV

This Ordinance will be published in full within ten days after its adoption pursuant to Section 6061 of the California Government Code in a newspaper of general circulation within this municipality. From and after the said publication, violation of the Ordinance is a misdemeanor punishable by a fine not to exceed five hundred dollars (\$500), or imprisonment in the county jail for not to exceed thirty days or by both the fine and the imprisonment. Each day of violation shall constitute a separate offense.

ARTICLE V

The Council may at any time find and determine that the state of drought no longer exists and may suspend indefinitely the application of the above prohibitions; provided, that such application may not be reinstated except upon and following a finding of drought and publication of notice thereof in a newspaper of general circulation within this municipality pursuant to Section 6061 of the Government Code.

ARTICLE VI

Should any section or provision of this Ordinance be found by a court of competent jurisdiction to be invalid, the decision shall not affect the validity of the Ordinance as a whole or any part thereof other than the part decided to be invalid.

PASSED AND ADOPTED . . .

Retrofit Upon Bathroom Alteration

Effective _____, all structures, including residential, commercial, and industrial structures, shall, upon Bathroom Alteration, be Retrofitted exclusively with Water-Conserving Plumbing Fixtures.

Retrofit Exemption

The Administrative Authority may grant an exemption in the following instance:

1. Unavailability of Water-Conserving Plumbing Fixtures to match defined historic architectural style (i.e., Victorian, Mission) fitted with authentic plumbing fixtures, in a local, State or Federally designated building of historic significance.
2. When exemption would be permitted or required by State law.

Compliance

1. It shall be the transferor's responsibility, upon Change of Ownership, to obtain any necessary plumbing replacement of toilets as required by the Gilroy City Code.
2. It shall be the title holder's responsibility, upon Bathroom Alteration, to obtain any necessary plumbing permits for replacement of toilets required by the Gilroy City Code.

Self-Verification

1. Upon Retrofitting with Water-Conserving Plumbing Fixtures, the transfer, or upon Change of Ownership, or the title holder, upon Bathroom Alteration, shall submit to the Administrative Authority a "Water Conservation Certificate", the form of which is available from the Administrative Authority, verifying that Water-Conserving Plumbing Fixtures have been installed.
2. "Water Conservation Certificates" shall be maintained by the Administrative Authority in order to provide future verification that Water Conserving Plumbing Fixtures have been installed.
3. "Water Conservation Certificates" shall also be available to those who voluntarily install Water Conserving Plumbing Fixtures or have installed Water-Conserving Plumbing Fixtures prior to January 1, 1992.

MORATORIUM ON NEW OR EXPANDED WATER USE

It is necessary and appropriate to enact a moratorium on new or expanded water service to customers served by the City in order to protect the public health, safety, and welfare until the Council has, by ordinance, declared the present water shortage emergency to be resolved.

Moratorium on New or Expanded Water Service

Effective _____, the City shall not provide new or expanded water service or sell meters for water service connections to consumers in the City after the effective date of this ordinance, except to consumers who have previously been issued valid building permits by the City which have not expired or been revoked. Notwithstanding the foregoing, the City may supply new or expanded water service to public agencies, including but not limited to schools, fire stations, police stations, and other facilities which serve the community, such as hospitals, as necessary to protect the public health, safety, and welfare.

Water Not Supplied for New Plantings

Effective _____, the City shall not provide water for use on any new plantings or landscaping installed after the effective date of this ordinance.

Moratorium on Annexations Outside the City's Water Service Area

Effective _____, the City shall not annex territory located outside of its water service area."

ARTICLE III

Any affected water user aggrieved by the application of the foregoing prohibitions may petition the Council for relief, specifying the petitioner's claim of special hardship or inequality of burden and stating the relief requested. The Council will hear the petition without avoidable delay and may take action to grant it, grant it in part or deny it, following the hearing or following any continuation thereof.

ARTICLE IV

This Ordinance will be published in full within ten days after its adoption pursuant to Section 6061 of the California Government Code in a newspaper of general circulation within this municipality. From and after the said publication, violation of the Ordinance is a misdemeanor punishable by a fine not to exceed five hundred dollars (\$500), or imprisonment in the county jail for not to exceed thirty days or by both the fine and the imprisonment. Each day of violation shall constitute a separate offense.

ARTICLE V

The Council may at any time find and determine that the state of drought no longer exists and may suspend indefinitely the application of the above prohibitions; provided, that such application may not be reinstated except upon and following a finding of drought and publication of notice thereof in a newspaper of general circulation within this municipality pursuant to Section 6061 of the Government Code.

