Chapter III.

ENVIRONMENTAL RESOURCES

WATER RESOURCES ELEMENT

PURPOSE

The Water Resources Element of the General Plan addresses water sources, availability, current and future demand, conservation, water quality, and the future of the water resources serving the community. A discussion of local water purveyors and the importance of coordination between the purveyors and the Town is also included below. The topics covered by this element include regional and local water supplies, consumptive demand within the Town and Sphere-of-Influence, and groundwater conservation and protection. And finally, the goal, policies and programs are set forth in this element which direct Town staff and other officials in the management of this vital resource.

BACKGROUND

The Water Resources Element is directly related to both the Land Use Element and considers the management of water demand and water quality as essential to land use planning. This Element is also directly related to the Flooding and Hydrology Element, which discusses the protection and enhancement of groundwater recharge, as well as the protection of life and property from flood damage. The Emergency Preparedness Element, Police and Fire Protection, and the Water, Sewer and Utilities Element also are related to and address water availability and water quality issues.

The Water Resources Element addresses key topics of California Government Code Section 65302(d), including the discussion and evaluation of available water supplies, conservation of water resources, and water quality control. In addition, the Town is authorized by the California Environmental Quality Act, Section 21083.2(g), to require the research and documentation of potential water resource impacts associated with projects within the Town that may have significant impacts to water and other important resources.

WATER RESOURCES

Mojave River Groundwater Basin

The Town of Apple Valley is located within the boundaries of the Mojave River Groundwater Basin, which encompasses approximately 1,400 square miles along the Mojave River within the management area of the Mojave Water Agency (MWA). The management area for the MWA covers approximately 4,900 square miles. MWA is responsible for managing the long-term reliability of surface and groundwater within its service area, and as a State Water Project (SWP) contractor, has an SWP water allocation of 75,800 acre-feet per year. Local water purveyors contract with MWA for water, which is delivered from the SWP facilities extending as far north as Lake Oroville to Lake Perris in the south. The SWP includes 660 miles of aqueduct and conveyance facilities, and delivers SWP water to MWA for storage and distribution.

The MWA Urban Water Management Plan utilizes SWP reliability factors of 69% to 77%, which yield a conservative 53,800 to 58,400 AF of entitlement for MWA. However, recent events involving water deliveries and impacts to endangered species in the San Joaquin River basin have reduced current (2008) and may reduce future deliveries of SWP water allocations to SWP contractors, including MWA.

