



# Urban Water Management Plan December 2005



December 2005  
Conformed for Council Action November 2006

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The Water supplier is a: Municipality

Utility services provided by the water supplier include: Water and Wastewater

Is This Agency a Bureau of Reclamation Contractor? No

Is This Agency a State Water Project Contractor? No

## Section 1 Introduction

### A. Introduction

This section describes the requirements and purpose of the Urban Water Management Planning Act (Act) and contents, and the relationship of the City of Morgan Hill's Plan to the regional water supply program and planning activities. This section also outlines the development and review process for this document, as well as the City's participation in the review process for the regional Plan.

This Plan provides information specific to the City, and takes into consideration the City's regional contexts. The Plan meets all requirements of the Water Code as described in the Department of Water Resources (DWR) Guidebook and as detailed in the DWR's 2005 Urban Water Management Plan, "Review for Completeness" Form.

#### A.1 The Urban Water Management Planning Act

This Urban Water Management Plan (Plan) has been prepared in response to the Urban Water Management Planning Act (Act), Water Code Division 6, Part 2.6, Sections 10610 through 10656. This Act, which became effective in 1984, requires all urban water suppliers to prepare and submit an Urban Water Management Plan every fifth year beginning in 1985. The City of Morgan Hill has prepared Plans dated 1985, 1990, 1996 and 2001. In addition to the original legislation, there have been several additional amendments to the Act, including Assembly Bill (AB) 11X which adds the requirement of preparing an Urban Water Contingency Plan, and AB 2853 which requires the Plan include information on recycled water and its potential use as a water source. Most recently, two senate bills have been added to the Act that coordinate local water supply and land use decisions in an effort to advance water supply planning efforts in the State of California. Senate Bill (SB) 610 requires preparation of water assessments under certain circumstances, while SB 221 requires written verification of water supply availability. Lastly, a third senate bill, SB 1087, has been added to the Act requiring water use projections for lower income single- and multiple-family households.

The Act requires that, "Every urban water supplier shall prepare and adopt an Urban Water Management Plan." An urban water supplier is defined by the Act as a "... supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually." The City of Morgan Hill (City) water system meets both of these criteria.

#### A.2 Year 2000 Plan Implementation Review

The City has worked in various areas to improve their water management efforts in the last five years. Since 2000, the City has improved their storage capacity by 4 million gallons through building the Edmundson Reservoir. A new one million gallon reservoir located in the Boys Ranch zone will be complete in the early part of 2006. In response to contamination of perchlorate problems with the Tennant well, the San Pedro well was constructed and ultimately a treatment system has since been placed on the existing well. The City has also spent \$1.4 million on implementing a new SCADA system, giving the City the ability to set control points to better effectuate a timed pumping system. Depending on the time of year, the City can pump off-peak into their storage reservoirs. Lastly, the City has been cognizant of their internal irrigation and maintenance practices in terms of where best water may be conserved. Through implementation of a fringe-area low maintenance plan implemented in 2004/05, the turf area has been reduced in public parks such that the amount of irrigation is significantly reduced.

In a shift toward utilizing the UWMP as a practical tool versus offering a general informational report to the State and the public, the City has opted for a more detailed description and/or approach to each section of

this Plan. This Plan is prepared to provide guidance and an understood direction of water conservation practices, controls, protection, and availability for continued beneficial use into the future.

## **B. Regional Relationships**

The City is located in southern Santa Clara County. The Santa Clara Valley Water District (District) is responsible for coordinating the water supply for much of Santa Clara County, including the City of Morgan Hill's service area.

In accordance with Section 10620 (b) of the Act, the City is relying the District's UWMP to provide the analysis required by the Act for the region (including the groundwater subbasins utilized by the City). Where appropriate, this Plan will refer the reader to the applicable sections of the District Plan (located in Appendix D).

The City also participates in the South County Regional Wastewater Authority (SCRWA) with the City of Gilroy. SCRWA is actively involved in water recycling activities, which are included within the description of the City's Water Use Efficiency Program.

## **C. 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.

The City of Morgan Hill has actively encouraged community participation in its urban water management planning efforts since the first plan developed in 1985. Each five-year plan has been prepared with the future of the City's water supply and demand interests in mind.

A draft of this Plan was made available for public review at the City Clerk's office in City Hall and at the Morgan Hill Public Library. A public hearing was noticed 30 days prior to the City Council meeting that combined the public hearing with Council approval of the Plan.

### **C.1 Plan Adoption**

The City of Morgan Hill prepared this Urban Water Management Plan (Plan) during fall 2005. The Plan was adopted by City Council in November 2006 and submitted to the California Department of Water Resources within 30 days of Council approval. The signed Resolution of Plan Adoption may be found in Appendix B. This plan includes all information necessary to meet the requirements of California Water Code Division 6, Part 2.6 (Urban Water Management Planning).

## **D. Agency Coordination**

### **Law**

10620 (d) (2) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.

### **D.1 Coordination Within the City**

The City's Public Works Department has prepared this Plan with the assistance of Harris & Associates. A list of City contacts is included in the front of this document, including the City's Water Conservation Coordinator. In addition, City Council has heard and reviewed the necessary Plan components to ensure the Plan is consistent with the City's ultimate local and regional goals.

### **D.2 Interagency Coordination**

The District adopted its most current Urban Water Management Plan (UWMP) in August of 2006. The City participated in the development and review of the District's UWMP through attendance of Stakeholder meetings, direct correspondence with District Staff, and submission of comments on each of their draft Plans. This Plan both references certain sections of the District's UWMP as well as supports local implementation of the District's work. This Plan was also presented to the District to ensure consistency and completeness.

## Section 2 Supplier Service Area

### 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.

### A. Geography

The City of Morgan Hill is located in the Santa Clara Valley about 12 miles south of San Jose and 10 miles north of Gilroy. The City consists of approximately 11 square miles with an additional 23 square miles in the Sphere of Influence. Most current development is between Highway 101 and the western foothills. The commercial core is along Monterey Road with an expanding commercial corridor along the 101 freeway. Beyond the core area, the development is discontinuous with residential and commercial land interspersed with vacant agricultural lands. There are large portions of developed land separated from the rest of the City, such as the Holiday Lake Estates and Jackson Oaks Areas. Most of the city is on relatively flat valley land, but some development has occurred on the foothill areas both east and west of the valley. Elevations of homes range from about 350 feet on the valley floor to over 1,200 feet in the foothills.

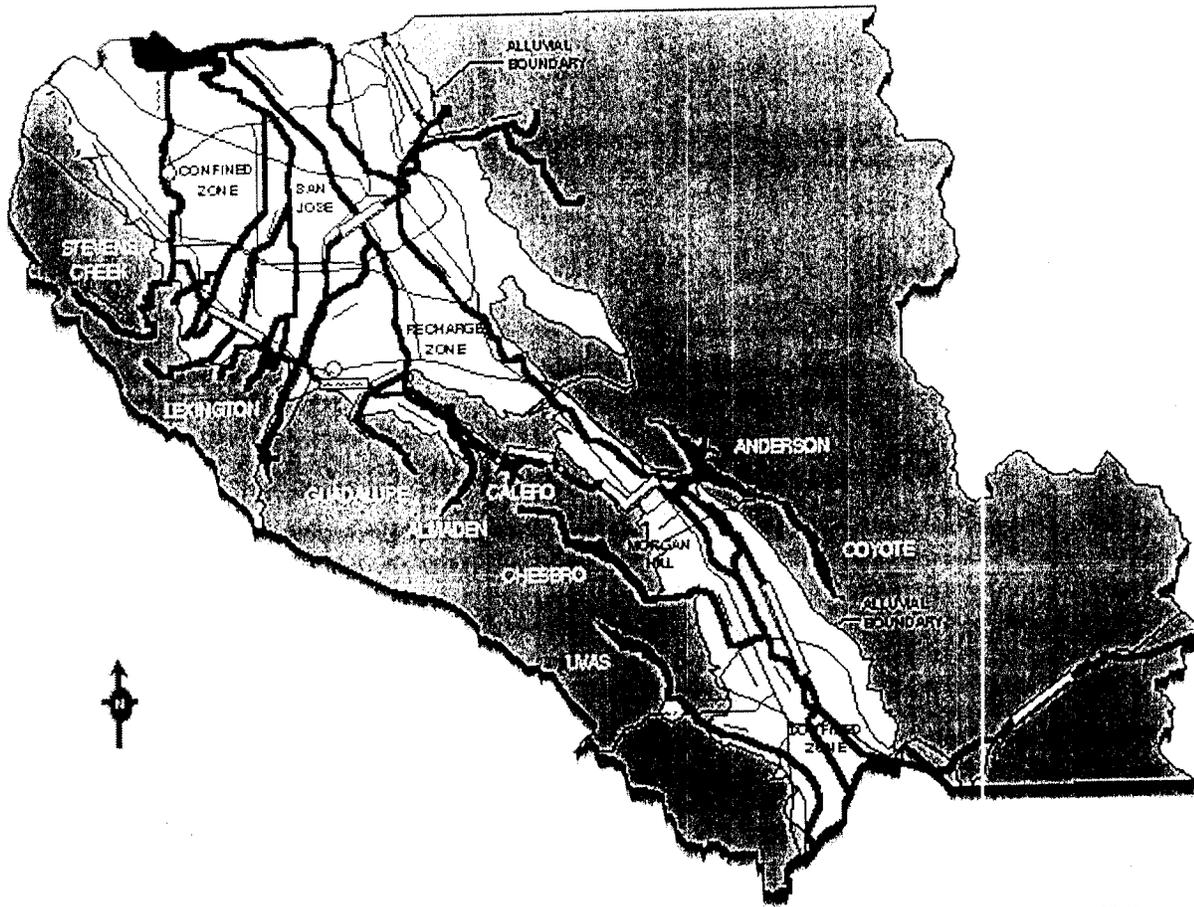
Geologically, the City of Morgan Hill is situated on the drainage divide between the San Francisco Bay and Monterey Bay. Coyote Creek drains from the eastern hills and flows north, while Llagas Creek drains the western hills and flows south. All flood control for these creeks and control of the local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