DRAFT ORDINANCE - 50 PERCENT WATER USE REDUCTION PROGRAM

AN ORDINANCE OF THE CITY OF GILROY DECLARING THE EXISTENCE OF A CONDITION OF DROUGHT AND/OR WATER SHORTAGE AND PROVIDING FOR MANDATORY REDUCTIONS IN AND SPECIFIED PROHIBITIONS OF WATER USE

The City Council of Gilroy does hereby enact as follows:

ARTICLE I

The Council finds and determines that a critical state of drought and/or 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.

ARTICLE II

From and after the effective date of this Ordinance, a Stage 4 Water Use Reduction Program is in effect. All provisions of the Stage 3 Water Use Reduction Program remain in effect. In addition, it shall be unlawful to make any of the following uses of potable water:

- 1 through 16. As specified in Stage 3 Water Reduction Program.
17. Operation of a pool without a cover.
18. Turf irrigation with potable water (no irrigation meter water use).
19. New landscaping of public facilities.
20. Water conservation devices must be retrofitted in hotels, motels, etc.

RETROFITTING WITH WATER CONSERVATION FIXTURES

It is necessary and appropriate to require the installation of "water conserving plumbing fixtures" in the event of a change of ownership of property or bathroom alterations in the City due to the serious water shortage in the City.

Definitions

The following definitions shall apply to this section:

1. "Water Conserving Plumbing Fixtures" means any toilet using a maximum of 1.6 gallons of water per flush, urinals that use a maximum of 1.0 gallon of water per flush, showerheads with a maximum flow capacity of 2.5 gallons of water per minute, faucets that emit

a maximum of 2.5 gallons of water per minute, and shutoff valves for residential reverse osmosis systems."

2. "Existing Plumbing Fixtures" means any toilet using 3.5 or more gallons of water per flush, urinals using more than 1.0 gallons per flush, showerheads with a flow capacity of more than 2.5 gallons of water per minute, faucets that emit more than 2.2 gallons of water per minute, and residential reverse osmosis systems not equipped with shutoff valves.

3. "Retrofit" means replacing "Existing Plumbing Fixtures" with "Water-Conserving Plumbing Fixtures".

4. "Change of Ownership" means a transfer of present interest in real property, or a transfer of the right to beneficial use thereof, the value of which is substantially equal to the proportion of the ownership interest transferred.

5. "Existing Structure" means either of the following:

a. Any structure built and available for use or occupancy on or before January 1, 1983, which is equipped with a toilet using 3.5 or more gallons of water per flush or a urinal using more than 1.0 gallons of water per flush; or

b. Any structure built and available for use or occupancy on or before December 1, 1991, which is equipped with a showerhead with a flow capacity of more than 2.5 gallons of water per minute, a faucet that emits more than 2.2 gallons of water per minute or a residential reverse osmosis system not equipped with shutoff valves.

6. "Bathroom Alteration" means any alteration or addition of a bathroom that would necessitate obtaining a plumbing permit for replacement of a toilet(s) as required by the Gilroy City Code.

7. "Administrative Authority" means the Building Official of the City of Gilroy or his/her designee.

8. "Water Conservation Certificate" means a certificate acknowledging that installation of Water Conserving Plumbing Fixtures has been completed and has been submitted to the Administrative Authority by a transfer upon Change of Ownership or by a property owner or manager upon Bathroom Alteration.

Retrofit Upon Change of Ownership

Effective _____, all Existing Plumbing Fixtures in Existing Structures, including residential, commercial, and industrial structures, shall, at the time of Change of Ownership, be Retrofitted, if not already done, exclusively with Water-Conserving Plumbing Fixtures. At the discretion of the transferor, compliance with this section may be included as a condition of the escrow, and the costs of compliance may be paid from the proceeds of sale for completion of the work required.

ARTICLE VI

Should any section or provision of this Ordinance be found by a court of competent jurisdiction to be invalid, the decision shall not affect the validity of the Ordinance as a whole or any part thereof other than the part decided to be invalid.

PASSED AND ADOPTED . . .

APPENDIX G

Water Shortage Contingency Plan Adopted Resolution

WHEREAS, funds available from Proposition 44 are expected to be a significant help in developing locally sponsored water conservation, drainage, and groundwater recharge projects.