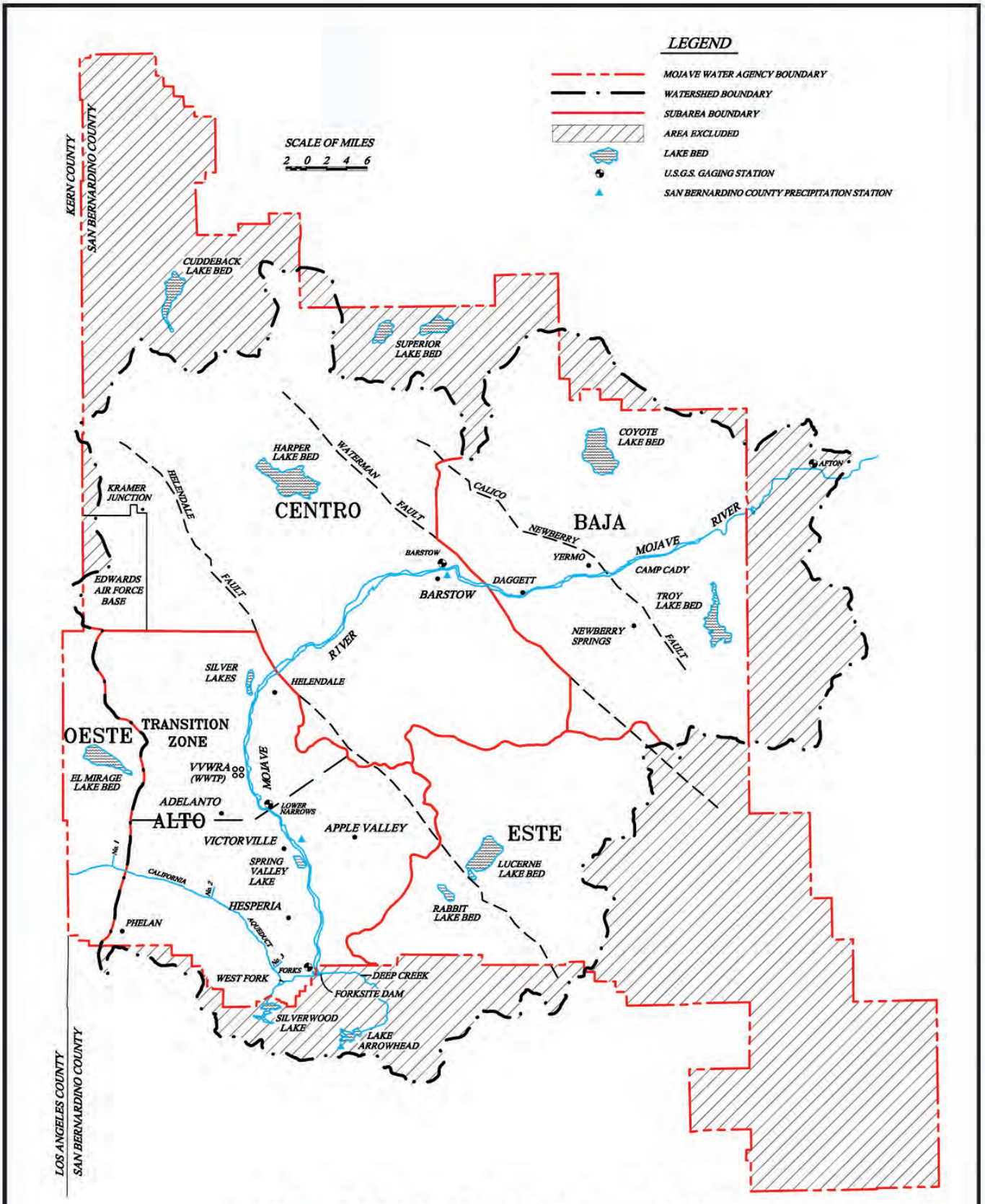
The MWA service area is underlain by several subsurface aquifers known as subareas. Within the Mojave Basin Judgment Area (see Water Demand, below), these subareas include the Alto, the Baja, the Centro, the Este, and the Oeste Subareas (see Exhibit III-1, Groundwater Basins within the MWA Service Area). The Morongo Basin/Johnson Valley Subarea lies to the southeast of the Este Subarea, and is outside the Mojave Basin Judgment Area. Geologic (faults) and topographic features that restrict groundwater flow and surface water drainage define these subareas. The Town of Apple Valley is located near the center of the Alto Subarea of the Mojave River Groundwater Basin.

The Mojave River is the primary natural source of recharge for the Mojave River Groundwater Basin; however, most of the streambed is dry much of the year except for periods of spring runoff and at other times from flows associated with intense rainstorms. The topographic relief that runs along the Mojave River on the west side of the Town generally divides local drainage. To the east of these hills, most of the drainages from the surrounding hills and mountains in Apple Valley flow towards the Apple Valley Dry Lake. The drainage channels in the local mountains are well defined but lose their strong definition when they reach the valley floor, where they spread out into ephemeral stream channels and sheet flow. Drainages along the western side of Apple Valley eventually discharge into the Mojave River. The largest tributary to the Mojave River within Apple Valley is Bell Mountain Wash, a natural channel that collects runoff primarily in the area north and west of Bell Mountain. Numerous small, unnamed drainages drain the western part of the Ord Mountains and flow towards the Mojave River. Elevations within the Town average approximately 3,000 feet above sea level, ranging from about 2,700 feet above sea level along the Mojave River and up to 3,897 above sea level at Bell Mountain peak.

Alto Subarea

The Alto Subarea consists of water-bearing strata underlying a 35-mile length of the Mojave River, generally encompassing the communities of Apple Valley, Victorville, Adelanto, Hesperia, Helendale, and Phelan.

The Alto Subarea is generally bounded by the non-water-bearing rocks of the San Bernardino Mountains to the south, by the non-water bearing rocks of the San Gabriel Mountains to the west, and by the Helendale Fault to the northeast. However, it is not wholly isolated from the surrounding subareas. The headwaters of the Mojave River occur to the south, at the confluence of the West Fork and Deep Creek streams. To the east, the Alto Subarea merges with the Este Subarea, to the west it merges with the Oeste Subarea, and to the north (down-gradient) it merges with the Centro Subarea. The Alto Subarea is recharged by snowmelt of the San Bernardino Mountains via the Mojave River. Due to its proximity to the headwaters of the Mojave River, the Alto Subarea has the largest water supply in the Mojave Basin.



