



City of Morgan Hill

Legislation Text

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CITY COUNCIL STAFF REPORT

MEETING DATE: AUGUST 24, 2016

PREPARED BY: Dan Repp, Deputy Director Utilities Services
APPROVED BY: City Manager

APPROVAL OF 2015 URBAN WATER MANAGEMENT PLAN

RECOMMENDATION(S)

1. Open/close public hearing; and
2. Adopt resolution adopting 2015 Urban Water Management Plan.

COUNCIL PRIORITIES, GOALS & STRATEGIES:

Ongoing Priorities

Enhancing public safety
Protecting the environment
Maintaining fiscal responsibility
Preserving and cultivating public trust

2016 Focus Areas

Planning Our Community
Developing Our Community
Enhancing Our Services
Improving Our Communication
Participating in Regional Issues

REPORT NARRATIVE:

Background

Water suppliers must submit an Urban Water Management Plan (UWMP) to the Department of Water Resources (DWR) in accordance with California Water Code requirements. The purpose of the UWMP is to evaluate the City's ability to implement and maintain reliable urban water supplies, ensure long range planning activities are conducted to maintain 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 UWMP must satisfy requirements defined in the Urban Water Management Planning Act of 1983 (Act) and any amendments to the Act. Since passage of the Act, there have been more than 20 amendments to the Act. According to the Act, an UWMP must be prepared by an urban water supplier that supplies over 3,000 acre-feet (AF) of water a year, or services 3,000 or more connections. The City of Morgan Hill currently supplies approximately 5,379 acre feet per year (afy)

to just under 14,000 services.

In April 2014, the DWR completed the review of the City's 2010 UWMP and its supplements, and issued a letter of completeness. This 2015 UWMP includes updates to the 2010 UWMP and addresses additional amendments to the Act and new guidelines established by the DWR. SBX7-7 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. For Morgan Hill, the year 2020 target for water usage is 159 gallons per capita per day (gpcd).

The most recent amendments to the Urban Water Management Planning Act are:

1. AB2067 (2014), which requires urban water suppliers to address the nature and extent of the demand management measures implemented over the past 5 years, as well as document what measures are going to be implemented to meet the SBX7-7 targets.
2. SB1420 (2014) requires that plans be submitted electronically to the DWR, and that the plan includes the standardized forms provided by the DWR. Additionally, SB1420 requires that urban water suppliers quantify water losses in their reporting, and provides a mechanism to estimate future water savings from demand management measures.
3. SB1036 (2014) allows urban water suppliers to voluntarily report energy intensity related to water supplies.
4. Executive Order (EO) B-37-16 was released on May 9, 2016 regarding the on-going drought conditions that are affecting large portions of the state. EO B-37-16 addresses the previous Executive Orders from 2014 and 2015, and maintains that those Orders should remain in effect. DWR staff indicated that this EO does not impact the 2015 UWMP, but potential impacts to future UWMPs are mentioned in this report.

The adopted 2010 UWMP documented the SBX7-7 baseline per capita use, as well as the interim 2015 and 2020 water use targets. The 2010 UWMP also documented the groundwater conditions, future water supply projects, the water shortage contingency plan, and demand management measures implemented to reduce water demands. The 2010 UWMP serves as a benchmark for the 2015 UWMP, as the 2015 UWMP will update the target projections consistent with the final Guidebook release from the DWR.

Coordination and Outreach

The City has submitted the 2015 draft plan to regional stakeholders: City of Gilroy and the Santa Clara Valley Water District (District). The draft plan was also made available to the public on the City's website and in hard copy and electronic form. The City presented the plan to members of the public at an open house held on June 16, 2016. Eight members of the public were in attendance. The comments received at the open house generally fell in two categories: 1) population growth projections and how the projections were determined and 2) concern about adequacy of long term water supply including reliance on imported water and the lack of access to recycled water.

The City also received written comments from three parties. Two people expressed concern about the rate of growth in the City. One person expressed that the City is growing too fast while the other

expressed that infrastructure was needed to support growth. A third person provided detailed comments on several aspects of the UWMP. The comments and City's responses are provided as Attachment 1 to this report.