NOW, THEREFORE, BE IT HEREBY RESOLVED that the Gilroy City Council supports Proposition 44 and urges its passage by the California electorate on June 3, 1986.

PASSED AND ADOPTED this 19th day of May, 1986, by the following vote:

AYES: COUNCILMEMBERS: GAGE, KLOECKER, MUSSALLEM, PALMER-
LEE, VALDEZ and ALBERT.
NOES: COUNCILMEMBERS: None
ABSENT: COUNCILMEMBER: HUGHAN

APPROVED:

/s/ SHARON ALBERT

Mayor Protempore

ATTEST:

/s/ SUSANNE E. STEINMETZ
City Clerk

I, SUSANNE E. STEINMETZ; City Clerk of the City of Gilroy, do hereby certify that the attached Resolution No. 86-28 is an original resolution, duly adopted by the Council of the City of Gilroy at a regular meeting of said Council held on the 19th day of May, 19 86, at which meeting a quorum was present.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the Official Seal of the City of Gilroy this 20th day of May 19 86.


City Clerk of the City of Gilroy

ORDINANCE NO. 89-9

AN ORDINANCE OF THE CITY OF GILROY DECLARING A
MORATORIUM ON SINGLE PASS WATER COOLING SYSTEMS.

WHEREAS, due to lack of rain and an abnormally low
water table, a water shortage exists in the City of Gilroy
at the present time, and

WHEREAS, regulation of water use in the City of Gilroy
is necessary to conserve available water, and

WHEREAS, single pass water cooling systems are wasteful
and use excessive quantities of water,

THE COUNCIL OF THE CITY OF GILROY DOES ORDAIN AS FOLLOWS:

SECTION I. A moratorium is declared on the installation
of single pass water cooling systems for a period of six months
from the affective date of this ordinance.

SECTION II. All other ordinances and parts of ordinances
in conflict herewith are hereby repealed.

SECTION III. This ordinance shall take effect and be
in full force thirty (30) days from and after its adoption
and approval.

PASSED AND ADOPTED this 3rdday of April 1989, by the
following vote:

AYES:	COUNCILMEMBERS:	GAGE, HALE, KLOECKER, MUSSALLEM, PALMERLEE, VALDEZ and HUGHAN
NOES:	COUNCILMEMBERS:	NONE
ABSENT:	COUNCILMEMBERS:	NONE

APPROVED;

/s/ ROBERTA H. HUGHAN
Mayor

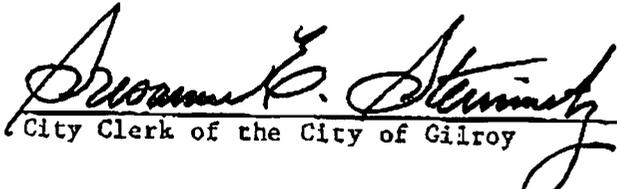
ATTEST:

/s/ SUSANNE E. STEINMETZ
City Clerk

ORDINANCE NO. 89-9

I, SUSANNE E. STEINMETZ, City Clerk of the City of Gilroy, do hereby certify that the attached Ordinance No. 89-9 is an original ordinance, duly adopted by the Council of the City of Gilroy at a regular meeting of said Council held on the 3rd day of April, 19 89, at which meeting a quorum was present.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the Official Seal of the City of Gilroy this 4th day of April, 19 89.



City Clerk of the City of Gilroy

(Seal)

RESOLUTION NO. 89 - 14

RESOLUTION OF THE COUNCIL OF THE CITY OF GILROY IN SUPPORT OF A COMPREHENSIVE DROUGHT RESPONSE PROGRAM.

WHEREAS, groundwater production must remain in relative balance with recharge from year to year in order to prevent overdrafting of the aquifers, with associated loss of long term storage and possible infrastructure damage, with costly damage to this City, and possible salt water intrusion; and

WHEREAS, Santa Clara County is entering its third year of below average rainfall, and there are insufficient local and imported water resources to meet the current and anticipated demand; and

WHEREAS, the United States Bureau of Reclamation has announced that it has cut the Santa Clara Valley Water District's water allotment by fifty percent; and

WHEREAS, the State Department of Water Resources has announced it has cut the Santa Clara Valley Water District's water allotment by ten percent; and

WHEREAS, the City and County of San Francisco's Hatch Hetchy Project has indicated they will be requesting the cities that they serve to reduce water consumption by twenty-five to thirty-five percent; and

WHEREAS, the Santa Clara Valley Water District states that there is a need for an area-wide effort to reduce water consumption by forty-five percent; and

WHEREAS, there is great urgency to initiate water conservation measures designed to respond to the current drought situation; and

WHEREAS, the Cities in Santa Clara County and the County of Santa Clara recognize that it is essential that there be long-term and permanent water conservation.