MOJAVE BASIN AREA

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Source: Fourteenth Annual Report of the Mojave Basin Area Watermaster for Water Year 2006-2007 Mojave Water Agency, April 1, 2008

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Apple Valley General Plan
Groundwater Basins in the
Mojave Water Agency Service Area
Apple Valley, California

Exhibit
III-1

The subbasin that comprises the Alto Subarea contains approximately 82,400 acre-feet of water with out-flows and losses calculated at 47,700 ac-ft. Thus the net volume of water in the Alto Subarea is estimated to be 34,700 ac-ft of water, plus importation of 75,800 acre-feet of State Water Project entitlements available to the MWA. Water withdrawals are from wells in the Subarea.

Factors that contribute to increases and decreases in the amount of water stored in the Alto Subarea include variations in local and regional precipitation, percolation rates, the movement of water from dams and river basins, and water transmission lines into the basin. The amount of water withdrawn supplies residential, commercial, industrial, institutional and all other uses by water purveyors in the Alto Subarea. The annual production in the subarea between 1994 and 2007 is shown in the following table.

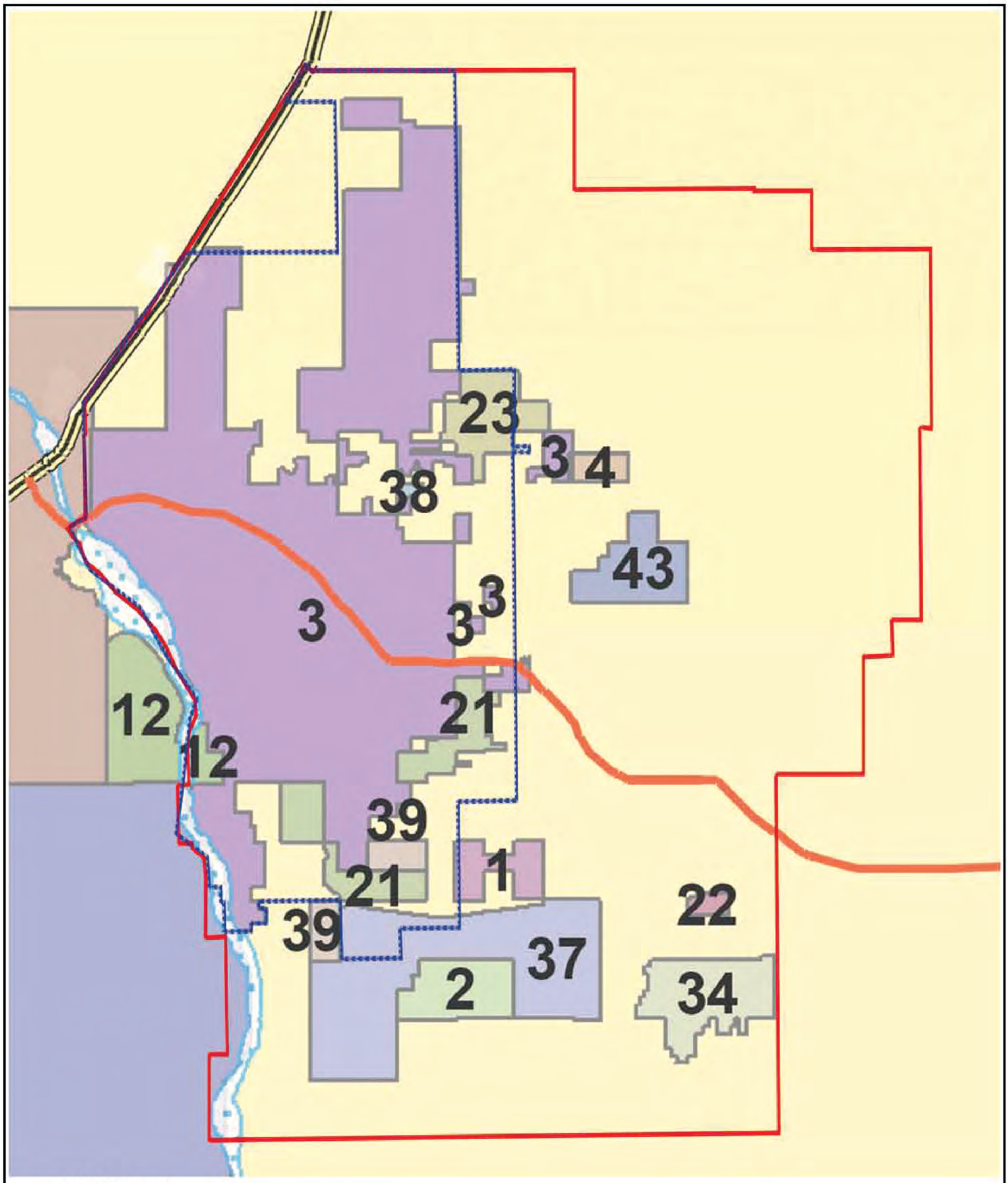
Table III-1
Alto Subarea Verified Annual Production
1994 – 2007