The Santa Clara Valley Groundwater Basin is divided into three subbasins: The Santa Clara Valley Subbasin in the North County, and the Coyote Valley and Llagas Subbasins in the South County. Morgan Hill is situated over both the Llagas and Coyote Valley groundwater subbasins. Aside from three wells known as the Boy's Ranch Wells, all wells serving the City are known to pull from the Llagas Groundwater Subbasin. It is unconfirmed whether the three Boy's Ranch Wells pull from the Coyote Valley Subbasin, the Llagas Subbasin, or both.<sup>1</sup> For purposes of this Plan, the City will assume its water system obtains all of the water from both Subbasins.

All subbasins are managed and administered by the District. The below figure illustrates the City and its relationship to the District boundaries and facilities.

<sup>1</sup> Observations have been made over time that show a drawdown of up to 30-feet in these wells when the East Main percolation ponds are drained for cleaning/scouring. These ponds are located south of the three wells and over (consequently serving to recharge) the Llagas Subbasin. However, when the water level in Coyote Creek northeast of the three wells is lowered due to controlled releases at the Anderson Reservoir, a fluctuation in the three wells' water levels is also observed. The Coyote Creek is understood to recharge the Coyote Subbasin in this area.

Figure 1: District Boundary and Facility Map



Source: SCVWD Facilities Map

## B. Climate

The entire Santa Clara valley is characterized by a Mediterranean climate. The area is semi-arid with most rainfall between the months of December and March. Average annual precipitation ranges from 14 inches on the floor valley (where the City is located) to 45 inches along the crest of the Santa Cruz Mountains.

There is a 125-year rainfall record for the County and the precipitation range is from 4.8 inches annually to over 30 inches annually, with an average annual evapotranspiration (ET<sub>o</sub>) of 49.35, as measured in downtown San Jose. In extremely wet years, runoff cannot be effectively captured for water supply.

Average temperature and precipitation data specific to the City of Morgan Hill is shown in the table below.

Table 1: Average Climate Data for the City of Morgan Hill

Morgan Hill, CA	Jan	Feb	Mar	Apr	May	Jun	
Period of Record -51 years							
Average Minimum Temperature (F)	36	36	36	39	45	53	
Average Maximum Temperature (F)	48	49	49	55	63	71	
Average Total Precipitation (in)	4.5	3.6	3.5	1.9	0.8	0.2	
Standard Average ET <sub>o</sub> (in)	1.4	1.9	3.5	5.0	5.9	6.7	

Climate Data Continued	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Minimum Temperature (F)	62	62	57	50	42	37	46
Average Maximum Temperature (F)	78	78	74	65	55	48	61
Average Total Precipitation (in)	-	0.1	0.3	1.2	3.1	3.9	23.0
Standard Average ETo (in)	7.1	6.3	4.8	3.6	1.8	1.4	49.4

Source: *weatherreports.com* for Morgan Hill; ETo from CIMIS Station 69 (San Jose) for unknown period.

### C. Water History of the City

The City was incorporated in 1906 and was primarily an agricultural settlement serving farms and ranches for the next 50 years. Since the 1960's, the City has been transformed into a primarily suburban residential community. Demand on the local groundwater subbasins for water supply purposes was largely for agricultural purposes. Within the last 30 years, the City has experienced growth pressure, as the economy of the "Silicon Valley" generated a need for affordable housing. During the same period, water supply has been increasingly concentrated on urban uses, most particularly residential demand.

### D. Profile of the City Today

The City's current population is 35,500<sup>2</sup>. Population has increased dramatically since 1970 (when the City had a population of approximately 5,600). Growth slowed during the 1980s because of limitations resulting from Measures E and P, two growth control measures. Currently growth is controlled within the City by Measure C, which places a population ceiling of 48,000 by the year 2020. It is expected that future measures will stipulate population limitations beyond 2020, which will likely be consistent with the population projections calculated to the year 2030 as described in the City's Water System Master Plan. There remains, however, a potential of further population growth beyond existing City limits and within the sphere of influence.

The City has become a "bedroom" community for the technology industry located in the more northern reaches of Santa Clara County and centered around the City of San Jose. The City is actively working to attract more business and commercial firms and there is the potential to double the existing employment by 2010.

The following table illustrates the City's population projections for the next 25 years.

**Table 2: Population Projections Through 2030**

Year	City Population	Average % Growth per Year
2000	33,092	
2005	36,500	2.0
2010	38,800	1.2
2015	43,400	2.3
2020	48,000	2.1
2025	53,600	2.2
2030	59,800	2.2

Source: *Water System Master Plan, Table 3.6*

<sup>2</sup> Source: City Well Production Table as of 7/14/05. Projected 2004 population from Table 3.6 of the City's Water Master Plan is 35,800.

## Section 3 Water Supply Sources

### 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. Water Supply Sources

The City is currently 100% dependent upon groundwater, although the San Felipe Feeder runs through the City. There are currently no formalized plans for the City to secure alternative or supplemental sources for their water supply.

The Llagas and Coyote Valley Subbasins are supplied by natural groundwater and imported water recharge. Recycled water is not used for recharge into these subbasins, and therefore it isn't included as a water supply source available to the City. The total current and projected water supply quantities available in these subbasins are shown in the table below. Per the District's analysis, "available" water is the amount of water pumped or expected to be pumped, which may or may not match that amount of water *actually available* for pumping within the groundwater subbasin(s). By using projected pumping quantities, the District is able to ensure that their retailer's future water needs are sustainable by taking into consideration carry-over storage and other important mechanisms affecting water supply availability in the future, e.g. during multiple dry year scenarios.

Table 3: Current and Projected Water Supplies

Current and Projected Water Supplies						
Water Supply Sources	2004	2010	2015	2020	2025	2030
Groundwater – Llagas Subbasin	45,876	49,300	47,600	45,600	47,300	48,100
Groundwater – Coyote Valley*	7,290	7,100	8,000	8,000	8,000	8,000
Other						
Total	53,166	56,400	55,600	53,600	55,300	56,100
Units of Measure: Acre-feet/Year						

\*Coyote Valley Subbasin projected water supply quantities shown herein are the bottom-end of the District's calculated range.

Source: Regional Urban Water Management Plan, 2005. Current data from Table 3-4, projected data from Tables 6-9 and 6-10.

The existing City system serves an area approximately six miles across from east to west and five and one half miles across north to south. The system is comprised of approximately 160 miles of pressurized pipeline, 15 water wells, 10 booster stations and 12 potable water reservoirs. Water is pumped from the 15 deep-water wells that are located throughout the City along the valley floor. The City owns and operates the facilities that make up the City water distribution system. A table of the City's wells is shown below, and a map of the water system is included as Figure 2 at the end of this Section.

Table 4: Existing Online Wells and Pumping Capacity as of May 2005

Well #	Well Name	Winter Capacity (MGD)	Summer Capacity (MGD)	Loss in Summer (MGD)
1	Boys Ranch I	1.69	1.32	0.370
2	Boys Ranch II	0.79	0.54	0.246
3	Boys Ranch III	0.65	0.50	0.145
4	Diana I	1.38	1.34	0.043
5	Diana II	1.82	1.80	0.013
6	Diana III	0.58	0.53	0.050
7	Dunne I	0.58	0.45	.0126
8	Jackson I	0.66	0.61	0.050
9	Main Well II	1.45	1.43	0.022
10	San Pedro	0.81	0.59	0.228
11	Tennant	0.59	0.59	0.004
12	Nordstrom	1.50	1.42	0.075
13	Butterfield	0.79	0.76	0.036
14	Dunne II	0.74	0.74	0.007
15	Main I	1.53	1.43	0.099
<b>TOTAL</b>		15.55	14.03	1.516

Source: Water Well Production, City Public Works Department.

All water is treated at the wellhead with chlorine to assure quality. The water from the wells in the valley region is then pumped up into the hills on both the east and west sides of the valley through a series of booster pump stations. There are a series of ascending water pressure zones, each served by a booster station and a water storage reservoir. The City water system is a completely independent system, and there is no interconnection to any other public water system.

