

CITY OF ALHAMBRA

2010 URBAN WATER
MANAGEMENT PLAN
UPDATE

FINAL DRAFT
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CITY OF ALHAMBRA
UTILITIES DEPARTMENT
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CITY OF ALHAMBRA 2010 URBAN WATER MANAGEMENT PLAN

SECTION ONE: INTRODUCTION

SECTION 1.1 URBAN WATER MANAGEMENT PLAN

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

This Urban Water Management Plan (hereinafter referred to as Plan or UWMP), is an update to the City of Alhambra’s most recent plan dated December 2005, which was prepared in accordance with the UWMP Act ¹, California Water Code Division 6, Part 2.6. A copy of said Act is located in Appendix A.

The UWMP Act requires every “urban water supplier” to prepare and adopt an UWMP at least every five years on or before December 31st, in years ending in five and zero, and make any amendments or changes which are indicated by the review. However, this requirement has been amended by State to instead require preparation and adoption by July 1, 2011. The Act defines an “urban water supplier” to be “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”. According to this definition in the Act, the City of Alhambra is required to submit a plan for 2010-2011.

The plan examines the activities of the City as a retail water supplier and describes the management of both the Main San Gabriel Basin and the Raymond Basin. This plan, therefore, includes the following items:

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

¹ Water Code Sections 10610 through 10656

- The management of urban water demands and efficient use of urban water supplies shall be a guiding criterion in public decisions
- Urban water suppliers shall be required to develop water management plans to actively pursue the efficient use of available supplies

SECTION 1.2 AGENCY COORDINATION

Section 10620 (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.

As part of the City's coordination for the update of the 2010-2011 UWMP, the City sought participation in the review and update of the plan from its wholesale agency, the San Gabriel Valley Municipal Water District (SGVMWD). In addition, notification was also sent to surrounding water management agencies and appropriate water districts for their review and input. Please see Appendix B for a copy of the notification letter and Table 1 for a summary list of notified agencies.

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

The City of Alhambra actively encouraged community participation and involvement of diverse, social, cultural and economic elements of the population within the service area prior to and during the preparation of the plan via website posting and notification in local newspaper. A public hearing was held at 7:00 PM on Monday, July 11, 2011 to receive public comment. Upon completion of the public hearing, the City Council adopted the draft plan, which is hereby submitted for State review and acceptance. A copy of the Notice for a Public Hearing is located in Appendix C.

SECTION 1.3 WATER MANAGEMENT TOOLS

Section 10620 (f): An urban water supplier shall describe in the plan those water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

This plan describes the management tools and options used by the City of Alhambra to maximize local resources and minimize the need to import water. The tools and options used include Groundwater Management, Demand Management Measures, Future water Supply Projects, and Recycled Water Use. The water supply for the City comes from three

sources: 1) groundwater from wells in the Main San Gabriel Basin; 2) groundwater from wells in the Raymond Basin; and 3) directly through delivery of treated surface water from the Metropolitan Water District of Southern California (MWD). Through efficient groundwater management, conservation, system maintenance and capital improvement programs, the City has been able to effectively minimize reliance on imported water.

SECTION 1.4 CHANGES TO THE PLAN

Section 10621: Each urban water supplier shall update its plan at least once every five years on or before December 31, in years ending in five and zero.

There have been several changes to sections of the Water Code since the 2005 version of the UWMP. The following sections have been amended, added, or deleted:

- 10621(b): added
- 10631(j)
- 10631.1
- 10631.5(a)
- 10631.5(b)
- 10631.5 (c)
- 10631.5(d)
- 10631.5(e)
- 10631.5(f)
- 10631.7
- 10633(d)
- 10644(a)
- 10644(b)
- 10644(c)
- 144644(j)(1)
- 144644(j)(2)
- 10657

In addition, there are Urban Water Management Plan requirements that are cited in the Water Conservation Bill of 2009. These include the following sections:

- 10608.20(e)
- 10608.20(g)
- 10608.20(h)(2)
- 10608.20(j)
- 10608.36
- 10608.40
- 10608.42

The City of Alhambra has reviewed its Urban Water Management Plan and included appropriate amendments and changes. A copy of the 2005 UWMP is attached in Appendix J for further reference.

SECTION TWO: SYSTEM DESCRIPTION

2.1 BACKGROUND – SECTION 10631 (A)

Section 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.

The City of Alhambra is a member agency of the San Gabriel Valley Municipal Water District (SGVMWD). The City is the local water purveyor that serves retail customers within its defined service area. The City has the legal right to pump groundwater from both the Main San Gabriel Basin and the Raymond Basin, and can purchase imported water from MWD through an agreement with the Upper San Gabriel Valley Municipal Water District (USGVMWD).

Currently, the City pumps groundwater only from the Main Basin because the City's well located within the Raymond Basin is currently inactive. The City has 10 active wells located within the Main Basin, which include Wells No. 7, No. 8, No. 9, No. 11, No. 12, No. 13, No. 14, No. 15, Longden No. 1, and Longden No. 2. The City has one inactive well; Well No. 2. Alhambra also has six reservoir locations, five booster pump stations, and one MWD connection. A map of Alhambra's service area and water facilities are shown in Appendix D.

The City's distribution system is divided into two major pressure zones: northern and southern. These zones have been established to accommodate the vertical elevation change within the City. The northern zone is comprised of three different services areas: the Northern Zone, the Alta Vista Regulated Zone, and the Palatine Zone. The Northern Zone receives its water from the Marengo and Garfield Booster Pump Stations, each drawing water from their associated reservoirs. The Alta Vista Regulated Zone is supplied by system water from the northern pressure zone. The Palatine Zone is supplied by the Palatine Reservoir and Booster Station. The Southern Zone is supplied water from the City's wells and the MWD connection. The Garvey Zone is supplied by the Garvey Reservoir and Booster Station

The City also receives imported water from MWD through the Cooperative Water Exchange Agreement, which is discussed in greater detail in this plan. The City receives this water through MWD's USG-5 connection, which is controlled by a pressure-reducing valve. This water is used to serve the southern part of the city.