Year	Acre-Feet	Million Gallons
1994	81,100	26,427
1995	75,100	24,471
1996	87,500	28,512
1997	88,500	28,838
1998	75,900	24,732
1999	83,300	27,143
2000	88,300	28,773
2001	82,800	26,980
2002	87,100	28,382
2003	86,700	28,251
2004	92,700	30,206
2005	88,900	28,968
2006	95,900	31,247
2007	99,900	32,561

Source: Mojave Basin Area Watermaster Annual Water Reports, 1994 - 2008.

Distribution Facilities

Domestic water service for most of the Town of Apple Valley is provided by Apple Valley Ranchos Water Company. Portions of the Town are served by other water purveyors, some of which have very small customer service areas. Those serving 100 or more service connections include Apple Valley Foothill County Water District, Apple Valley Heights County Water District, Apple Valley View Mutual Water Company, County Service Area 64, Golden State Water Company, Juniper Rivera County Water District, Mariana Ranchos County Water District, Rancheritos Mutual Water Company and Thunderbird County Water District. One other small water purveyor serves, Navajo Mutual Water Company, serves approximately 80 service connections within Apple Valley. These are discussed below. Exhibit III-2 shows the respective service area boundaries in relationship to the Town and Sphere-of-Influence.



Water Purveyors

1. Apple Valley Foothill County Water District
2. Apple Valley Heights County Water District
3. Apple Valley Ranchos Water Company
4. Apple Valley View Mutual Water Company
12. County Service Area 64
21. Golden State Water Apple Valley
22. Golden State Water System 3
23. Golden State Water System 5
34. Juniper-Riviera County Water District
37. Mariana Ranchos County Water District
38. Navajo Mutual Water Company
39. Rancheritos Mutual Water Company
43. Thunderbird County Water District

Source: Mojave Water Agency
Water Purveyor Geographic Guide
and Contact Information, Prepared by Mojave Water Agency

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Apple Valley General Plan
Water Purveyors in Apple Valley
Apple Valley, California

Exhibit
III-2

Apple Valley Ranchos Water Company

Apple Valley Ranchos Water Company (AVRWC or AVR) is an investor-owned water utility, regulated by the California Public Utilities Commission (CPUC) that provides water service to the majority of the Town of Apple Valley and the General Plan area.

AVRWC currently serves over 19,000 customer connections. The sole source of water is groundwater with the majority of its 23 wells located along the Mojave River. These wells pump groundwater into the distribution system, which is equipped with over 11 million gallons (MG) of elevated storage. Many of the wells are equipped with stationary emergency generators or quick connections for mobile generator hook-ups. The water distribution system consists of over 400 miles of pipelines generally ranging in size from 4 inches to 20 inches in diameter.

Golden State Water Company

Golden State Water Company is a subsidiary of American States Water. It is a public utility company that serves the northeastern and southern portions of the Town, and encompasses nearly 4± square miles. Golden State's system currently (2008) includes approximately 2,847 active service connections. Historical water demand for productions for the years 1996 to 2005 averaged 0.64 acre-feet per year per connection.

Small Water Purveyors and Private Companies

A number of other, smaller water purveyors serve portions of the Town of Apple Valley and/or its Sphere of Influence. Several of these are San Bernardino County Service Areas (CSA) that were established to provide domestic water services and facilities to specific development. Other purveyors are private water companies.