## B. Groundwater

### B.1 Basin Overview

As previously mentioned, the City obtains all of the water for the municipal water system from the local groundwater subbasins. The City of Morgan Hill overlies two of the three subbasins of the Santa Clara Valley Groundwater Basin: Llagas and Coyote Valley. Surface and groundwater generally drain southward (with some exception). Groundwater occurs chiefly in unconsolidated alluvial deposits and in the Santa Clara formation beneath the valley floor that may be as much as 600 feet thick in the Morgan Hill area.

The Coyote Valley Subbasin is hydraulically connected to the Santa Clara Valley Subbasin located to its north. The Coyote Valley Subbasin is entirely unconfined.

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

**B.2 Basin Capacity**

The Coyote Valley Subbasin surface area is approximately 15 square miles. The District estimates its operational storage capacity to be between 23,000 and 33,000 acre-feet, with the long-term natural groundwater recharge yield at 2,600 acre-feet per year and the multiple dry year recharge yield at 2,400 acre-feet per year.

The entire Llagas Subbasin area is approximately 74 square miles. The District has estimated the storage capacity of the subbasin to be between 150,000 and 165,000 acre-feet, with both the long-term natural groundwater recharge yield and the multiple dry year recharge yield at 19,000 acre-feet per year.<sup>3</sup> Additional recharge is accomplished through the 18 major recharge ponds the District operates and maintains.

The District manages an extensive groundwater recharge program for the subbasins. Recharge facilities owned by the District are located along Church Avenue, Main Avenue, San Pedro Avenue and in the Madrone channel that parallels the 101 freeway. Local runoff is collected by the District in four local reservoirs (Anderson, Coyote, Chesbro, and Uvas) and released throughout the year for recharge. Additionally, the District receives water from imported supply facilities, including the San Felipe Division of the Central Valley Project. This Federally funded project brings water from Northern California, through the Delta, for delivery to Santa Clara County. The District has a contractual agreement allocating 152,500 acre-feet per year to the County, and has been receiving water since 1987. In 2004, approximately 23,545 acre-feet of San Felipe water was percolated into the Llagas Subbasin, and 31,000 total acre-feet of both locally-conserved and imported water was replenished in the Coyote Valley and Llagas Subbasins. Deliveries of water from the San Felipe project will depend on supplies throughout the State and will almost certainly be curtailed during periods of drought, which is discussed more fully in the District's Groundwater Management Plan.

**Table 5: Amount of Groundwater Pumped – Past**

Amount of Groundwater Pumped (AFY)					
Basin Area Name	2000	2001	2002	2003	2004
Llagas Subbasin	6,276	6,560	6,632	6,455	6,772
Coyote Valley Subbasin	1,236	1,292	1,306	1,271	1,333
<b>Total Pumped</b>	<b>7,512</b>	<b>7,852</b>	<b>7,938</b>	<b>7,726</b>	<b>8,105</b>
<b>% of Total Water Supply</b>	<b>15.3%</b>	<b>16.0%</b>	<b>16.1%</b>	<b>15.7%</b>	<b>15.2%</b>

*Source: Water Well Production, City Public Works Department. Total water supply years 2000-2003 assumed to be 49,200 AFY (44,300 AFY Llagas + 4,900 AFY Coyote Valley) per Regional Urban Water Management Plan, 2001, and year 2004 water supply total taken from Table 3 herein. Table 4 data for Boys Ranch Wells used to determine percent of total pumped from Coyote Valley vs. Llagas.*

In 2004, the City pumped 8105 acre-feet of water from the fifteen wells it operates as measured at wellhead meters.<sup>4</sup> This equates to 37.5% of SCVWD's estimated long-term natural recharge yield for both the Llagas and Coyote Valley Subbasins combined.

<sup>3</sup> Regional Urban Water Management Plan, 2005. Values are the same due to a relatively small data set available for the analysis.

<sup>4</sup> City Public Works data on water well production for 2004.

**Table 6: Amount of Groundwater Pumped – Current and Future Projections**

Basin Area Name	Amount of Groundwater Projected to be Pumped (AFY)*					
	2005	2010	2015	2020	2025	2030
Llagas Subbasin	6,834	7,261	8,123	8,984	10,034	11,192
Coyote Valley Subbasin	1,345	1,430	1,599	1,769	1,975	2,204
<b>Total Pumped</b>	<b>8,179</b>	<b>8,691</b>	<b>9,722</b>	<b>10,753</b>	<b>12,009</b>	<b>13,396</b>
<b>% of Total Water Supply</b>	Unknown	15.4%	17.5%	20.1%	21.7%	23.9%

*\*This information has been provided to the SCVWD for compiling regional demand projection totals.*

*Source: Water System Master Plan, with total water supply values from Table 3 herein.*

There are an estimated 3,250 wells in the Llagas Groundwater Subbasin, and 433 wells in the Coyote Subbasin. The majority of these wells are used primarily for agriculture or serve small ranchette type residential units and tend to be fairly shallow in depth. The depth of the fifteen City operated wells in both subbasins range from 274 feet to 570 feet. The depths of the City wells are much deeper than the majority of the privately owned wells in these subbasins. Thus, in a time of severe water shortage, where the water table drops significantly, the City would still be able to pump as much water as required for the health and safety of its customers because of its relatively deeper wells.

### **B.3 Groundwater Management Plan**

The District's 2001 Groundwater Management Plan covers management efforts as applied to all subbasins within the Santa Clara Valley Groundwater Basin, including the Llagas and Coyote Valley Subbasins. The Management Plan speaks to overdraft prevention, storage reserve sustenance, contamination mitigation, and groundwater supply replenishment and recharge, among other important management plans.

The Santa Clara Valley Groundwater Basin is not currently nor is it projected to be adjudicated.

### **C. Recycled Water**

The City of Morgan Hill does not currently have any recycled water supply sources. More information on recycled water may be found in later sections titled, "Water Recycling," and "Planned Water Supply Projects and Programs."

## Section 4 Water Recycling

### A. Wastewater System Description

#### 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...

#### A.1 Participation in Regional Recycled Water Planning

As discussed later in the section titled, "Planned Water Supply Projects and Programs," the District participates and coordinates regional recycled water planning efforts, as discussed in their Urban Water Management Plan. The City does not currently have recycled water directly distributed within its boundaries. However, the City does benefit from recycled water use as part of the District's management efforts, since the District utilizes recycled water in part to ultimately recharge the larger groundwater basin system that underlies the City of Morgan Hill.

For further details about regional recycling efforts, the reader is referred to the 2004 South County Regional Wastewater Authority (SCRWA), "South County Recycled Water Master Plan."

#### A.2 Wastewater Collection and Treatment in Morgan Hill

The City of Morgan Hill conveys its wastewater approximately 15-20 miles to the City of Gilroy where it is collected and treated. Constructing a return recycled water pipeline this distance is not economically viable or cost effective at this time, nor is it essential for sustaining the City's water supply against projected demand.

## Section 5 Water Use Provisions

### Law

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

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.

### A. Historical Water Use

The City of Morgan Hill Water System currently serves approximately 35,500 people within its service area. In the recent past the population of Morgan Hill increased dramatically with growth rates some years between 1975 and 1980 approaching 15% per year. However, population growth in Morgan Hill has since been controlled by the Measure P initiative passed by the voters of the City in 1980, and most recently by Measure C, the "Residential Development Control System" enacted by the citizens of Morgan Hill in March of 2004. Measure C limits the number of residential building allotments in any given year, based in part on current and projected populations. Due to Measure C the City's population is expected to grow at a more modest rate.

Usage of water per capita day has shown significant fluctuation during the past decade. As shown in Table 3, the average gallons per capita day (gpcd) use of water has fluctuated during recent years. Usage has ranged from a low 155 gpcd in 1991 at the height of the recent drought to a maximum of 265 gpcd in 1987 (not shown in the table). The average use per day during the period from 2000 through 2004 was 202 gallons per person.

**Table 7: Historic Water Use**

YEAR	ANNUAL PRODUCTION (Acre-feet)	POPULATION	USAGE PER CAPITA DAY
1970	1,190	5,579	190
1975	1,927	8,882	194
1980	3,587	16,924	189
1985	4,642	19,918	208
1995	5,690	27,138	187
1996	6,013	27,933	158
1997	6,808	29,246	179
1998	6,216	30,786	164
1999	6,946	31,896	183
2000	7,512	33,556	198
2001	7,852	34,600	207
2002	7,938	34,750	204
2003	7,726	34,750	195
2004	8,105	35,500	205
Average per capita gallons per day			190

*Source (Years 2002-2004): City Public Works data on water well production. All City wells pull from the Llagas Subbasin.*

## **B. Current & Projected Water Use by Sector**

### **B.1 Demand Range**

The future water needs of the City is calculated based upon a projected per capita consumption of 200 gpcd, with the average annual demand based upon the total annual production.<sup>5</sup>

### **B.2 Water Use by Sector**

In 2004, the City used 7657 acre-feet of water from the Llagas and Coyote Valley Subbasins as measured at metered locations throughout the City. This is compared with past water use taken from 2001 data of 7549 acre-feet. The tables shown below outlines the water use for 2004 and projected water allocations to the year 2030. The total projected water allocations shown represent the amount of groundwater projected to be pumped from both subbasins, the City's direct source of water.