The proposed UWMP is attached to this report as Attachment 2.

HIGHLIGHTS OF THE 2015 UWMP

On Friday, August 12, 2016, the City Council and the public was provided an advance copy of the draft 2015 UWMP for review. Since that draft copy was distributed, staff has continued with the process of ensuring that the document is accurate and up to date with the recent General Plan Amendment. The Council and the public can anticipate an updated version of the Plan (edited with redlines to identify changes) to be distributed prior to the August 24th meeting. During the oral staff report, any changes from the previously distributed report will be noted by staff.

Water Supply and Demand Summary

To calculate the projected potable water demand through the UWMP planning horizon of 2040, the City's 2020 urban water use target of 159 gpcd was applied to the projected population estimates set forth in the 2016 General Plan Update. The resulting demands by customer class and overall total demand are presented in Table 1. For comparison, Table 1 also summarizes other demands in the Llagas and Coyote subbasins. Morgan Hill is the smallest demand within the two subbasins representing about 14% of the total demand.

Table 1. Projected Water Demands by Customer Class
(units in acre feet per year (afy))

Use Type	2020	2025	2030	2035	2040
Single Family	5,096	5,457	5,818	6,179	6,540
Multi-Family	924	990	1,055	1,120	1,186
Commercial(1)	838	898	957	1,016	1,076
Landscape	1,691	1,811	1,931	2,051	2,170
Other Llagas(2)	41,230	43,324	45,413	46,971	47,360
Coyote Valley(2)	11,986	13,063	14,295	15,474	15,736
Total Morgan Hill	8,549	9,155	9,760	10,366	10,972
Total Overall	61,765	65,542	69,468	72,811	74,068

Notes:

1. Includes Commercial and Institutional use types.
2. Additional projected Llagas subbasin and Coyote Valley subarea demand included for completeness of the Llagas and Coyote Valley water budget.

The water supply and demand analysis uses a water budget approach where inflow and outflows (demands) are considered on a groundwater basin scale. Basin inflows include natural recharge (i.e. rain), recharge from streams, lakes, and reservoirs, imported water recharge, and recycled water use. The basin demands include the Cities of Morgan Hill and Gilroy plus all other users as estimated by the District.

Because the City takes water from both the Llagas and Coyote Valley groundwater basins, the supply and demand analysis is performed on each basin. Table 2 presents the supply and demand analysis for the Llagas basin and Table 3 provides the same for the Coyote Valley basin. In the Llagas basin, supplies keep pace with demand through the planning period supported by the presence of recycled water (Table 2). Without recycled water, the supplies equal demand in 2030 and, by 2035, the Llagas basin is running a slight deficit with demands exceeding supply. In both basins, Morgan Hill has the lowest demand.

Unlike the Llagas Basin, the Coyote Valley Basin faces a deficit through the entire planning period. Starting in 2020, demands exceed supplies by approximately 11 - 15% annually (Table 3). The City receives approximately 17% of its water supply from this basin. The Coyote Valley basin does not receive recycled water but instead relies on natural and managed recharge to maintain supplies. While a deficit is indicated, conservation measures and adjusting water supply strategies should be able to overcome the shortfall. The UWMP will inform the District of the deficit and the District can address the issue in its water supply planning activities.

Table 2 Projected Supply vs. Demand Comparison (Llagas)

	2020	2025	2030	2035	2040
Projected Water Supply of the Llagas basin (1)	(afy)	(afy)	(afy)	(afy)	(afy)
Natural Groundwater Recharge	22,500	22,500	22,500	22,500	22,500
Local Surface Water	16,000	18,300	20,300	21,500	21,600
SCVWD CVP Deliveries	10,600	10,700	10,700	10,400	10,200

Recycled Water Supply	2,600	3,200	3,700	3,700	3,700
Total without Recycled Water	49,100	51,500	53,500	54,400	54,300
Total with Recycled Water	51,700	54,700	57,200	58,100	58,000
Projected Average Daily Water Demand					
City of Gilroy (2)	9,186	10,306	11,650	12,882	14,114
City of Morgan Hill (3)	7,019	7,516	8,013	8,510	9,008
Other Users (4)	32,044	33,105	33,937	34,350	33,593
Total	48,249	50,927	53,600	55,742	56,715