NOW, THEREFORE, BE IT RESOLVED that the City of Gilroy is committed to all of the following:

Significantly reducing the City's municipal water use;

Vigorously encouraging all Cities, the County of Santa Clara, and all other public agencies in Santa Clara County to do likewise;

-1-

RESOLUTION NO. 89 - 14

Initiating a vigorous water conservation public education program, which would include active public participation;

Actively promoting the use of water conservation devices in residential, commercial, governmental, and industrial uses;

Requiring efficient water use in landscaping;

Promoting the use of reclaimed water; and

Adopting regulations to discourage or eliminate water wasting.

PASSED AND ADOPTED this 21st day of March, 1989, by the following vote:

AYES: COUNCILMEMBERS: GAGE, HALE, KLOECKER, MUSSALLEM, PALMERLEE, VALDEZ and HUGHAN.

NOES: COUNCILMEMBERS: None

ABSENT: COUNCILMEMBERS: None

APPROVED:

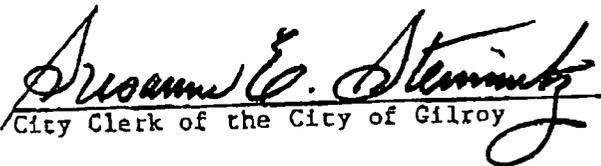
/s/ ROBERTA H. HUGHAN
Mayor

ATTEST:

/s/ SUSANNE E. STEINMETZ
City Clerk

I, SUSANNE E. STEINMETZ, City Clerk of the City of Gilroy, do hereby certify that the attached Resolution No. 89-14 is an original resolution, duly adopted by the Council of the City of Gilroy at a regular meeting of said Council held on the 20th day of March, 19 89, at which meeting a quorum was present.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the Official Seal of the City of Gilroy this 21st day of March, 19 89.


City Clerk of the City of Gilroy

(Seal)

RESOLUTION NO. 89-11

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF GILROY
REGULATING WATER USE PURSUANT TO SECTION 27.30 OF THE
GILROY CITY CODE

WHEREAS, due to lack of rain, extreme heat and an abnormally low water table, a water shortage exists in the City of Gilroy at the present time, and

WHEREAS, regulation of water use in the City of Gilroy from the date of this Resolution until further order of the Council is necessary to conserve available water,

NOW, THEREFORE, BE IT RESOLVED that pursuant to section 27.30 of the City Code that water shall not be used at any time for the following purposes:

1. Water waste, including but not limited to, flooding or runoff on sidewalks, driveways, streets, gutters, and similar outdoor surfaces.
2. Cleaning of sidewalks, driveways, filling station aprons, patios, porches, parking lots, or other paved or hard surfaced areas.
3. Washing of the exterior of dwellings, buildings, and structures with the exception of window washing.
4. 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. Commercial automobile washing is permitted when water is recycled within an approved tolerance.
5. Operation of decorative fountains, even if they utilize a recirculating system.

6. Use of water for construction purposes, such as consolidation of backfill, unless no other source of water or method can be used.

7. Waste water due to broken or defective plumbing, sprinklers, watering/irrigation systems.

8. Restaurant water service unless upon request.

9. Hydrant flushing, except where required for public health and safety.

10. Outdoor irrigation from December 1 to March 1.

11. Re-filling of existing private pools, except to maintain water levels. (Solar blankets/covers are recommended.)

12. Outside landscape irrigation except during the following specified hours and days:

a. Water shall not be used for any residential, business, or industrial outdoor irrigation purpose between the hours of 9 a.m. and 7 p.m.

b. Outdoor irrigation may occur according to house, industrial, or business address on every third day as follows:

<u>Address ending number</u>	<u>Watering day</u>
00-33	Monday and Thursday
34-66	Tuesday and Friday
67-99	Wednesday and Saturday

BE IT FURTHER RESOLVED that violation of the above provisions implementing section 27.30 of the City Code shall
RESOLUTION NO. 89-11

be deemed an infraction punishable under section 27.94, and the Departments of Public Works, Parks and Recreation and Police are directed to issue citations therefore; provided that any person so cited who disputes the City Administrator's determination as to lack of necessity may request review and dismissal of the citation by the Council at its next regular meeting and prior to court appearance on the citation.