<sup>5</sup> Water System Master Plan, Table 3.6 Notes

**CITY OF MORGAN HILL 2005 URBAN WATER MANAGEMENT PLAN**

**Table 8: Water Deliveries by Sector**

Water Use Sectors	Past, Current and Projected Water Deliveries			
	2001		2004	
	# Of Accounts	Deliveries AFY	# Of Accounts	Deliveries AFY
Single-family residential	N/A	5,586	N/A	5,732
Multi-family residential				
Commercial	N/A	1,585	N/A	731
Industrial	N/A		N/A	
Institutional and Government (City Buildings/Facilities)	N/A		N/A	64
Landscape	N/A	302	N/A	1,347
City Landscaping	N/A		N/A	143
<b>TOTAL</b>	N/A	7,549	N/A	7,657

Note: The City has not tracked # metered accounts through 2005, so no data exists for the years previous.

Continued Water Use Sectors	Past, Current and Projected Water Deliveries			
	2005		2010	
	# Of Accounts	Deliveries AFY	# Of Accounts	Deliveries AFY
Single-family residential	6,900	4,606	7,332	4,895
Multi-family residential	1,695	1,132	1,801	1,202
Commercial	714	768	759	816
Industrial	12	13	13	14
Institutional and Government (City Buildings/Facilities)	53	68	56	72
Landscape	444	1,439	472	1,529
City Landscaping	58	153	62	163
<b>TOTAL</b>	9,876	8,179	10,494	8,691

Source: 2002 City of Morgan Hill Water System Master Plan, Table 3.6

Continued Water Use Sectors	Past, Current and Projected Water Deliveries			
	2015		2020	
	# Of Accounts	Deliveries AFY	# Of Accounts	Deliveries AFY
Single-family residential	8,202	5,475	9,072	6,056
Multi-family residential	2,015	1,345	2,228	1,488
Commercial	849	913	939	1,010
Industrial	14	15	16	17
Institutional and Government (City Buildings/Facilities)	63	81	70	89
Landscape	528	1,710	584	1,892
City Landscaping	69	182	77	201
<b>TOTAL</b>	11,739	9,722	12,985	10,753

Source: 2002 City of Morgan Hill Water System Master Plan, Table 3.6

Continued  Water Use Sectors	Past, Current and Projected Water Deliveries			
	2025		2030	
	# Of Accounts	Deliveries AFY	# Of Accounts	Deliveries AFY
Single-family residential	10,131	6,764	11,301	7,545
Multi-family residential	2,489	1,661	2,776	1,853
Commercial	1,048	1,128	1,169	1,258
Industrial	18	19	20	21
Institutional and Government (City Buildings/Facilities)	78	100	87	111
Landscape	652	2,113	727	2,357
City Landscaping	86	225	96	251
<b>TOTAL</b>	<b>14,502</b>	<b>12,009</b>	<b>16,177</b>	<b>13,396</b>

Source: 2002 City of Morgan Hill Water System Master Plan, Table 3.6

**Notes:**

1. All water use in the City is metered.
2. There are no past, existing, or future sales to other agencies.
3. Recharge and conjunctive use is not known or tracked specifically in the City, although the District may have this information on a region-wide basis.
4. Agricultural water use is through District-owned wells and is not served through the City system.
5. Single- and multi-family residential water use projections include requirements for lower income households.

**- Residential Sector**

The City of Morgan Hill has estimated its residential use broken down by single-family and multi-family residences for 2005 and beyond, although these use categories have not been separated in the past. The next Plan update (2010) will show updated projections within the residential sector based upon actual data collected through years 2005 to 2010.

**- Commercial and Industrial Sectors**

The City is actively attempting to attract additional Commercial and Industrial enterprises to the City. It is anticipated that the percentages for these two categories will increase somewhat during the next twenty years.

Water deliveries in the commercial sector have historically been combined with those of the institutional sector. These have been separated out for 2005 projections and beyond. The commercial sector will now include retail businesses, restaurants, schools, the post office, and any other facilities other than City buildings/facilities.

Industrial water use has historically been combined with other use categories, but will be tracked separately from 2005 and beyond. Examples of the industrial use category includes pharmaceutical labs, cement and cinder block plants, and various light manufacturing and industrial operations.

**- Institutional/Governmental Sector**

As stated above, water deliveries in the institutional sector have historically been combined with those of the commercial sector. These have been separated out for 2005 projections and beyond. The next Plan update (2010) will show updated (and more accurate) projections within this sector based upon metered data collected through years 2005 to 2010.

The institutional/governmental sector includes City owned buildings and facilities metered individually, such as the Public Library, City Hall, Public Works Operations Center, recreational facilities (such as the Aquatic Center), the City's Corporation Yard, and various production facilities.

### **- Landscape/Recreational Sector**

Irrigation controls for conservation are currently being implemented by the City and therefore the landscaping use percentages are expected to decrease.

As of 2004 the City has broken down the landscape sector into two categories: 1) General, and 2) City, with each sector metered separately.

General landscaping use includes large landscaped areas of commercial sites, as well as some of the larger residential sites. The rate differential between domestic use (water used and conveyed into sewer system) and irrigation (ultimate plant uptake and groundwater recharge) offers incentive for customers to separate their metered water systems. A customer would save money on their sewer bill by installing a separation irrigation meter, as irrigation is billed at a flat rate versus the tiered rate for standard domestic use.

City landscaping includes City owned or administered areas. City owned areas include public parks, while administered areas include the Fox Hollow-Murphy Springs Landscape Assessment District within the City.

### **- Agricultural Sector**

The City does not provide water for agricultural uses.

## **C. Sales to Outside Agencies**

The City does not wholesale water to other agencies.

## **D. Water Uses and Losses**

System losses are tracked by the City's water billing division, however a program for more accurate tracking is currently being developed to more distinctively identify water loss. Comparing the amount of water pumped as measured at the wellhead meters against the amount used as metered throughout the City, 2004 system losses average 5.5%. This is discussed further in a later section titled, "Water Demand Management Measures," under, "Water System Audits."

## Section 6 Reliability Planning

### 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.

### A. Reliability of Water Supply

Water supply reliability includes both the availability of the groundwater and the distribution and storage facilities that make up the City's water system. Availability and vulnerability of groundwater supply is addressed in the District's Plan, Section 4, and management of the District facilities is described later in the Section titled, "Supply and Demand Comparison Provisions."

The City's storage facilities maintain a constant supply for the City's water uses. Most of the City's wells run nearly 24 hours per day during summer peak, although wells are run only a couple/few times per day during the winter. Total storage is 10 million gallons, with a peak demand of 12.8 million gallons.<sup>6</sup>

### B. Reliability Comparison

Supply and demand comparisons for normal, single-dry year, and multiple-dry year scenarios are provided in detail in the District Plan, Section 6, on a county-wide basis, with natural groundwater recharge analyses by subbasin provided in Section 3. Multiple dry water year broken down by year are not calculated by the District for the individual subbasins, although the average multiple dry water AFY is provided.

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<sup>6</sup> City's Water Demand Records, July 2003

**Table 9: Supply Reliability – Llagas & Coyote Subbasins**

Supply Reliability - AF Year			
Subbasin	Average / Normal Water Year	Single Dry Water Year	Multiple Dry Water Years (Avg)
Llagas	19,000	7,000	19,000
Coyote	2,600	1,600	2,400
<b>Total</b>	21,600	8,600	21,400
	<b>% of Normal</b>	40%	99%

Source: *Regional Urban Water Management Plan, 2005, Table 3-2.*

**Table 10: Basis of Water Year Data**

Water Year Type	Base Year
Average Water Year	1985
Single-Dry Water Year	1977
Multiple-Dry Water Years	1987-1992

Source: *Regional Urban Water Management Plan, 2005, Sections 6.4-6.6.*

Among their findings, the District determined they can maintain reliable supplies under historic hydrology for the period from 2005 through 2030, with development of additional supplies outlined in their IWRP. The District IWRP discusses factors that could affect/impact consistency of supply, including random occurrences of hazards and extreme events, climate change, and more stringent water quality standards, among other risks. The City also addresses certain of these factors, including:

**Table 11: Factors that could affect/impact consistency of Supply**

Name of supply	Legal	Environmental	Water Quality	Climatic
Groundwater	None	Earthquake Fire	Contaminator	Drought Localized Flooding

Source: *Emergency Response Plan*

The City has within their Emergency Response Plan information on emergency equipment, suppliers, and agreements secured as resources if required to provide continued water supply service to the City's customers.

### C. Three Year Minimum Water Supply

The three-year minimum water supply specifically for each individual subbasin is unknown. However, the District has projected water supply estimates for the driest 3-year sequence for natural groundwater yield and recharge activities for all subbasins combined. The 3-year estimate is shown in the table below. For a total supply broken down by year that includes all water supply sources utilized and managed by the District (although not all available to the City), the reader is referred to Section 7 of the District Plan.