2.2 DESCRIPTION OF SERVICE AREA – SECTION 10631 (A)

The City of Alhambra lies adjacent with the Cities of South Pasadena and San Marino on the north, San Gabriel on the east, Monterey Park on the south, and the City of Los Angeles on the west. The City is approximately 7.68 square miles and is located eight miles east of downtown Los Angeles. According to the City's General Plan and 2004 Water Master Plan, single-family and multi-family residential makes up approximately 54 percent of the total land use within the City. Other land use includes 12 percent for public use, 6 percent for commercial, 5.2 percent for industrial/manufacturing, 0.3 percent for utilities, 1.0 percent for parking, 18.9 percent for streets and highways, and 1.7 percent for vacant land.

The San Gabriel Valley is bounded on the north by the San Gabriel Mountains, on the west by the San Rafael and Merced Hills, on the south by the Puente Hills and San Jose Hills, and on the east by a low divide between the San Gabriel River System and the Upper Santa Ana River System.

Within the San Gabriel Valley are the San Gabriel River, and its tributary, the Rio Hondo, which drain an area of approximately 450 square miles upstream of Whittier Narrows. Whittier Narrows is a low gap between the Puente and San Jose Hills, just northeast of the City of Whittier, through which the San Gabriel River and the Rio Hondo flow to the coastal plain of Los Angeles County. Whittier Narrows is a natural topographic divide and a subsurface restriction to the movement of groundwater between the San Gabriel Valley and the coastal plain. Of the 450 square miles of drainage area upstream of Whittier Narrows, approximately 167 square miles are valley lands and 323 square miles are mountains and foothills.

2.3 CLIMATE – SECTION 10631 (A)

The City of Alhambra has warm summers and mild winters with moderate rainfall. Total average rainfall for 2009 was 11.7 inches (at the Alhambra measuring station). Average temperature ranges from 58 degrees Fahrenheit to 73 degrees Fahrenheit.

2.4 CURRENT AND PROJECTED POPULATION AND DEMOGRAPHIC FACTORS – SECTION 10631 (A)

The current population of the City of Alhambra is 85,068 based upon current census data from the U.S. Census Bureau. See Table 2 for current and projected population numbers. The percent change from 2000 to the 2009 was less than one percent. Demographically,

Alhambra is predominantly Asian (50.4%), Hispanic/Latino (34.9%), White (29.9%), Black (1.6%), Native American (0.8%) and Native Hawaiian and Other Pacific Islander (0.2%).²

² U.S. Census Bureau, July 1, 2010.

SECTION 3: SYSTEM DEMANDS

3.1 BASELINES AND TARGETS

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

The Baseline Daily Per Capita Water Use is defined as the average use, expressed in gallons per capita per day (gpcd), for a continuous, multi-year baseline period. There are two different baseline periods for calculating Baseline Daily Per Capita Water Use (CWC Sections 10608.20 and 10608.22):

- The first baseline period is a continuous 10-15 year period, and is used to calculate Baseline Per Capita Water Use per CWC Section 10608.20. The first baseline period is determined as follows:
 - *If recycled water makes up less than 10 percent of 2008 retail water delivery, use a continuous 10-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.*
 - *If recycled water makes up 10 percent or more of 2008 retail water delivery, use a continuous 10 to 15-year period ending no earlier than December 21, 2004, and no later than December 31, 2010.*

The City of Alhambra's recycled water use is less than 10 percent of its 2007-2008 retail water delivery. Therefore, the first baseline period will consist of a continuous 10-year period that can be selected between 1995-96 and 2008-09. See Table 3.

- *The second baseline period is a continuous five-year period, and is used to determine whether the 2020 per capita water use target meets the legislation's minimum water use reduction per CWC Section 10608.22. The continuous five year period shall end no earlier than December 31, 2007 and no later than December 31, 2010.*

The second baseline period will therefore be between 2003-04 and 2008-09. See Table 3.

Unless the urban water retailer's five-year Baseline Daily Per Capita Water Use per CWC Section 106-08.12 (b)(3) is 100 gpcd or less, the Baseline Daily Per Capita Water Use must be calculated for both baseline periods.

The calculation of the Baseline Daily Per Capita Water Use entails the following four steps:

Step 1: Calculate gross water use for each year in the baseline period using Methodology 1 in DWR's guidance document. According to Methodology 1, gross water use is a measure of water supplied to the distribution system over 12 months and adjusted for changes in distribution system storage and deliveries to other water suppliers that pass

through the distribution system. Recycled water deliveries are to be excluded from the calculation of gross water use. Water delivered through the distribution system for agricultural use may be deducted from the calculation of gross water use. Under certain conditions, industrial process water use also may be deducted from gross water use.

The calculated gross water use, based on recorded groundwater use and excluding recycled water use, for each year in the baseline period is shown in Table 5.

Step 2: Estimate service area population for each year in the baseline period using Methodology 2 in DWR's guidance document. To obtain an accurate estimate of GPCD, water suppliers must estimate population of the areas they actually service, which may or may not coincide with either their jurisdictional boundaries, or with the boundaries of cities. According to Methodology 2, data published by the California Department of Finance (DOF) or the U.S. Census Bureau must serve as the foundational building block for population estimates. In some instances, data published by these two sources may be directly applicable. In other instances, additional refinements may be necessary. For example, to account for distribution areas that do not match District boundaries, customers with private sources of supply, or other unique local circumstances, water suppliers may have to supplement the above sources of data with additional local data sources such as county assessor data, building permits data, and traffic analysis zone data. These refinements are acceptable as long as they are consistently applied over time, and as long as they build upon population data sources of the DOF or the U.S. Census Bureau.