PASSED AND ADOPTED this 6th day of March 1989, to become effective March 20, 1989, by the following vote:

AYES: COUNCILMEMBERS: GAGE, HALE, KLOECKER, MUSSALLEM,
PALMERLEE, VALDEZ and HUGHAN
NOES: COUNCILMEMBERS: NONE
ABSENT: COUNCILMEMBERS: NONE

APPROVED:

Mayor

ATTEST:

City Clerk

EXHIBIT "A"

REVISED

CITY OF GILROY
1992
WATER REDUCTION PROGRAM

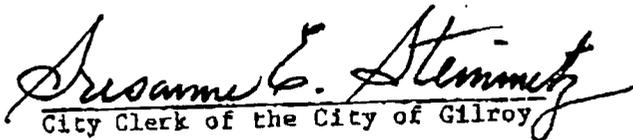
Water Uses Prohibited:

1. Water waste, including, but not limited to, flooding or runoff on sidewalks, driveways, streets, gutters and similar outdoor surfaces.
2. Cleaning/washing of sidewalks, driveways, filling station aprons, patios, porches, parking lots or other paved or hard-surfaced areas, except for cleaning/washing for health or safety purposes.
3. Use of water through an unattended hose without a positive automatic or manual shutdown valve, or a sprinkler device on the outlet end of the hose.
4. Use of water for construction purposes, such as consolidation of backfill, unless no other source of water or method can be used.
5. Waste of water due to broken or defective plumbing, sprinklers, and watering/irrigation systems.
6. Restaurant water service unless upon request.
7. From April 1 to November 1, outside landscape irrigation for any residential, business or industrial purpose between the hours of 10:00 a.m. and 6:00 p.m.
 - a. Exemptions from this provision:
 - (1) Drip irrigation systems and the use of reclaimed water.
 - (2) The watering of landscaping (trees, shrubs, flowers, grass, etc.) at the time of installation.
8. Require water audit for large industrial, commercial, and multi-family residential water users.

Revised 04/21/92

I, SUSANNE E. STEINMETZ, City Clerk of the City of Gilroy, do hereby certify that the attached Resolution No. 92-28 is an original resolution, duly adopted by the Council of the City of Gilroy at a regular meeting of said Council held on the 20th day of April, 19 92, at which meeting a quorum was present.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the Official Seal of the City of Gilroy this 21st day of April, 19 92.


City Clerk of the City of Gilroy

(Seal)

RESOLUTION 91-27

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF
GILROY AMENDING RESOLUTION NO. 91-22 REGULATING
WATER USE.

WHEREAS, due to additional information, amendment
of watering regulations seem advisable,

NOW, THEREFORE, BE IT RESOLVED that paragraph 4 and 5
of Resolution No. 91-22 regulating outdoor water use during 1991
shall be amended as follows:

4. Washing of one's car may take place on any day.
5. Decorative fountains are permitted if they use a
recirculating system.

PASSED AND ADOPTED this 6th day of May 1991, by the
following vote:

AYES: COUNCILMEMBERS: GAGE, HALE, KLOECKER, MUSSALLEM
NELSON, VALDEZ and HUGHAN

NOES: COUNCILMEMBERS: NONE

ABSENT: COUNCILMEMBERS: NONE

APPROVED:

/s/ ROBERTA H. HUGHAN

Mayor

ATTEST:

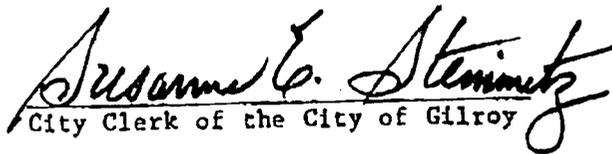
/s/ SUSANNE E. STEINMETZ

City Clerk

RESOLUTION No. 91-27

I, SUSANNE E. STEINMETZ, City Clerk of the City of Gilroy, do hereby certify that the attached Resolution No. 91-27 is an original resolution, duly adopted by the Council of the City of Gilroy at a regular meeting of said Council held on the 6th day of May, 1991, at which meeting a quorum was present.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the Official Seal of the City of Gilroy this 17th day of May, 1991.


City Clerk of the City of Gilroy

(Seal)

RESOLUTION 91-26

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF
GILROY AMENDING RESOLUTION NO. 91-22 REGULATING
WATER USE.