Supply vs. Demand Comparison - Excluding Recycled Water					
Difference (Supply - Demand)	851	573	-100	-1,342	-2,415
Percent of Total Supply	98%	99%	100%	102%	104%
Supply vs. Demand Comparison - Including Recycled Water					
Difference (Supply - Demand)	3,451	3,773	3,600	2,358	1,285
Percent of Total Supply	93%	93%	94%	96%	98%

Table 3 Projected Supply vs. Demand Comparison (Coyote Valley)

	2020	2025	2030	2035	2040
Projected Water Supply for Coyote Valley (1)	(afy)	(afy)	(afy)	(afy)	(afy)
Natural Groundwater recharge	2,400	2,400	2,400	2,400	2,400
Local Surface Water	6,200	6,400	6,300	6,200	6,200
SCVWD CVP Deliveries	3,500	4,400	5,600	6,600	6,800
Total	12,100	13,200	14,300	15,200	15,400

Projected Average Daily Water Demand					
City of Morgan Hill (3)	1,530	1,639	1,747	1,856	1,964
Other Users (4)	11,986	13,063	14,295	15,474	15,736
Total	13,516	14,702	16,042	17,330	17,700
Supply vs Demand Comparison					
Difference (Supply - Demand)	-1,416	-1,502	-1,742	-2,130	-2,300
Percent of Total Supply	112%	111%	112%	114%	115%

Notes:

- (1) Projected supply per South County Supply document received from District staff on May 27, 2016.
- (2) Demand consistent with City of Gilroy draft 2015 UWMP.
- (3) City demand supplied from Coyote Valley Subarea of the Santa Clara Subbasin estimated based on City well

production records for the Boys Ranch wells.

(4) Demand for other users calculated from document received from District staff on May 27, 2016.

Supply Reliability

In addition to assessing supply and demands, the UWMP also considers the reliability of the water supply and vulnerability to seasonal or climatic changes. In this assessment, the supply is not separated by basin but instead as an aggregate. The UWMP considers three types of climatic conditions as described below.

Average Water Year - The average water 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. The supplies shown in Tables 2 and 3 above represent volumes available during an average water year.

Single Dry Year - The single dry year is defined as the individual year with the lowest usable water supply. This is by the year 1977. The average year water supply is reduced by 5%.

Multiple Dry Years - Multiple dry years are defined as the three consecutive years with the lowest usable water supply. The period between 2013 and 2015 was selected to represent the multiple dry years. The average year water supply is reduced by 5% for year 1, 15% for year 2, and 30% for year 3.

The reduced supply volumes are compared with the projected demands out to 2040. The single dry year and third consecutive dry year results are given in Table 4 as an example of impacts from a range of drought conditions. For the most part, demands exceed supply during drought conditions which are shown as negative differences in Table 4. Managing the supply shortages would be through the activation of water shortage contingency plans which are designed to offset drought conditions.

Table 4. Single Dry Year and 3rd Consecutive Dry Year Water Supply and Demand Projections for 2020 - 2040 in Acre Feet

Single Dry Year	2020	2025	2030	2035	2040
Supply	60,705	60,705	60,705	60,705	60,705
Demand	61,765	65,542	69,468	72,811	74,068
Difference	-1,060	-4,837	-8,763	-12,106	-13,363
3rd Year Drought					
Supply	41,535	41,535	41,535	41,535	41,535
Demand	61,765	65,542	69,468	72,811	74,068
Difference	-20,230	-24,007	-27,933	-31,276	-32,533

Water Loss Audit

As part of the 2015 UWMP update, urban water suppliers are required to quantify their distribution system water losses in a manner consistent with the American Water Works Association (AWWA) water system balance methodology. Water loss is a component of overall water demand and is not counted separately in demand projections. However, quantifying water loss provides an important

reference point from which to improve loss control programs such as leak detection, main replacement, and theft control. The City has completed the required water loss audit worksheet in accordance with the DWR guidelines and the projected losses were estimated to be 420 afy (7.2%). In the water supply industry, system water loss of less than 10% is generally considered acceptable. The State Water Resources Board is currently working on developing guidelines for acceptable water loss at the State level. Currently the City does not have a target for acceptable water loss, however staff is participating in the State water loss workshops and will bring recommendations to Council in the future.