The City of Alhambra's service area population was calculated using U.S. Census Bureau data. The population totals are listed in Table 2.

Step 3: Calculate daily per capita water use for each year in the baseline period. Divide gross water use (as determined in Step 1) by service area population (as determined in Step 2).

The calculated daily per capita water use for the baseline period is shown in Table 4.

Step 4: Calculate Baseline Daily Per Capita Water Use. Calculate average per capita water use by summing the values calculated in Step 3 and dividing by the number of years in the baseline period. The result is Baseline Daily Per Capita Water use for the selected baseline period.

The average per capita water use calculated for a continuous 10-year baseline period is shown in Table 4 with a value of 129.53 GPCD. The average per capita water use calculated for a continuous 5-year baseline period is shown in Table 5, with a value of 129.17 GPCD.

These baseline targets were developed individually.

Section 10608.20(b): Pursuant to this section, an urban retail water supplier shall adopt one of the following methods for determining its urban water use target pursuant to subdivision (a).

Water demand projections for the next 10 years are governed by the baseline and targets described in the previous section. The Urban Water Use Target is determined using one of the following methods:

Method 1: Eighty percent of the urban retail water supplier's Baseline Per Capita Daily Water Use.

Method 2: Estimate using the sum of the specified three performance standards.

Method 3: Ninety-five percent of the applicable state hydrologic region target, as set forth in the State's 20x2020 Water Conservation Plan.³

Provisional Method 4: Savings are assumed between the baseline period and 2020 due to metering of unmetered water connections and achieving water conservation measures in three water use sectors (residential indoor, commercial/industrial/institutional, and landscape water use, water loss, and other unaccounted-for water).

Method Chosen: Based on the 20x2020 Water Conservation Plan, the City's service area lies in DWR's Hydrologic Region 4 (South Coast), which has an established Baseline Per Capita Daily Water Use of 180 GPCD and a Target Per Capita Daily Water Use of 149 GPCD. Utilizing Method 3, the Urban Water Use Target for the City was calculated at 142 GPCD, which is 95% of 149 GPCD.

Confirm Urban Water Use Target: 1) Identify the 5-Year Base Period; 2) Determine 5-Year Base Daily Per Capita Water Use; 3) Calculate 95% of 5-Year Base Daily Per Capita Water Use; 4) Compare 5-Year Base Daily Per Capita Water Use and Urban Water Use Target; 5) Urban Water Use Target Adjustments.

The 5-year Base Period is between 2003-2008, with a base daily per capita water use of 129.17. Multiplying the base daily per capita use by 0.95% totals 122.17 GPCD. The Urban Water Use Target is 142 GPCD, which is less than 95 percent of the 5-year base daily per capita water use, therefore, no adjustments are needed.

Set the 2015 target to the mid-point between the 10- or 15-year Baseline Per Capita Water Use and the 2020 target determined in Step 2.

The City's 2015 Interim Urban Water Use Target is set at 135.58 GPCD.

³ California Department of Water Resources, State Water Resources Control Board, California Bay-Delta Authority, California Energy Commission, California Department of Public Health, California Public Utilities Commission, and California Air Resources Board. *20x2020 Water Conservation Plan*. February 2010.

3.2 COMPLIANCE DAILY PER CAPITA WATER USE

Compliance Daily Per Capita Water Use is defined as the Gross Water Use during the final year of the reporting period, and reported in the GPCD. The Compliance Daily Per Capita Water Use will be reported in the City's 2015 Plan (interim compliance) and 2020 Plan (final compliance).

3.3 WATER DEMANDS

Section 10631(e)(1)(2): Quantify to the extent records are available, past and current water use, and projected water use (over the same five-year increments described in subdivision (a)), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses: (A) single-family residential; (B) multi-family; (C) commercial; (D) industrial; (E) institutional and governmental; (F) landscape; (G) sales to other agencies; (H) saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof; (I) agricultural.

Tables 6 through 11 show the past, current and future water use by the appropriate sectors in the City of Alhambra. The City data base combines the single and multi-family sector into one group called "domestic", commercial and industrial are combined into one group, and institutional/ governmental sectors are tracked separately. Due to a change in billing systems in 2006, some usage data was not converted correctly, or lost entirely, therefore, some data is omitted for irrigation, governmental, and institutional sectors. This will be rectified during the upgrade of the billing system in late 2011/early 2012.

3.3.1 PAST AND CURRENT USE OF WATER (SECTION 10631(E) (1))

The historic domestic water use during the non-drought years was approximately 130 gallons per person per day (gpcd). Currently, the gpcd is 109.32, based on the 2010 metered sales and current population for the City. Historical consumption by customer type is shown in Table 6. The City currently serves approximately 17,992 connections. The City maintains records of its water usage and service connections by customer group. The records are delineated further by single family residential, multi-family residential, commercial/industrial, institutional, landscape irrigation, and governmental use. In calendar year 2010, consumption by customer class recorded that single and multi-family residential use was approximately 8,015 AF; commercial/industrial was approximately 1,805 AF; institutional use was approximately 101 AF; and governmental use was 502 A.F. The total annual consumption for 2010 was approximately 10,423 AF.

3.3.2 PROJECTED WATER USE (SECTION 10631(E) (2))

The City of Alhambra's Development Services Department-Planning Division considers the City's municipal service area to be "built-out". Over the past 25 years, the City has experienced considerable growth due to the conversion of single dwelling units into multi-family dwelling units. Additionally, older retail establishments in the downtown area have been demolished and mixed-use retail/dwelling units have been constructed as part of the City's redevelopment efforts.