**Table 12: Water Supply Estimates for 3-Year Dry Period**

<b>Supply for Driest 3-Year Sequence</b>		
<b>Natural Groundwater Yield and Recharge to All Groundwater Subbasins Combined (AF Year)</b>		
<b>Year 1 (1987)</b>	<b>Year 2 (1988)</b>	<b>Year 3 (1989)</b>
73,100	55,600	49,700

Source: *Regional Urban Water Management Plan, 2005, Table 7-1, NGY+RA=Total GW Sup; all basins combined.*

## D. Transfer or Exchange Opportunities

### Law

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

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

There are currently no transfer or exchange opportunities available specifically to the City of Morgan Hill. The District may speak to such opportunities as developed out of their projected management needs; the reader is referred to the District's Urban Water Management Plan, IWRP, and Groundwater Management Plan for further information.

## E. Water Quality

### 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 water management strategies and supply reliability.

Water quality is a significant factor in water supply because it is critical to overall water supply reliability. A thorough discussion of water quality is provided in the District Plan, Section 4. The discussion provided therein speaks to the District's regional efforts to ensure surface water quality and reliability.

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

- Boil Water Order
- Unsafe Water Alert
- Do Not Drink Notice

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

## Section 7 Planned Water Supply Projects and Programs

### Law

10631 (h) Include a description of all water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), that the urban water supplier may implement to increase the amount of water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

### A. Recycled Water

The City jointly operates a wastewater treatment plant with the City of Gilroy under the auspices of the South County Regional Wastewater Authority (SCRWA). The plant, located in Gilroy can treat 7.5 MGD to secondary treatment levels. Of this amount, up to 3 MGD can be treated to tertiary levels and used as recycled water. Expansion of the treatment plant is planned in phases as described by the 2004 South County Recycled Water Master Plan (SCRWMP). The first phase of expansion aims to increase the tertiary treatment capacity and lay the foundation for implementing the next two phases of expansion. The first phase expansion will allow for tertiary treatment capacity of 9 MGD, and is slated for completion by the end of 2005. Continued expansion of the tertiary treatment system is expected as demand for recycled water increases.

In 1997, the District constructed a pipeline to the western portion of Gilroy, and the plant is currently supplying recycled water through this system.

It is unknown when recycled water will ever be used in Morgan Hill itself. The cost and logistics of constructing a pipeline and pumping the water make the use of recycled water in Morgan Hill much more expensive than use in and around Gilroy. Expansion of recycled water service into Morgan Hill from the plant may be reviewed at a future time, although nothing is planned currently. The reader is referred to the 2004 SCRWMP for additional details on regional water recycling plans.

Morgan Hill is currently investigating the prospect of constructing a "scalping" treatment plant located between the cities of Gilroy and Morgan Hill. This plant would treat a portion of Morgan Hill's residential wastewater only to a level acceptable for landscaping uses. The City is interested in partnering with Aim's Golf Course for funding of the plant with the assumption that most the water would be used by the golf course.

### B. Desalinated Water

The reader is referred to the South County Five-Year Water Plan for details on regional desalinated water planning.

## **C. Planned Programs**

Planned programs are described in a later section herein titled, "Water Demand Management Measures."

## Section 8 Supply and Demand Comparison Provisions

### 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.

### A. Supply and Demand Comparison

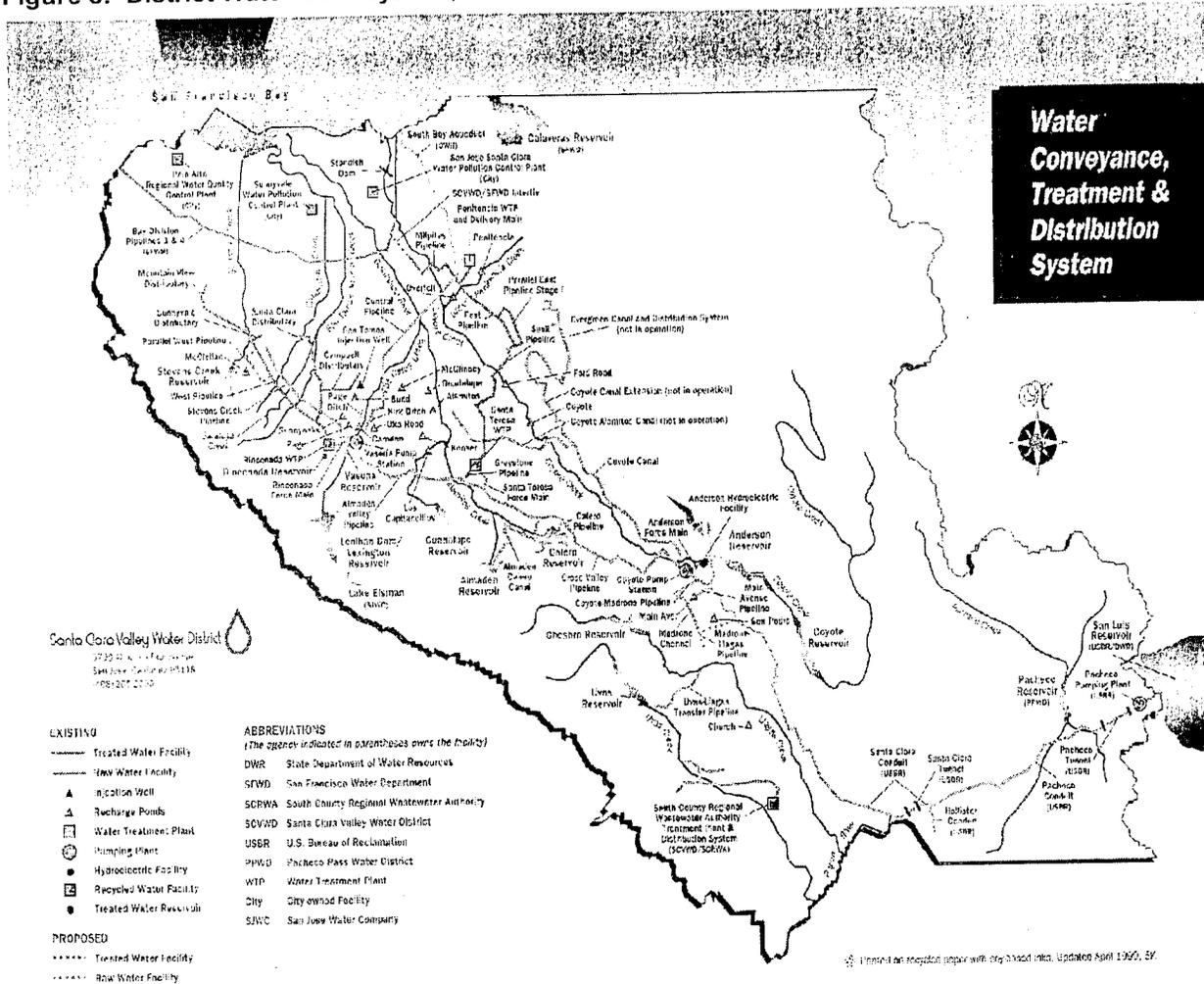
The availability of groundwater supplies to the City from the local groundwater basins is largely the result of management practices of the District. The District controls the amount of water released from the local reservoirs for local groundwater recharge. The same is true for imported water delivered by the raw water conveyance system. The District will manage water to the best advantage of the County as a whole, with a heavy emphasis placed upon securing the baseline water supply, implementing an investment portfolio to ensure reliability of water sources through 2020, and preparing for the long-term beyond 2020. The City continues to work closely with the District to insure an adequate and equitable water supply for the entire County.

The District's UWMP relies heavily on the District's Integrated Water Resources Plan (IWRP) to balance a wide variety of supply sources for the overall benefit of customers in Santa Clara Valley. The supply sources available to the District include:

- District Reservoirs
- Santa Clara Valley Groundwater Basin (Llagas Subbasin is one of three subbasins managed by the District)
- Imported Supply Facilities from the Sierra Nevada Mountains via the Sacramento/San Joaquin Delta, conveyed to Santa Clara County from both the San Francisco Water Department conveyance facilities and three main pipelines:
  - The South Bay Aqueduct
  - Santa Clara Conduit
  - Pacheco Conduit
- Groundwater Recharge Facilities
- Raw Water Conveyance System
- Water Transfers
- Water Recycling

The following figure shows the District water purveyance and collection system.

Figure 3: District Water Conveyance, Treatment, and Distribution System



The District's strategy in planning for future water supply needs/shortages is discussed and outlined in the District's UWMP, Section(s) 6 and 7, and their IWRP. Shortage contingency options were investigated by the District specifically for the South County, since groundwater is the sole source of water for both Gilroy and Morgan Hill. Through the District's analysis, future South County shortages would be best handled through both conservation practices and new recharge facilities to increase the recharge capacity and allow for more rapid replenishment of local groundwater supplies after a drought.

The District's projected natural recharge for the Llagas Basin in multiple dry years is 19,000 acre-feet, and 2,400 acre-feet for Coyote. Then Morgan Hill's current demand<sup>7</sup> on the basin would be approximately 37.9% of the multiple dry year yield from natural recharge alone.

<sup>7</sup> Using Year 2004 data from Table 7.