WHEREAS, due to additional information, amendment
of watering regulations seem advisable,

NOW, THEREFORE, BE IT RESOLVED that paragraph 11 of
Resolution No. 91-26 regulating outdoor water use during 1991
shall be amended to provide that odd-even irrigation is highly
recommended by the city, but a variation from the odd-even
schedule is not a citable offense due to difficulty in setting
automatic sprinklers.

PASSED AND ADOPTED this 6th day of May 1991, by the
following vote:

AYES: COUNCILMEMBERS: HALE, KLOECKER, MUSSALLEM, NELSON
and VALDEZ

NOES: COUNCILMEMBERS: GAGE and HUGHAN

ABSENT: COUNCILMEMBERS: NONE

APPROVED:

/s/ ROBERTA H. HUGHAN

Mayor

ATTEST:

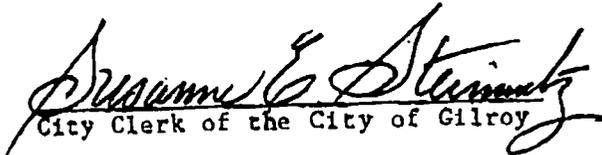
/s/ SUSANNE E. STEINMETZ

City Clerk

RESOLUTION No. 91-26

I, SUSANNE E. STEINMETZ, City Clerk of the City of Gilroy, do hereby certify that the attached Resolution No. 91-26 is an original resolution, duly adopted by the Council of the City of Gilroy at a regular meeting of said Council held on the 6th day of May, 1991, at which meeting a quorum was present.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the Official Seal of the City of Gilroy this 17th day of May, 19 91.


City Clerk of the City of Gilroy

(Seal)

RESOLUTION 91-22

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF
GILROY AMENDING RESOLUTIONS NOS. 89-11, 89-46 AND
90-16 REGULATING WATER USE.

WHEREAS, for the balance of 1991, adjustment of watering
regulations seems advisable,

NOW, THEREFORE, BE IT RESOLVED that the Water Reduction
Program for 1991 shall be as set forth on Exhibit A attached
hereto.

PASSED AND ADOPTED this 8th day of April 1991 , by the
following vote:

AYES: COUNCILMEMBERS: GAGE, HALE, KLOECKER, and VALDEZ

NOES: COUNCILMEMBERS: NELSON

ABSENT: COUNCILMEMBERS: MUSSALLEM and HUGHAN

APPROVED:

/s/ PETE VALDEZ, JR.
Mayor Pro-tem

ATTEST:

/s/ SUSANNE E. STEINMETZ
City Clerk

RESOLUTION No. 91-22

1991
WATER REDUCTION PROGRAM

Water Uses Prohibited:

1. Water waste, including, but not limited to, flooding or runoff on sidewalks, driveways, streets, gutters and similar outdoor surfaces.
2. Cleaning/washing of sidewalks, driveways, filling station aprons, patios, porches, parking lots or other paved or hard-surfaced areas, except for cleaning/washing for health purposes, as required by the Public Health Code.
3. Washing of the exterior of dwellings, buildings and structures with the exception of window washing and washing in direct conjunction with the painting of the structure.
4. Use of water through a hose without a positive automatic or manual shutdown valve on the outlet end of the hose. Commercial automobile washing is permitted when water is recycled within an approved tolerance. Washing of one's residential car, bus, trailer or other motor vehicle shall take place on one's designated watering day.
5. Operation of decorative fountains, even if they utilize a recirculating system.
6. Use of water for construction purposes, such as consolidation of backfill, unless no other source of water or method can be used.
7. Waste of water due to broken or defective plumbing, sprinklers, and watering/irrigation systems.
8. Restaurant water service unless upon request.
9. Hydrant flushing, except where required for public health and safety.
10. Re-filling of existing private pools, except to maintain water levels. (Solar blankets/covers are recommended.)
11. Outside landscape irrigation except during specified hours and on specified days. The following is the detailed plan for this provision:
 - a. Water shall not be used for any residential, business or industrial outdoor irrigation purpose between the hours of 10:00 a.m. and 6:00 p.m.
 - b. The day that outdoor irrigation can occur will be directed by one's house, industrial, or business address. If one's address ends in an even number, one can irrigate on all of the even numbered days of the month. If one's address ends in an odd number, one can irrigate on all the odd numbered days of the month.

Example: If you live at 100 First Street, you may use outdoor sprinklers on even-numbered days of the month between the hours of midnight-10:00 a.m. and 6:00 p.m.-midnight.