The projected water use should remain fairly consistent as the City is built-out with very little room for extensive industrial, commercial, and/or residential development. Large scale development remains confined to replacement of existing structures. Therefore, water use should not be measurably impacted. The projected water use by customer group is expected to follow the same trends as the increase in population. The projected number of connections by customer type is shown in Tables 9 through 11.

3.3.3 OUTSIDE SYSTEM DEMANDS

The City does not sell water to any outside agencies.

3.3.4 ADDITIONAL WATER USES AND LOSSES

The system loss for Fiscal Year 2009-10 was approximately .90%. Over the past five years, the average loss is .91%. The City does not anticipate any other future uses of system water other than for potable use.

3.3.5 LOWER INCOME SYSTEM DEMANDS

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

The City does not keep usage statistics specifically by income. All residential units are classified as either single or multi-family. The only housing project to be undertaken for low-income residents will be an 8-unit condominium complex, with construction to be completed within the next five years. The water use projections for this complex will not result in an increased demand on the water resources, as this complex will be replacing several existing single and multi-family structures. This is typically the case with multi-unit housing projects.

3.4 WATER USE REDUCTION PLAN

Section 10608.36 and CWC Section 10608.26: Urban wholesale water suppliers shall include in the urban water management plans...an assessment of their present and proposed future measures, programs, and policies to help achieve the water use reductions required by this part. Urban retail water suppliers are to prepare a plan for implementing the Water Conservation Bill of 2009 requirements and conduct a public meeting which includes consideration of economic impacts.

The City of Alhambra is not a wholesale water supplier. Therefore, the first requirement of Section 10608.36 is not applicable.

As a retail supplier, the City determines that the commodity water rate three-tiered structure and continued targeted conservation efforts by residents (which is the cornerstone of the plan) will assist with meeting the requirements of Section 10608.26. A potential economic impact from the water use reduction plan includes increased expenditures to purchase more and varied educational/information materials for distribution to customers. Currently, the City distributes pre-packaged conservation kits to new customers when they sign up for water service. Conservation kits are also distributed at City events, such as the Annual Eco-Fair held in April. Informational conservation articles are printed in the local City newspaper on a regular basis, however, any other formal advertising must be purchased.

The public hearing conducted by the City to discuss the draft UWMP included a discussion of water use targets, and the economic impacts associated with those targets.

SECTION 4: SYSTEM SUPPLIES

4.1 WATER SOURCES

Section 10631(b): Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five year increments described in subdivision (a).

The City of Alhambra's main source of water supply consists of groundwater pumped from the Main San Gabriel Basin. Although the City has the right to pump from the Raymond Basin, it currently does not operate any active wells within this basin.

Although there is no limit on the amount of water that may be pumped by parties to the Main Basin adjudication, groundwater production in excess of water rights, or the proportional share of the Operating Safe Yield set by Watermaster, requires the purchase of imported replacement water to recharge the Main Basin. The City of Alhambra has a pumper's share of 4.45876 percent of the Operating Safe Yield. For the 2009-10 fiscal year, the Operating Safe Yield was set at 170,000 acre-feet; therefore, the City's pumping right was equal to 7,579.89 acre-feet. If the City pumps more than the allocated amount of water, replacement water must be purchased from SGVMWD.

Under the adjudication of the Raymond Basin, the Court determined who had the right to extract water and the maximum annual amount of water allowed to be pumped by each producer. The city has a decreed right of 1,031 acre-feet.

In addition to groundwater pumped from the Main Basin, the City can purchase imported water from MWD. The City's wells located in a portion of the Main Basin that does not benefit from the replenishment and recharging efforts of the Main San Gabriel Basin Watermaster. Although the City is not a member agency of MWD, the City can receive imported water through the Coordinated Water Exchange Agreement (CWEA). The City receives direct delivery of water through the MWD USG-5 service connection thereby reducing the extraction of water from the Main Basin.

The CWEA is an agreement between the City of Alhambra, the SGVMWD, USGVMWD, MWD, and the Main San Gabriel Watermaster. The agreement was developed to reduce a localized condition which exists in the westerly portion of the Main Basin, called the Alhambra Pumping Hole (APH). The APH receives little replenishment due to the hydro geologic characteristics. Seven producers extract water from the pumping hole, which has resulted in declining water level elevation. To mitigate the condition, it was agreed that Alhambra would receive direct delivery of water from MWD's USG-5 connection and in exchange, would reduce its extraction of water from the pumping hole by an equivalent amount. CWEA is cooperatively financed by the City of Alhambra and three of the parties to the agreement, excluding MWD.

In 2009-10, the City pumped 8,931.83 acre-feet of groundwater and received 2,597.42 acre-feet of water from MWD. The projected amount of groundwater production for the next

twenty years is estimated to increase at the same rate as the population. Table 13 shows the current and projected groundwater supply from fiscal year 2009-10 through 2029-30. Additionally, the City will continue to purchase water from MWD through the CWEA, at a rate of 3,000 acre-feet per year for the next twenty years.

4.1.1 DESCRIPTION OF MAIN BASIN

The Main Basin includes the entire San Gabriel Valley floor, with the exception of the Raymond Basin and Puente Basin, with the boundaries being the Raymond Basin on the northwest, the base of the San Gabriel Mountains on the north, the groundwater divide between San Dimas and La Verne, and the lower boundary of the Puente Basin on the east, and the common boundaries between USGVMWD and Central Basin through Whittier Narrows on the southwest.

The Basin is a large groundwater basin replenished by stream runoff from the adjacent mountains and hills, by rainfall directly on the surface of the valley floor, subsurface inflow from Raymond Basin and Puente Basin, and by return flow from water applied for overlying uses. The Basin is also replenished with imported water. There are three municipal water districts overlying and partially overlying the Main Basin. The three districts are Upper San Gabriel Valley MWD, San Gabriel Valley MWD, and Three Valleys MWD.