## Section 9 Water Demand Management Measures

### 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:.....

Some of the water conservation efforts employed by the City are directly tied to the water conservation programs of the District. The District is a co-signatory of the California Urban Water Conservation Council's (CWCC) Memorandum of Understanding (MOU). The District is the lead agency in setting up conservation programs under the MOU and reporting on them to the State. These conservation programs are called, "Demand Management Measures," or DMMs. The District submits annual activity reports on region-wide DMM implementation efforts to the California Urban Water Conservation Council. The City is not a co-signatory of the CWCC's MOU, and therefore isn't required to report on annual DMM activity. However, the City is committed to reviewing their efforts internally on an annual basis to track progress and make any necessary adjustments for effective implementation of their DMMs.

Of the fourteen DMMs shown in the table below, some DMMs are directed by the City, some by the District, and some are performed jointly. Where directed by the District, the reader is referred to the applicable sections of the District Plan for a full discussion on District efforts, success, water savings, and participants. Those measures directed by the City are discussed in the remainder of this section.

**Table 13: Demand Management Measures and Implementation Schedule**

DMM #	DMM Name	Lead Agency	Notes	Scheduled City Implementation Start Date	Fully Implemented By Date
1.	Water Survey Program	District	See District Plan, Section 5	--	--
2.	Plumbing Retrofit	District, City	See District Plan, Section 5	CURRENT	CURRENT
3.	Water System Audits	District, City	See also District Plan, Section 5	Jan '07	Jan '08
4.	Metering w/ Commodity Rates	City	Meters required by Ordinance	CURRENT	CURRENT
5.	Large Landscape Program	District	See also District Plan, Section 5	CURRENT	Jan '07
6.	Washing Machine Program	District	See District Plan, Section 4	--	--
7.	Public Information Program	District, City	See also District Plan, Section 5	CURRENT	CURRENT

**Table 13, Continued**

8.	School Education Program	District, City	See also District Plan, Section 5	Aug '06	Aug '07
9.	Commercial, Industrial, Institutional Program	District	See District Plan, Section 5	--	--
10.	Wholesaler Assistance	District	See District Plan, Section 5	--	--
11.	Conservation Pricing	City	Residential Rate Structure	CURRENT	CURRENT
12.	Conservation Coordinator	District, City	See also District Plan, Section 5	CURRENT	CURRENT
13.	Water Waste Prohibition	City	Prohibition by Ordinance (See Appendix)	CURRENT	CURRENT
14.	Residential ULFT Program	District	See District Plan, Section 5		

### **A. DMM 2 – Plumbing Retrofit**

As part of the District Program, the City offers free water-saving showerheads and faucet aerators to all City residents as mechanisms to achieve in-home water savings.

### **B. DMM 3 – System Water Audits, Leak Detection and Repair**

The City is currently setting up a formal auditing program for their water system that will include maintaining in-house records of audits and a leak detection program. To initiate this program, the City will be developing a system wherein categorical metered and unmetered uses are tracked against well production. The City will track production against monthly use to be reviewed annually for determining whether the system exhibits significant losses. Significant losses will be a discrepancy between use and production that exceeds 7%.

As part of this program, the City will appoint the Maintenance Department to handle and schedule physical audits and repairs. When losses exceed the 7% threshold, a system for implementing testing equipment and/or agents within the distribution pipelines will be put into place (once developed) to determine where specifically a leak exists. Discovered leaks would then be slated for repairs.

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

The auditing system will be developed to begin efficient tracking in January, 2007. Annual reviews will be conducted thereafter. Effectiveness will be evaluated by seeing a marked decrease in losses each year until losses fall below the threshold 7% value.

Using 2004 data, verifiable use as a percent of total production is calculated comparing actual metered sales (7657 af) against total supply into the system as measured at the wellhead meters (8105 af). Based upon this data, the City is seeing less than 6% loss in their system.

## C. DMM 4 – Metering with Commodity Rates

To the best of the City's knowledge, there are no unmetered connections within the City since there's never been a flat rate charged for water use within any sector. Therefore, no program for retrofitting of existing unmetered connections is required.

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

The City also has a tiered water rate structure that provides incentive to reduce individual water consumption, further discussed under DMM 11: Conservation Pricing.

## D. DMM 5 – Large Landscape Water Audits and Incentives

### D.1 Water-Wise Landscaping

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

### D.2 City Ordinance

In concert with these demonstration gardens is a City Ordinance scheduled for adoption in January, 2006 that stipulates landscape water conservation standards and requirements for irrigation system management and maintenance. The Ordinance includes inspection, monitoring, and enforcement practices.

### D.3 District Turf Replacement Program

The District is planning to implement a turf replacement program in 2006 that pays water users \$75 for every 100 square feet of lawn removed and replaced with, "Water-Wise" landscaping. For those areas within the Morgan Hill City limits, water users will receive **double** the rebate amount with a match from the City.

### D.4 Reduced City Maintenance Areas

In an effort to both advance the water conservation efforts of municipal operations and reduce the amount of required maintenance in low-use park areas, the City has implemented a, "Fringe Area Turf Reduction Program." In these low-use park areas, watering of turf has been ceased and is instead allocated solely to sustaining tree and shrub growth. Wood chips will replace the turf once it dies. Signs have been or will be posted at these areas to inform the public of the transition period, as shown in Photo 1, below.

Photo 1: Reduced Maintenance Areas



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

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

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

## E. DMM 7 -- Public Information

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

- Literature Rack: There has been a rack full of water conservation information in the City Hall lobby since 1999;
- Bill Inserts: The City's utility bills have included a minimum of one insert annually on water conservation for the past several years;

**CITY OF MORGAN HILL 2005 URBAN WATER MANAGEMENT PLAN**

- New Resident Orientation: Each new utility customer is sent information about the City's water conservation program and offered additional literature and water-saving devices;
- Demonstration Gardens: The City is currently constructing the first of three planned demonstration gardens and has initiated the design for the second and third gardens;
- Newspaper Columns and Newsletters: The City's Water Conservation Coordinator has written numerous newspaper columns promoting water conservation during the past decade. In addition, the topic has been featured in the City's newsletter and in the City's CCR;
- Special Events: For the past several years, City staff have attended community festivals and exhibitions to promote water conservation;
- Coordination With Other Agencies: The City actively participates in the promotional programs offered by the Santa Clara Valley Water District.

The table below shows the implementation schedule and actual/projected expenditures of certain of the above-listed conservation efforts through 2010. Efforts and expenditures after 2010 are projected to be the same through 2025.

**Table 14: Implementation Schedule and Expenditures**

<b>Public Information Program Implementation Schedule and Expenditures</b>					
<b>Program</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
Bill Inserts / Newsletters / Brochures	X	X	X	X	X
Demonstration Gardens					X
Special Events / Media Events			X	X	X
Program to Coordinate with other government agencies, industry, and public interest groups and media	X	X	X	X	X
<b>Actual Expenditures</b>				<b>\$1,000</b>	<b>\$140,000</b>

Source: Water Conservation Coordinator

<b>Continued Public Information Program Implementation Schedule and Expenditures</b>					
<b>Program</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Bill Inserts / Newsletters / Brochures	X	X	X	X	X
Demonstration Gardens	X	X	X	X	X
Special Events / Media Events	X	X	X	X	X
Program to Coordinate with other government agencies, industry, and public interest groups and media	X	X	X	X	X
<b>Actual Expenditures</b>	<b>\$300,000</b>	<b>\$10,000</b>	<b>\$10,000</b>	<b>\$10,000</b>	<b>\$10,000</b>

The City will track the commentary regarding the information provided, and effectiveness will be gauged by increased awareness. Otherwise, the City has no data on the demand reduction associated with these activities.

## F. DMM 8 -- School Education

The City has not presented water conservation information to schools in the past. This is an activity that will be initiated in 2006 and expanded thereafter. Since this program is currently being formulated, no additional details are available at this time.

The City has no method to quantify the savings of this DMM but believes that this program is in the public's interest.

## G. DMM 11 -- Conservation Pricing

### G.1 Rate Structure for Conservation

The City uses an inverted water rate structure to provide incentives to customers to reduce water use. This type of structure effectively resulted in a 32% reduction of water use between 1987 and 1991. Considering the historical success of using such a structure, this type of structure has been in use for nearly 20 years and encourages a mind-set for conservation with its customers. Table 8 below, illustrates the City's current rate structure.

**Table 15: Residential Rate Structure**  
(rate given in Units: 1 Unit = 748 gallons)

User Class	Tier 1	Tier 2	Tier 3
Single Family Residential	\$1.01/unit (1-10 units)	\$2.02/unit (11-30 units)	\$3.02/unit (31+ units)
Multi-family	\$1.01/unit (1-8 units)	\$2.02/unit (9-16 units)	\$3.02/unit (17+ units)
Outside City Single Family Residential	\$1.56/unit (1-10 units)	\$3.13/unit (11- 30)	\$4.69/unit (31+ units)
Outside City Multi-family	\$1.56/unit (1-8 units)	\$3.13/unit (9- 16)	\$4.69/unit (17+ units)

Source: City of Morgan Hill Finance Department

### G.2 Water Rate Reduction Program

The City is currently developing a proposal to establish an irrigation account rate schedule based on an Eto-based water budget. Since the State operates a weather station in Morgan Hill, it is anticipated that real-time Eto data will be very accurate for use in Morgan Hill.