Example: If you live at 101 First Street, you may use outdoor sprinklers on odd-numbered days of the month between the hours of midnight-10:00 a.m. and 6:00 p.m.-midnight.
 - c. Drip irrigation systems and the use of reclaimed water are exempt from the provisions of this section.

Other Requirements

1. Require water audit for large industrial, commercial, and multi-family residential water users.

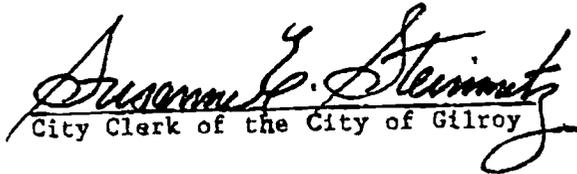
bold print denotes changes to last year's program.
Revised 04/10/91

EXHIBIT "A"

RESOLUTION No. 91-22

I, SUSANNE E. STEINMETZ, City Clerk of the City of Gilroy, do hereby certify that the attached Resolution No. 91-22 is an original resolution, duly adopted by the Council of the City of Gilroy at a regular meeting of said Council held on the 8th day of April, 1991, at which meeting a quorum was present.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the Official Seal of the City of Gilroy this 17th day of April, 19 91.


City Clerk of the City of Gilroy

(Seal)

RESOLUTION NO. 90 - 16

RESOLUTION OF THE COUNCIL OF THE CITY OF GILROY AMENDING RESOLUTION NOS. 89-11 and 89-46 REGULATING WATER USE

WHEREAS, due to the experience of last year's water conservation program and for the ease of water users and administration thereof, adjustment of watering regulations seems advisable.

NOW, THEREFORE, BE IT RESOLVED that paragraphs 2 and 3 of Resolution No. 89-11 shall be amended to read as follows:

2. Cleaning of sidewalks, driveways, filling station aprons, patios, porches, parking lots, or other paved or hard surfaced areas, except for cleaning/washing for health purposes as required by the Public Health Code.

3. Washing of the exterior of dwellings, buildings, and structures with the exception of window washing and washing in direct conjunction with the painting of the structure.

BE IT FURTHER RESOLVED that paragraph 12 of Resolution No. 89-11 and paragraph 12.a. of Resolution No. 89-46 shall be amended to read as follows:

12. Outside landscape irrigation except drip irrigation systems and except during the following specified hours and days:

a. Water shall not be used for any residential, business, or industrial outdoor irrigation purpose between the hours of 10 a.m. and 6 p.m.

i.e. You may water on your watering days between the hours of midnight-10 a.m. and 6 p.m.-midnight.

PASSED AND ADOPTED this 19th day of March, 1990, by the following vote:

AYES: COUNCILMEMBERS: GAGE, HALE, KLOECKER, MUSSALLEM, NELSON,
VALDEZ and HUGHAN.

NOKS: COUNCILMEMBERS: None

ABSENT: COUNCILMEMBERS: None

APPROVED:

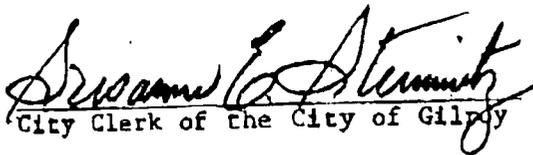
/s/ ROBERTA H. HUGHAN
Mayor

ATTEST:

/s/ SUSANNE E. STEINMETZ
City Clerk

I, SUSANNE E. STEINMETZ, City Clerk of the City of Gilroy, do hereby certify that the attached Resolution No. 90-16 is an original resolution, duly adopted by the Council of the City of Gilroy at a regular meeting of said Council held on the 19th day of March, 1990, at which meeting a quorum was present.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the Official Seal of the City of Gilroy this 20th day of March, 1990.


City Clerk of the City of Gilroy

(Seal)

RESOLUTION NO. 89-65

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF GILROY
AMENDING RESOLUTION NO. 89-11 REGULATING WATER USE

WHEREAS, due to cooler weather, adjustment of watering regulations seems advisable,

NOW, THEREFORE, BE IT RESOLVED that paragraph 10 of Resolution No. 89-11 prohibiting outdoor irrigation from December 1 to March 1 shall be rescinded.