The greatest area of land use in the valley is for residential and commercial purposes, with several major industrial areas adjacent to the San Gabriel River and within other portions of the valley. Agricultural uses are relatively small.

The Main Basin geology consists of a roughly-shaped bowl depression of bedrock, filled with alluvial deposits. The elevation of the base of the groundwater reservoir declines from about 800 feet above mean sea level in the vicinity of San Dimas at the northeast corner of the Main Basin to about 2,200 feet below mean seal level in the vicinity of South El Monte.

The City of Alhambra pumps its groundwater from the westerly portion of the Main Basin, which is referred to as the Alhambra Pumping Hole. The location is an area with limited replenishment due to the tightness of the groundwater formations and limited facilities for direct recharge to the area. Replenishment of the Main Basin in the area from the Rio Hondo east has little effect on the westerly portion of the Basin due to the limited transmissibility through the tighter formation west of the Rio Hondo.

The total fresh water storage capacity of the Main Basin is estimated to be about 9.5 million acre-feet. Of that amount, about 1,100,000 acre-feet have been used historically in Main Basin operations. The change in groundwater elevation at the Key Well is representative of changes in groundwater in the Main Basin. One foot of elevation change at the Key Well is roughly the equivalent of about 8,000 acre-feet of water storage.

Generally, water movement in the Main Basin is from the San Gabriel Mountains on the north to Whittier Narrows to the southwest. Groundwater movement in the northern and northeastern regions of the Main Basin is affected by faulting. The Basin is an unconfined aquifer.

4.1.2 MAIN BASIN GROUNDWATER RECHARGE

The major sources of recharge to the Basin are direct penetration of rainfall on the valley floor, percolation of runoff from the mountains, percolation of imported water, and return flow from applied water. Rainfall occurs predominantly in the winter months and is more intense at higher elevations and closer to the Mountains.

The San Gabriel River bisects the Main Basin. The River flows through the San Gabriel Canyon and enters the Main Basin at the mouth of the canyon just north of the City of Azusa. The River then flows southwesterly across the valley to Whittier Narrows, a distance of approximately 15 miles. It then crosses the Coastal Plain in a southerly direction to reach the Pacific Ocean at Alamitos Bay near the City of Long Beach.

The San Gabriel River is joined and fed by several tributary creeks and washes. The channel of the River itself separates into the Rio Hondo which runs parallel to the river. Tributaries draining the westerly portion of the Basin feed the Rio Hondo. Santa Anita Wash, Eaton Canyon Wash, Rubio Wash and Alhambra Wash all cross the Raymond Basin area before entering the Main Basin. The channel of the Rio Hondo passes through Whittier Narrows westerly of the San Gabriel River then flows southwesterly to join the Los Angeles River on the Coastal Plain.

Many of the stream channel tributaries to the San Gabriel River have been improved with concrete banks, and concrete-lined bottoms. These stream channel improvements have significantly reduced the area of previous stream channels and reduce Main Basin recharge. A number of off-stream groundwater replenishment facilities have been established along these stream channels to offset these reductions in recharge. Some of these facilities are accessible to imported water supplies, while some facilities receive only local runoff.

4.1.3 RAYMOND BASIN

The Raymond Basin is located in the northwesterly portion of the San Gabriel Valley and is bounded on the north by the San Gabriel Mountains, on the west by the San Rafael Hills and is separated from the Main Basin on the southeast by the Raymond Fault. The Basin is divided into an eastern unit, which is the Santa Anita sub-area, and the Western unit, which the Pasadena sub-area and Monk Hill Basin. The area of the Raymond Basin is approximately 40.9 square miles. The principal streams in the Basin are the Arroyo Seco, Eaton Wash, and Santa Anita Wash. The Arroyo Seco drains to the Los Angeles River, while Eaton Wash and Santa Anita Wash drain to the Rio Hondo.

The Raymond Fault separates the Raymond Basin from the Main Basin. The fault zone is not impervious and groundwater is able to flow across this boundary in the Main Basin. The source of natural groundwater supply of the Raymond Basin is direct rainfall, percolation from surface runoff from the northern and western sides, and some underground percolation of water from the mountain mass to the alluvium. The fault trends east-northeast and acts as a groundwater barrier along the southern boundary of the Raymond Basin. The fault acts as a complete barrier along its western end and become less effective barrier eastward. East of the Santa Anita Wash, this fault is not an effective barrier and the

flow of groundwater southward into the Main Basin becomes unrestricted. A north-trending divide paralleling the Eaton Wash separates both surface and subsurface water flow in the eastern portion of the Raymond Basin. The water level is higher on the eastern side of this divide, ranging from 300 feet higher in the north to about 50 feet higher in the south. Monk Hill, an emergent mound of consolidated bedrock within the Raymond Basin, causes groundwater to flow around it, but it does not appreciably change the regional flow pattern.

Natural recharge to the Raymond Basin is mainly from direct percolation of precipitation and percolation of ephemeral stream flow from the San Gabriel Mountains in the north. The principal streams bringing surface water inflow are the Arroyo Seco, Eaton Creek, and Santa Anita Creek. Some stream runoff is diverted into spreading grounds and some is impounded behind small dams allowing the water to infiltrate and contribute to groundwater recharge of the Raymond Basin. An unknown amount of underflow enters the Basin from the San Gabriel Mountains through fracture systems.