## H. DMM 12 – Conservation Coordinator

The City has historically had a part-time Water Conservation Coordinator. These duties make up a part of a full-time City employee's job. While this has historically been .05 FTE, the City expanded it's commitment to water conservation in FY 2005 and increased these duties to .25 FTE.

The below table outlines the staff allocations and actual/projected expenditures the City will allocate for their conservation coordinator duties through 2010. Staffing and expenditures will continue from 2011 to 2025 at the same level as in 2010.

**Table 16: Staff Time and Expenditures**

<b>Water Conservation Coordinator Staff Time and Expenditures</b>					
<b>Staffing</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
Number of part-time staff	1	1	1	1	1
<b>Actual Expenditures</b>	<b>\$2,000</b>	<b>\$2,000</b>	<b>\$2,000</b>	<b>\$41,000</b>	<b>\$61,000</b>

<b>Continued Water Conservation Coordinator Staff Time and Expenditures</b>					
<b>Staffing</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Number of part-time staff	1	1	1	1	1
<b>Actual Expenditures</b>	<b>\$50,000</b>	<b>\$50,000</b>	<b>\$50,000</b>	<b>\$50,000</b>	<b>\$50,000</b>

*Source: Water Conservation Coordinator*

Duties for this position include, but are not limited to, the following:

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

The current coordinator is Anthony Eulo, Program Administrator, who has worked on water conservation issues for the past nine years. The Coordinator has been instrumental in implementing many of the water conservation programs currently in place in the City. One of the programs targets municipal operations, and is discussed under DMM 5: Large Landscape Water Audits and Incentives.

## **I. DMM 13 – Water Waste Prohibition**

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

## Section 10 Water Shortage Contingency Plan

### A. Preparation for Catastrophic Water Supply Interruption

#### 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.

#### A.1 Catastrophic Supply Interruption Plan

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

Table 17: Preparation Actions for Catastrophe

Possible Catastrophe	Preparation Actions / Plan of Action
Regional Power Outage	Ensure backup generators are easily accessible or transportable to wellheads to ensure continuous pumping into water distribution system. In the case of a power outage, emergency generator(s) to be placed on-line to provide minimum water pressure to system, and disinfectant residual to be increased to prevent potential contamination.
Earthquake	<u>Leaks</u> : Increase system disinfectant residual, determine locations of leaks and make temporary repairs, isolate leaks by turning off power or flow if required for repair or replacement, prioritize repairs by maximum system population service lines, and disinfect all repairs.  <u>Low Pressure or Service Interruption</u> : Increase production to provide maximum system output, and increase disinfectant residual as a precaution against potential contamination.
Other	See Emergency Response Plan

### B. Water Shortage Contingency Ordinance/Resolution

#### 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.

In response to a state of drought and water shortage, the City adopted a Resolution 4263 in 1989 whereby measures were stipulated to discourage use of potable water. A similar model resolution has been prepared by the City in the case of drought conditions occurring in the future. The model resolution may be found in Appendix C, and provides for mandatory reductions in and specified prohibitions of water use in drought conditions.

## C. Stages of Action

### 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.

### C.1 Regional Planning and Triggers

Since the subbasin is managed, the District will need to be the agency to coordinate water usage and conservation during periods of drought for all of the producers of water within the Santa Clara Valley Groundwater Basin. The City of Morgan Hill has in the past, and may continue in the future to follow the conservation guidelines of the District during these drought periods. The City will use the District's request for reductions as its own trigger mechanism for reductions in water use.

The rationing plan includes voluntary and mandatory rationing, depending on the causes, severity, and anticipated duration of the water supply shortage.

### C.2 Water Shortage Stages

The City is prepared to respond to shortage based upon its own checks and balances and with consideration for the District's recommended response system. The District has developed a shortage response action guideline for each shortage level based upon amount of carryover storage from the previous year. The District's action levels are outlined in the table below. The action levels are based upon a 400,000 acre-feet demand for the Santa Clara Valley Groundwater Basin against carryover storage from the previous year. The demand percent ranges from 0% to 62.5%.

**Table 18: District Shortage Response Action Guidelines**

Level	Expected End-of-Year Groundwater Basin Carryover Storage	Response	Demand Percent (assuming 400,000 af demand)
-	350,000 to 530,000	No Action	-
1	320,000 to 350,000	Continue to monitor. Appropriate response (if any) to be determined.	-
2	270,000 to 320,000	Implement 50,000 af response	12.5%
3	220,000 to 270,000	Implement 100,000 af response	25%
4	170,000 to 220,000	Implement 150,000 af response	37.5%
5	120,000 to 170,000	Implement 200,000 af response	50%
6	50,000 to 120,000	Implement 270,000 af response	62.5%

Source: *Regional Urban Water Management Plan, 2005*

The District's responses indicated above will be tailored to opportunities available to the District at the time action is imminent. Drought response, plan implementation, and other information at the District level are discussed in Section 7 of the District Plan.

### C.3 Health and Safety

The first priority of the City's water system is to provide for the health and safety of its citizens. The health and safety water reduction requirements for residents, which include the basic indoor functions, are estimated in Table 5. Table 6 shows health and safety water allocations for each residential major use category. The percentage of residential water use against the City's total use is approximately 70% (see Table 4). As can be seen from Tables 5 and 6, by combining both habit changes (30% reduction in residential use) with conserving fixtures (48% reduction in residential use), the 78% reduction in residential use would equate to an exceedance of 50% total water use reduction level (Level 5). Further, outdoor landscaping represents 52% of water usage for a given residence.<sup>8</sup> In Level 5 situations, additional conservation will be achieved through banning any allowed allocations to landscaping.

**Table 19: Residential Health and Safety Water Quantity Calculation**

Fixture	Non-Conserving	Habit Changes	Conserving Fixtures
Toilets	5 flushes x 6gpf 30	3 flushes x 6gpf 18	5 flushes x 1.6gpf 8
Shower	6 min. x 4gpm 24	4 min. x 4gpm 16	6 min. x 2gpm 12
Laundry	12 gcd 12	10 gcd 12	10 gcd 10
Kitchen	10 gcd 12	8 gcd 8	10 gcd 8
Other	4 gcd 12	4 gcd 4	4 gcd 4
<b>Total gcd</b>	<b>80</b>	<b>56</b>	<b>42</b>

Source: City Finance Department

It is also the intent of the City to limit the impact of water shortages on the Commercial and Industrial sectors of the community in order to maintain jobs and the local economic base. In order to achieve this, reduction Levels 5 and 6 have been reduced for these categories. The shortage is to be made up by banning the allocations to landscaping associated with these facilities.

Each level is described in more detail below.

### C.4 Consumption Reduction Methods

The City has a variety of consumption reduction methods available to achieve response goals. Each shortage level will continue and intensify the activities of the previous level.

<sup>8</sup> Brochure: "How Effective is Your Home Water Use?", June 2000, Santa Clara Valley Water District

**Table 20: Rationing Stages**

Shortage	Stage when method takes effect	Projected Reduction (%)	Type of Program
-%	Level 1	--	Voluntary
12.5%	Level 2	15%	Voluntary or Mandatory
25%	Level 3	30%	Voluntary or Mandatory
37.5%	Level 4	44%	Mandatory
50%	Level 5	>57%	Mandatory
62.5%	Level 6	Unk.	Mandatory

**Level 2**

This stage is voluntary for high commercial and industrial uses of water and mandatory for water use within the City's control, wherein a 50% reduction is required in all parks, medians, and public landscaped areas, equating to a 1% reduction in total water consumption. In addition, the public will be encouraged to participate in water conservation practices by changing their water use habits and installing water-efficient devices in their homes. Outreach will be primarily through informational means including news media, water conservation literature, and coordination with the District.

Per the residential health and safety water quantity calculations found in the table shown later in this Section, habit changes alone result in a 21% reduction of total water consumption, while replacement of standard fixtures with conserving fixtures within the home can result in a 34% reduction. With residential conservation practices being voluntary at this level, only a small percentage of habit changes and changing fixtures is anticipated. However, even with 10% residential water conservation in both areas, a total of 14% reduction would be achieved. Therefore, expected reduction due to these efforts would exceed the required reduction at this level.

**Level 3**

At this level, the City would eliminate its public water uses (City landscaping) entirely, resulting in a 2% total water savings. With additional and continued public outreach alerting the public that mandatory prohibitions will be imposed unless action is seen, habit changes and fixture replacements of 20% savings each would result in a 28% total reduction. Therefore, the demand reduction at this level will again exceed the amount required.

**Level 4**

In order to supplement actions taken at the previous level, the City may reinstate the multi-tiered water rates that were in effect during 1987-1993 drought. During the drought the City had four increasing usage rates for residential and three rates for commercial. These water rate increases will discourage use of water and prevent or defer installation of new landscaping. Additionally, mandatory restrictions will be placed upon residential water use wherein habit changes will be maximized at the full 30% savings level and remaining water fixture replacements would allow for another 30% (assuming not all water fixtures would be replaced immediately). Total residential water savings would then exceed 42%.