PASSED AND ADOPTED this 5th day of December 1989, by the following vote:

AYES: COUNCILMEMBERS: GAGE, HALE, KLOECKER, MUSSALLEM,
PALMERLEE, VALDEZ and HUGHAN

NOES: COUNCILMEMBERS: NONE

ABSENT: COUNCILMEMBERS: NONE

APPROVED:

..... /s/ ROBERTA H. HUGHAN

Mayor

ATTEST:

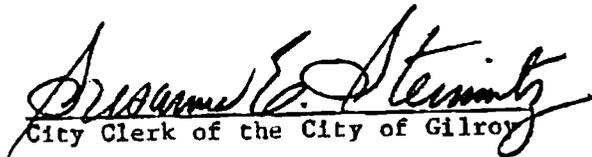
..... /s/ SUSANNE E. STEINMETZ

City Clerk

RESOLUTION NO. 89-65

I, SUSANNE E. STEINMETZ, City Clerk of the City of Gilroy, do hereby certify that the attached Resolution No. 89-65 is an original resolution, duly adopted by the Council of the City of Gilroy at a regular meeting of said Council held on the 4th day of December, 19 89, at which meeting a quorum was present.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the Official Seal of the City of Gilroy this 5th day of December, 19 89.


City Clerk of the City of Gilroy

(Seal)

APPENDIX H

Water Rate Structure



City of Gilroy
 Water Department
 7351 Rosanna Street
 Gilroy, CA 95020-6197

Phone: (408) 846-0420
 Fax: (408) 846-0421
 Visit our website: www.cityofgilroy.org
 Make checks payable to: City of Gilroy
 Business Hours – Mon.-Thurs. 8am-5pm
 Offices Closed on Fridays

Water Rates (Gilroy City Code Section 27.42 and 27.50)

Base Rates/Minimum Charge (not prorated)

<u>Meter Size</u>	<u>Base Rate/Month</u>
¾ inch	\$ 6.02
1 inch	\$ 6.79
1 ½ inch	\$ 16.98
2 inch	\$ 27.15

Residential

<u>Tiers</u>	<u>Rate/1,000 gallons</u>	<u>Zone 2</u>	<u>Zone 3</u>
0 - 5,000	\$ 0.88	\$ 1.62	\$ 2.38
5,001 - 15,000	\$ 1.73	\$ 2.47	\$ 3.23
15,001 - 30,000	\$ 4.65	\$ 5.40	\$ 6.16
30,001+	\$ 6.78	\$ 7.51	\$ 8.28

Senior

<u>Tiers</u>	<u>Rate/1,000 gallons</u>	<u>Zone 2</u>	<u>Zone 3</u>
0 - 5,000	Free	Free	Free
5,001 - 15,000	\$ 1.73	\$ 2.47	\$ 3.23
15,001 - 30,000	\$ 4.65	\$ 5.40	\$ 6.16
30,001+	\$ 6.78	\$ 7.51	\$ 8.28

Commercial

<u>Tiers</u>	<u>Rate/1,000 gallons</u>	<u>Zone 2</u>	<u>Zone 3</u>
0 - 3,000	\$ 0.88	\$ 1.62	\$ 2.38
3,001 - 30,000	\$ 2.10	\$ 2.82	\$ 3.59
30,001+	\$ 2.33	\$ 3.07	\$ 3.83

Irrigation

<u>Tiers</u>	<u>Rate/1,000 gallons</u>	<u>Zone 2</u>	<u>Zone 3</u>
0 - 30,000	\$ 4.65	\$ 5.40	\$ 6.16
30,001+	\$ 6.78	\$ 7.51	\$ 8.28

Sewer Rates (prorated ~ start & stop)

Single Family Residence \$31.23/month
 Multi Family Residence \$22.18/month

Numbers You May Need

South Valley Disposal ~ (Garbage service) 1351 Pacheco Pass Hwy 408-842-3358
 Pacific Gas & Electric 800-743-5000

To START / STOP water & sewer service in the City of Gilroy an authorized customer signature is required. ****IT WILL TAKE 1 BUSINESS DAY FROM DATE OF RECEIPT TO PROCESS REQUESTS****

Deposit will be credited to your account after one full year of service. If you move prior to one year your deposit will be credited to your closing bill. If a credit remains the balance will be refunded to you.

Automatic Payment Options Available: Electronic Fund Transfer (or) Automatic Credit Card

When you send in a check to make your payment, City of Gilroy may clear your check electronically. Receipt of your check will authorize the City of Gilroy to process your payment as an electronic debit to the checking account on which the check was written.