Water levels in the Raymond Basin have varied over time, but are managed to stay within limits of a long-time mean elevation. No estimate of available groundwater storage have been provided since 1971, when a DWR study determined that the available stored water to be 1,000,000 acre-feet, leaving approximately 450,000 acre-feet of storage space available. (Department of Water Resources)

4.2 GROUNDWATER MANAGEMENT – SECTION 10631 (B) (1)-(4)

Section 10631(b): If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:

- 1) A copy of any groundwater management plan adopted by the urban water supplier including plans adopted pursuant to Part 2.75 (commencing with Section 10750) or any other specific authorization for groundwater management.*
- 2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater, a copy of the order or decrees adopted by the court of the board, and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.*
- 3) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.*
- 4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonable available, including, but not limited to, historic use records.*

The City of Alhambra has not adopted specific groundwater management plans for the Main Basin or Raymond Basin. The management of the water resources in the Main Basin is under the control of the Watermaster Services under two Court Judgments: San Gabriel River Watermaster⁴ and Main San Gabriel Basin Watermaster⁵. The City of Alhambra was named as a defendant in the Long Beach Judgment and thus has active participation. Additionally, the City was a plaintiff in the court action which resulted in the creation of the Main San Gabriel Basin Watermaster. Therefore, Alhambra is also included in the Main Basin Management developed by the Watermaster in their Five-Year Water Quality and Supply Plan, which is attached in Appendix E.

Management of the water resources of the Raymond Basin is found in the Raymond Basin Judgment. The City is a defendant in this judgment and thus has active participation.

Both basins utilized by the City of Alhambra have been adjudicated and are well managed. Additionally, the Department of Water Resources Bulletin 118 does not identify either Basin as being in overdraft. Copies of both judgments are attached in Appendix F.

4.2.1 PROJECTED LOCATION, AMOUNT AND SUFFICIENCY OF GROUNDWATER

The Main Basin will continue to be the primary source of groundwater for the City of Alhambra, and as indicated in Table 13, the projected annual supplies from the basin will remain stable. Additionally, the obligated purchase of 3,000 acre-feet of water from Metropolitan Water District will also remain consistent through 2030. Table 16 shows the projected amount of Main San Gabriel Basin and Raymond Basin groundwater to be pumped from 2015 through 2030.

4.3 TRANSFER OPPORTUNITIES

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

On a short-term basis, the City will maintain its three interconnections for emergency use through California-American Water Company and San Gabriel Valley Water District. These three interconnects can provide up to a combined total of 3,200 gpm.

Through the Cooperative Water Exchange Agreement, the City will continue to receive a direct delivery of Metropolitan Water District water and reduce our extractions from the Alhambra Pumping Hole over the long-term. The City will also continue cyclic storage agreements with the Main Basin Watermaster to store imported water in the Main Basin for

⁴ Board of Water Commissioners of the City of Long Beach, et al., v. San Gabriel Valley Water Company, et al., Los Angeles County Case No. 722647, Judgment entered September 25, 1965.

⁵ Upper San Gabriel Valley Municipal Water District v. City of Alhambra, et al., Los Angeles County Case No. 924128, Judgment entered January 4, 1973.

a period of up to five years to be used to offset future Replacement Water requirements. As of June 2010, the City had zero acre-feet in its Cyclic Storage account.

As the City is a part to the Main Basin Judgment and has adjudicated rights, the City is allowed to enter into temporary transfers of water rights to acquire additional water right on an annual basis to reduce the quantity of production that may be subject to a Replacement Water assessment.

4.4 DESALINATED WATER OPPORTUNITIES

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

The City currently does not have opportunities to utilize desalinated water as a supply source. The groundwater which is pumped from the Main Basin is low in Total Dissolved Solids and does not require desalination.

4.5 RECYCLED WATER OPPORTUNITIES

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

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

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

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

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

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

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

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

**4.5.1 PAST, CURRENT, AND FUTURE RECYCLED WATER USE
(SECTION 10633)**

The City of Alhambra does not currently utilize recycled water. The infrastructure is not currently available in order to use this type of water supply.

In the future, there may be opportunity to utilize recycled water for irrigation purposes. The SGVMWD, USGVMWD, and Main Basin Watermaster have been in discussions relative to use of recycled water for Basin recharge, as well as other uses. As the City is a member of the SGVMWD, certainly any projects of this type would benefit Alhambra as well. Until such plans are completed and/or facilities constructed, it is difficult to determine the financial impact or the water savings.

**4.5.2 WASTEWATER COLLECTION AND TREATMENT SYSTEMS
(SECTION 10633(A))**

The City does not operate its own wastewater treatment plant. All wastewater is conveyed through the City sewer system to the Los Angeles County Sanitation District, from whose transmission lines, waste is transferred to one of two reclamation plants. Operation and management of these plants has not changed since the last UWMP submittal.

4.5.3 POTENTIAL USES OF RECYCLED WATER (SECTION 10633C)

In 2005, the San Gabriel Valley Municipal Water District, Upper San Gabriel Valley Municipal Water District and Central Municipal entered into a Memorandum of Understanding (MOU) to identify potential uses of recycled water. In 2007, a report was developed which identified those potential uses by the members of the SGVMWD, which includes the cities of Alhambra, Monterey Park, Azusa, and Sierra Madre. A detailed report may be obtained from the SGVMWD.

4.5.4 INCENTIVES AND OPTIMIZATION OF RECYCLED WATER USE

As the City does not have the independent capability to currently provide the infrastructure for recycled water use, it is incumbent upon the SGVMWD, as the wholesale water agency, to develop projects from which Alhambra can benefit. Until such projects are developed and constructed, it is difficult to estimate the financial incentives and benefits to the City and its residents.

4.6 FUTURE WATER PROJECTS

Section 10631(h): Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water uses 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.

As stated previously, the management of the Main Basin and Raymond Basin ensures that water supply for the City is reliable and safe.

In an effort to optimize the city's water rights, the construction of a treatment facility was completed in 2008 to allow for pumping of city wells in the Main Basin. The treatment facility construction allowed the City to reestablish pumping of groundwater from two previously inactive wells, which had been out of service due to high levels of VOCs and nitrate.