### Level 5

This level would represent a true critical water shortage. The City would pass their model resolution prescribing additional rate increases, prohibiting unmetered usage including fire hydrants, and placing a ban on water use for any and all irrigation. On top of maximum residential water conservation practices totaling a combined 55% savings of total water use, there should still be sufficient supply to meet the minimum needs of the City.

### Level 6

At this stage the City must supplement efforts at the previous shortage level with guidance measures and means prescribed by the District.

## D. Prohibitions and Penalties

### 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.

### D.1 Mandatory Prohibitions on Water Wasting

As discussed previously in this Section, a model resolution has been prepared by the City that stipulates mandatory reductions in and specified prohibitions of water use in drought conditions. The draft resolution may be found in the Appendices.

### D.2 Warnings & Penalties

#### Ongoing Procedures

The ongoing procedures for issuance of warnings and penalties are conducted per the City's Municipal Code Section 13.04. The procedures include, but are not limited to, issuance of a courtesy notice when an alleged violation is first noted, then imposed penalties for failure to comply with previous warning(s).

#### Shortage Stage Procedures

In the case that a water shortage is imminent, additional language may be added to the model resolution describing the proper enforcement mechanism(s) consistent with the City's Municipal Code Section 13.04.

## E. Revenue and Expenditure Impacts and Measures to Overcome Impacts

### 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.

Imposing water restrictions on customers would have an impact on City revenues. The following table shows the estimated impacts on revenues resulting from implementing various levels of restrictions.

**Table 21: Revenue Impacts From Water Restrictions**

Revenue Impacts From Water Restrictions		
Rationing Stage	Revenue Reduction	Percent of Total Annual Revenue
Stage 1 (<12.5%)	None Expected	N/A
Stage 2 (12.5%)	\$122,800	2.04%
Stage 3 (25%)	\$245,500	4.09%
Stage 4 (37.5%)	\$368,300	6.13%
Stage 5 (50%)	\$491,100	8.17%
Stage 6 (62.5%)	\$613,800	10.22%

Source: City Finance Department

Revenue reduction = percent decrease times projected normal revenue for usage for July, August & September. Average normal revenue (for the specified time period) over the past 2004/2005 fiscal years was used.

The City currently maintains an operating reserve amounting to \$4,040,000 in its water operations budget in case of emergencies. Also funded by rate revenues are the water rate stabilization and capital projects fund reserves, however, bringing the current reserves total to \$7,521,000.

Under long-term drought conditions, it may be necessary to institute temporary increases to rates to cover increased operating expenses. One option that the City could utilize would be to adopt a surcharge or flat rate increase over a specific time period to cover increased operating expenses while under water shortage. This measure would allow the City to implement various levels of rate increases after City Council, by resolution, has declared a threatened shortage of funds due to water shortage or other emergency.

Conditions of drought and the implementation of water restrictions would also impact expenditures. Reduced availability of groundwater would produce higher energy bills. The difference in groundwater elevation would lengthen the pumping time required to produce the same amount of groundwater. A complete study on how a drought would impact City expenditures has not been completed at this time.

## **F. Reduction Measuring Mechanism**

### **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.

### **F.1 Mechanism to Determine Reductions in Water Use**

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

During a Stage 2 or Stage 3 water shortage, monthly production figures read from wellhead meters will be reported by the Maintenance Department to the City Manager. A comparison of the monthly production to the target monthly production will verify that the reduction goal is being met. Monthly reports will be presented to the City Council at the discretion of the City Manager if reduction goals are not met so that corrective action can be taken.

During a Stage 3 or Stage 4 water shortage, the procedure listed above will be followed, with the addition of monitoring production figures by sector and furthermore by consumer.

During Stage 5 or 6 emergency shortages, production figures will be reported by the Maintenance Department to the City Manager daily, with each day building upon the other to show usage over time. These reports will also be provided to the City Council and the Santa Clara Valley Water District by the City Manager. In addition, off-line wells with high perchlorate levels (yet below the maximum amount allowable by Council) may be put back on-line in the case of these emergency shortages.

## APPENDIX A

### List of Reference Materials

*(ALPHABETIZED PER TITLE)*

California Department of Water Resources, Draft Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001, September 25, 2002

City of Morgan Hill Emergency Operations Plan, 2005

City of Morgan Hill Emergency Response Plan, December, 2004

City of Morgan Hill General Plan, July 25, 2001

City of Morgan Hill Outline, Measure C Orientation Meeting, July 29, 2004

City of Morgan Hill Website: [www.morgan-hill.ca.gov](http://www.morgan-hill.ca.gov)

Morgan Hill Municipal Code

Santa Clara Valley Water District, Regional Urban Water Management Plan, December 2005

Santa Clara Valley Water District, Regional Urban Water Management Plan, April 2001

City of Morgan Hill Resolution 6065

City of Morgan Hill Water System Master Plan, January 2002, Carollo Engineers

## APPENDIX B

### RESOLUTION NO. 6065

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

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

**WHEREAS**, the City is an urban supplier of water providing water to a population over 50,000, and

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

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

**WHEREAS**, the City has therefore, prepared and circulated for public review a draft Urban Water Management Plan, and a properly noticed public hearing regarding said Plan was held by the City Council on November 15, 2006, and

**WHEREAS**, the City of Morgan Hill did prepare and shall file said Plan with the California Department of Water Resources in December, 2006;

**NOW, THEREFORE, BE IT RESOLVED** by the City Council of the City of Morgan Hill as follows:

The 2005 Urban Water Management Plan is hereby adopted and ordered filed with the City Clerk; the City Clerk is hereby authorized and directed to file the 2005 Urban Water Management Plan with the California Department of Water Resources within 30 days after this date;

The City Manager is hereby authorized and directed to implement the Water Conservation Programs as set forth in the 2005 Urban Water Management Plan, which includes water shortage contingency analysis and recommendations to the City Council regarding necessary procedures, rules, and regulations to carry out effective and equitable water conservation and water recycling programs;

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

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

**PASSED AND ADOPTED** by the City Council of Morgan Hill at a Regular Meeting held on the 15<sup>th</sup> day of November, 2006 by the following vote:

<b>AYES:</b>	<b>COUNCIL MEMBERS:</b>	<b>Larry Carr, Mark Grzan, Dennis Kennedy, Greg Sellers</b>
<b>NOES:</b>	<b>COUNCIL MEMBERS:</b>	<b>None</b>
<b>ABSTAIN:</b>	<b>COUNCIL MEMBERS:</b>	<b>None</b>
<b>ABSENT:</b>	<b>COUNCIL MEMBERS:</b>	<b>Steve Tate</b>

∞ **CERTIFICATION** ∞

I, **IRMA TORREZ, CITY CLERK OF THE CITY OF MORGAN HILL, CALIFORNIA**, do hereby certify that the foregoing is a true and correct copy of Resolution No. 6065, adopted by the City Council at a Regular Meeting held on November 15, 2006.

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

**DATE:** 11/20/06

  
\_\_\_\_\_  
**IRMA TORREZ, City Clerk**

## APPENDIX C

### Resolution Declaring Existence of Condition of Drought (Model)

RESOLUTION NO. \_\_\_\_

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF MORGAN HILL DECLARING THE EXISTENCE OF A CONDITION OF DROUGHT AND PROVIDING FOR MANDATORY REDUCTIONS IN AND SPECIFIED PROHIBITIONS OF WATER USE

WHEREAS,

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

#### SECTION 1

The City Council of the City of Morgan Hill finds and determines that a state of drought and of water shortage exists and that to preserve the health and safety of the people of this municipality the following measures are necessary to be and are hereby placed in effect.

#### SECTION 2

From and after the effective date of this Resolution the following uses of potable water shall be discouraged:

1. Water waste, including but not limited to, flooding or runoff on sidewalks, streets or gutters.
2. Cleaning of sidewalks, driveways, patios, parking lots or other paved or hard-surfaced areas.
3. Use of water through a hose for washing cars, buses, boats, trailers or other vehicles without a positive automatic shutdown valve on the outlet end of the hose.
4. Operation of decorative fountains.
5. Water waste due to broken or defective plumbing, sprinkler, watering or irrigation systems.

6. Outside landscape irrigation during daylight hours: 1:00am to 7:00pm.
7. Restaurant water service unless upon request.
8. Hydrant flushing except where required for public health or safety.

**SECTION 3**

In the event the foregoing is not successful in reducing water usage, additional measures shall be considered.

**PASSED AND ADOPTED** by the City Council of Morgan Hill at a Regular Meeting held on the \_\_\_ Day of \_\_\_, 2005 by the following vote.

**AYES: COUNCIL MEMBERS:**

**NOES: COUNCIL MEMBERS:**

**ABSTAIN: COUNCIL MEMBERS:**

**ABSENT: COUNCIL MEMBERS:**

**☪ CERTIFICATION ☪**

**I, IRMA TORREZ, CITY CLERK OF THE CITY OF MORGAN HILL, CALIFORNIA,** do hereby certify that the foregoing is a true and correct copy of Resolution No. \_\_\_\_, adopted by the City Council at a Regular Meeting held on \_\_\_\_, 2005.

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

**DATE:** \_\_\_\_\_

\_\_\_\_\_  
**IRMA TORREZ, City Clerk**