Conservation Targets

The City has exceeded its 2015 conservation target as required by SBX7-7 and is on track to meet the overall 20% reduction required for 2020. As previously mentioned, SBX7-7 was approved by the Governor on November 10, 2009 and requires urban water suppliers to set target goals for water conservation. Using the City population and gross water use for the 2015 compliance year, the per capita water use for Morgan Hill was calculated as 123 gpcd. This amount is lower than the 2015 interim target per capita water use of 179 gpcd. Therefore, not only has the City exceeded its interim target, it has also exceeded the 2020 conservation target of 159 gpcd. The City's water customers have done an outstanding job at conserving water and, given their performance in 2015, the City should have no difficulty reaching the 2020 target.

Water Shortage Contingency Plan

The City has a water shortage contingency plan that may be invoked to implement restrictions on water use. Currently, the City has adopted permanent water use restrictions as well as a three-stage water rationing plan that can be adjusted to meet water shortage conditions. The City updated its conservation ordinance for water waste prevention in September 2015 through the adoption of Ordinance 2159. The stages of the water rationing plan include water demand reduction percentages, which is to be applied to normal water demands. Selection of a particular stage by the City Council is dependent on the cause, severity, and anticipated duration of the water shortage.

Demand Management

AB 2067 amended the UWMPA for the purpose of streamlining the reporting requirements of retail agencies from 14 specific measures to six more general requirements as well as an "other" category. The following lists each requirement and gives a summary of City activities to meet the requirement.

1. Water Waste Prevention Ordinance

In September 2015, the City adopted Ordinance 2159, which included the City's water conservation program and established three levels of water rationing plan.

2. Metering

The Morgan Hill Municipal Code requires meters on all water service connections.

3. Conservation Pricing

Beginning in 2016, the City is no longer using a tiered water rate structure often associated with conservation pricing.

4. Public Outreach and Conservation Programs

The City, in cooperation with the District, has multiple programs such as bill inserts, high efficiency fixture rebates, and new resident orientation designed to reduce water consumption

by raising public awareness of water conservation.

5. Programs to Assess and Manage Distribution System Real Loss

The City has implemented a system water audit to determine if leaks in the supply and distribution system exist and a method for repair. The audit tracks actual metered water use which is compared to total well production. Production is tracked monthly and reviewed annually to determine if the system exhibits significant losses.

6. Water Conservation Program Coordination and Staffing Support

The City supports the water conservation program using a 0.25 full time equivalent staff allocation.

If the draft UWMP is approved as recommended, the plan will be sent to the State Water Board for approval. The resolution adopting the plan is attached (Attachment 3) for Council review.

COMMUNITY ENGAGEMENT: Involve

On April 5, 2016, staff submitted the draft report to the stakeholders, including the City of Gilroy and the District, for review and comment.

On June 6, 2016, staff provided public notice requesting comments from interested parties.

On June 16, 2016, staff conducted a public meeting in Morgan Hill.

On August 5 and 12, 2016, staff provided public notice announcing a public hearing to be held August 24, 2016.

ALTERNATIVE ACTIONS:

Council could direct staff to make edits to the report and/or return for approval at a later date.

PRIOR CITY COUNCIL AND COMMISSION ACTIONS:

On February 17, 2016, Council approved a consultant agreement with Akel Engineering Group for the preparation of the 2015 UWMP.

FISCAL AND RESOURCE IMPACT:

Funding for this project was included in the 2015 Water Operations Budget. No budget adjustments are required at this time.

CEQA (California Environmental Quality Act):

Not a Project

The analysis of long term water supply strategies is not a project, as defined in Section 15378 of the State CEQA Guidelines and therefore CEQA action is not needed.

LINKS/ATTACHMENTS:

1. Public Comment and Responses
2. 2015 City of Morgan Hill Urban Water Management Plan
3. Resolution