The City does not have any future plans to construct facilities to pump or deliver more water.

SECTION FIVE: WATER SHORTAGE RELIABILITY AND WATER SHORTAGE CONTINGENCY PLANNING

5.1 WATER SUPPLY RELIABILITY

Section 10620(f): An urban water supplier shall describe in the plan water management tools and options used by the entity that will maximize resources and minimize the need to import water from other regions.

Section 10631 (c)(2): For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climactic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.

The management tools and options the City of Alhambra utilizes to maximize resources and minimize the need to import water from other regions include:

- Groundwater Management
- Demand Management Measures
- Future Water Supply Projects
- Conservation Programs
- Well and Reservoir Maintenance Program

5.1.1 GROUNDWATER MANAGEMENT

As indicated in Chapter Three, Section 3.2, the City has not adopted specific groundwater management plans for the Main Basin and Raymond Basin, as the management of these two resources is adjudicated by the Court. For the Main Basin, the Main San Gabriel Basin Watermaster prepares and annually updates its Five-Year Water Quality and Supply Plan in accordance with the requirements of Section 28 of its Rules and Regulations.

5.1.2 DEMAND MANAGEMENT MEASURES

The City of Alhambra is not a signatory to the Memorandum of Understanding in regard to the Urban Water Conservation in California, and is therefore not a member of the California Urban Water Conservation Council (CUWCC). Section Six describes the Demand Management Measures the City implements and provides information on the DMM not economically feasible for the City to implement. Alternative measures may be evaluated if it is determined that further water conservation measures need to be implemented.

5.2 WATER SHORTAGE CONTINGENCY PLANNING

Section 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, and earthquake, or other disaster.

Section 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.

Section 10632(e): Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reductions 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.

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

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

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

Upon review of the current contingency analysis from the 2005 UWMP, the existing plan of action is consistent with the regulations and does not need to be amended. Appendix G contains the current Water Shortage Plan as adopted by City code.

As a summary, the following elements were addressed in the 2005 UWMP:

- Stages of Action in response to water supply shortages - The City utilizes a four-stage rationing plan. The priorities for provision and use of water during a shortage are as follows:

1. Health and Safety – residential use and fire fighting
2. Commercial, Industrial and Governmental – Maintain jobs and economic base
3. Existing Landscaping
4. New Demand – projects without permits when shortage is declared.

Rationing program triggering levels are established to ensure that a minimum of 50 percent of normal supply during a severe or extended water shortage is maintained.

- Actions to be taken to prepare for, and implement, during catastrophic interruption of water supply – The City has prepared and reviews an Emergency Response Plan, which describes the actions that the City will take during a catastrophic interruption of water supplies during various scenarios, such as regional power outages, earthquakes, or other natural or man-made disaster.
- Additional, mandatory prohibitions against specific water use during shortages – In addition to the adopted Water Conservation Ordinance of 1990, there are additional prohibitions against over-water. These include:
 1. No customer shall cause or allow the use of water to run off any landscape areas into adjoining streets, sidewalks, parking lots or alleys due to misdirected or improperly maintained sprinklers or excess watering.
 2. No customer shall use or allow the use of water for landscape watering more than every three days.
 3. No customer shall use or allow the use of water for landscape watering between the hours of 10:00 AM and 5:00 PM. (Alhambra Municipal Code Chapter 15.25).
- Consumption reduction methods during the most restrictive stages – The City may opt to establish an allocation method for each customer type based on the duration of the water shortage/drought condition. The specific percentage reductions and at each stage for each customer class could be allocated on a five-year base period and reflect seasonal patterns.
- Penalties for excessive use – The City’s tiered rate structure currently discourages the excessive use of water.
- Analysis of the impacts of the Plan on revenues and expenditures – During times of critical water shortages which are temporary, the loss of revenue due to lower consumption can be adequately balanced with ongoing operational costs. Additionally, the City maintains a reserve fund, which can be used for operational costs during times of water shortages due to disasters. For longer-term scenarios such as multi-year droughts, the need to raise rates may be necessary.
- Water Shortage Contingency Ordinance/Resolution. – See Appendix G.
- Water Use Monitoring to determine reductions – All connections are metered in the City, and auditing of accounts is continuous to determine excessive water

consumption due to leaks or overuse. During normal water supply conditions, production figures are recorded daily. Monthly totals are recorded and submitted to the Main Basin Watermaster.

5.3 WATER QUALITY

Section 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 effects water management strategies and supply reliability.

The City relies upon groundwater wells to produce 75 percent of its potable water deliveries. There are ten active wells which pump from the Main Basin. Well No. 2, which is located in the Raymond Basin, has been inactive for several years due to high levels of nitrate above the State MCL.

Four wells now run through the City's treatment facility, which was constructed and operational in 2008. This facility treats water for both nitrate and VOC removal. Additionally, the City continues to maintain blending programs for several other wells. The City is also considering construction of a nitrate treatment plant for Well No. 13, which is currently blended with Well No. 14. Well 13 will then be able to operate independently from the other well, ensuring a more consistent supply of water. With these efforts, the reliability of supply due to water quality concerns is negligible.

The City continues to monitor the investigation currently underway by the EPA of the Area 3 Operable Unit, and occasionally provides information to the EPA upon request.

5.4 DROUGHT PLANNING

Section 10631 (c)(1): Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following (A) an average water year, (B) single dry water year, (C) multiple dry water years.

Section 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.

Section 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.

Section 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 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 twenty years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

The City obtains its water supply from groundwater wells located in the Main Basin and Raymond Basin. The City's groundwater supply has remained stable for over four decades. Groundwater will remain the primary supply for the city for the next 20 to 30 years. The attached tables show the reliability of the groundwater supply in five year increments, over the next twenty years, in normal, single dry, and multiple dry water years.

In addition, the City is allowed to purchase up to 3,000 AF of water from MWD, and based upon their planning documents, will be able to continue to meet water demands under an average water year, a single dry water year, and multiple dry water years.

Table 14 shows the groundwater and MWD water supply in acre-feet for the period 2005 to 2010, the 2011 projected supply, and the projected 2012 Worst Case 15% reduction, the projected 2013 Worst Case 25% reduction, and the projected 2014 Worst Case 50% reduction supplies. Table 15 shows the reliability of supply in acre-feet for average, single-dry, and multiple-dry years for 2020, 2025, and 2030.

SECTION SIX: DEMAND MANAGEMENT MEASURES

6.1 DMM

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

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

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

Section 10631(g): An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures or combination of measure, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following (1) Take into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors; (2) Include a cost-benefit analysis, identifying total benefits and total costs; (3) Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost; (4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation.

A) Water Survey Programs for Single and Multi-Family Residential Customers

The City's utility billing system has the ability to audit a customer's water usage. Any unusual variations in consumption are noted and the property owner is alerted in writing. Customer Service Representatives will inspect for leaks in the system or at the meter. If the leak is found to be the customer's service line, they will be instructed to have repairs made by a qualified plumber.

B) Residential Plumbing Retrofit

The City participates in a residential plumbing retrofit program by distributing faucet aerators, 1.5 gpm shower heads, and ultra low-flow toilets. When a new customer signs up for service, they are given a free water conservation kit which includes various items such as shower heads, kitchen and bathroom aerators, and leak-detection dye tabs.

C) System Water Audits and Leak Detection

Repairs to the distribution system are conducted on an “as-needed” basis. Water production and consumption use is monitored by tracking “unaccounted for water”. The current amount of “unaccounted for water” use is approximately .90%, and the average over the last five years has been .91%. If water loss is not a result of normal water loss activities such as water connections, installation of new water mains, meter accuracy, or the like, then the City can assume that there is a leak in the distribution system and make repairs.

D) Commodity Rates for New Connections/Retrofit of Existing Connections

All customers in the City are metered and commodity rates exist for all new and existing connections. A billing unit is equivalent to one hundred cubic feet. The basic system operation fee varies with the size of the connection, and the water use charge increases with each increase in water use. This effectively promotes water conservation by providing a financial incentive to customers to pay less by using less. See Appendix H for the water rates.

E) Water Efficient Landscape Ordinance

In January 2010, the City adopted the Water Efficient Landscape Ordinance, in accordance with the provisions of AB 1881 related to water use, waste, conservation and efficiency. In addition, the City-owned golf course is irrigated with non-potable water. See attached Appendix I for the enacted Ordinance.

F) High-Efficiency Washing Machine Rebate Program

The City currently does not have a high-efficiency washing machine rebate program, however, our wholesale water supplier, the San Gabriel Valley Municipal Water District has appropriated funds in their upcoming FY 2011-12 budget to research the feasibility of implementing such a program for their member agencies.

G) Public Information Programs

The City of Alhambra makes information available to the public year-round, with particular focus on Water Awareness Month in May. In 2011, the City conducted its Second Annual Eco-Fair, which featured information and products regarding both water and energy conservation. The City distributes conservation kits to the residents, and also has the opportunity to work with the staff of the SGVMWD in their Public Education Program.

This program consists of major advertisements on bus shelters, posters, and articles in the local Alhambra Community newspaper and the regional San Gabriel Valley newspapers.

H) School Education Programs

Each year, the City sponsors a water awareness poster contest for school children in grades Kindergarten through 8th. Now in its 14th year, the poster contest allows the students to become actively aware of water conservation efforts that they can practice daily. At the high school level, students volunteer to work with SGVMWD staff by distributing information at City events, and several volunteer to wear the H2Owl mascot costume at public events. The H2owl mascot is a colorful symbol

I) Conservation Program for Commercial, Industrial, and Institutional Accounts

The City provides commercial, industrial and institutional account audits to flag accounts with unusual consumption patterns (both high and low). The customer is notified of the alert, and assistance with leak detection on property is also offered as a courtesy.

J) Wholesale agency programs

In coordination with the San Gabriel Valley Municipal Water District, which is a wholesale agency, the City participates in educational programs and a residential ultra-low flush toilet exchange program yearly.

K) Conservation Pricing

The City utilizes a tiered water rate structure, which was implemented in 1992, to encourage customers to conserve water. This rate structure divides charges into three tiers: 0 to 12 CCF, 12 to 20 CCF, and 21 and over the CCF, and their associated per unit cost. This is an effective means by which to encourage residents to save water, as they will pay less the more they conserve.

L) Water Conservation Coordinator

Beginning in July 2011, the Utilities Department will fund a Conservation Specialist staff position. The oversight of water conservation is the responsibility of the Deputy Director – who will supervise this position. This staff member will be responsible for all aspects of public education, conservation policies, research and training related to water and energy conservation. In addition, the Customer Service Manager and Customer Service Division staff is responsible for the monitoring of conservation measures, as they oversee the metering and billing aspects of the utility.

M) Water Waste Prohibition

The Water Shortage Contingency Plan of the City includes various water waste prohibitions. In addition, there are provisions in the Alhambra Municipal Code which addresses water waste and the penalties associated with violations.

N) Residential Ultra-Low Flow Toilet Replacement Programs

The City, in conjunction with the SGVMWD, provides a residential ultra-low flush toilet replacement program annually for Alhambra residents. On average, 400 toilets are exchanged each year. Since 2000, the City has distributed over 4,000 ultra-low flush toilets. Since the ULFTs only use 1.6 gallons per flush, compared to low-flow toilets, which use 3.5 gallons per flush, these ULFTs save 1.9 gallons of water per flush.

The City also requires that all new construction incorporate the installation of ULFTs in residential construction projects.

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