Apple Valley Foothill County Water District encompasses an approximately 2 square mile service area located at the southeastern edge of the Town's corporate limits near Central Road and Del Oro Road. It serves 180 service connections, and has 2 wells and 2 elevated storage units, with approximately 150,000 gallons of capacity.

Apple Valley Heights County Water District covers a service area of approximately 2 square miles, and is located south of the Town corporate limits and its Sphere of Influence. The district has approximately 290 service connections, with two wells and has 260,000 gallons of elevated storage.

Apple Valley View Mutual Water Company has a service area of approximately 1 square mile. It currently (2008) has 100 service connections, of which 81 are active. There are 3 wells, one storage tank with a capacity of 20,000 gallons, and one 5,000-gallon pressure tank. It is estimated that the service area has potential to build out with up to 301 connections, which would require a facilities upgrade. The company has purchased lands to upgrade through construction of a larger capacity storage tank.

County Service Area (CSA) 64 covers an approximately 3 square mile service area, which is bisected east to west by the Mojave River. The eastern portion is within Apple Valley and the largest portion is to the west in the City of Victorville. CSA 64 serves approximately 3,801

active service connection, of which approximately 20% are within the Town of Apple Valley. Its facilities include five wells, three elevated storage tanks, and approximately 2.65 million gallons of storage capacity.

Juniper Rivera County Water District service area encompasses approximately 2 square miles and serves 168 connections. There are two wells and two storage tanks with approximately 150,000 gallons of capacity.

Mariana Ranchos County Water District encompasses approximately 7 square miles, most of which is located south of the Town's corporate limits but within its Sphere of Influence. It serves 650 service connections with 2 wells and three elevated storage tanks with approximately 900,000 gallons of storage capacity.

Rancheritos Mutual Water Company has a service area of approximately 1.25 miles in the southern portion of Apple Valley and within its Sphere-of-Influence. It serves 269 service connections with three wells. Rancheritos has no elevated storage; wells are equipped with small reserve storage tanks and pressure is maintained hydro-pneumatically. Water is distributed via small distribution tanks directly to service connections. Rancheritos may erect additional, possibly elevated storage on two sites in the future, however plans are not complete and site selection has not been finalized.

Thunderbird County Water District serves approximately 325 service connections within its approximately 2 square mile service area. It is located east of the Town limits and includes service area within the Town's Sphere of Influence. Thunderbird has three wells and three storage reservoirs with a capacity of approximately 410,000 gallons.

ADDITIONAL WATER SOURCES

Imported Water

The Alto subarea of the Mojave River Groundwater Basin is currently the primary water supply for the Town and General Plan area. Additional water sources are considered as a supplement to groundwater in that they are used to either recharge the subarea or serve as a source substitution for groundwater.

As noted above, MWA imports water from the California State Water Project (SWP) to recharge groundwater in the Mojave River Basin. The SWP system also allows the MWA to purchase and/or facilitate delivery of additional water from sources other than the SWP. The Mojave Water Agency is subject to the Mojave Basin Area Adjudication, which requires that additional surface water be imported to help balance the Basin. The Adjudication provides a court-approved mechanism for MWA to finance and obtain supplemental water to recharge the Basin and augment water supplies for parties to the Judgment, including AVRWC.[1]

In addition to the Mojave Water Agency's contract with the SWP, in 2003, MWA reached agreement with the Metropolitan Water District (MWD) of Southern California to allow MWD to store up to 75,000 acre-feet of water in the Mojave basin. This "water banking" or conjunctive

[1] Mojave Basin Area Adjudication, Judgment After Trial, sections II(C)(9), V(B)-(C). January, 1996.

use of the water basin, was in exchange for MWD's right to receive an equal amount of water in the future, through entitlement exchange, should there be a significant drought.

Reclaimed Water

The treatment and use of reclaimed and recycled water will further reduce the impacts of development on groundwater resources. Wastewater typically undergoes two levels of treatment before it is released to percolation ponds and reintroduced into the groundwater table. Tertiary treated wastewater, however, undergoes an additional stage of treatment, making it suitable for irrigation purposes.

No reclaimed water is currently available to the Town of Apple Valley or the planning area. However, the Victor Valley Wastewater Reclamation Authority (VVWRA) is considering the construction of interceptors to serve the Town of Apple Valley pending approval of funding by the VVWRA Board. Assuming that these facilities are constructed in the future, the Town may have access to recycled water. The wastewater treatment capacity of VVWRA is currently (2008) 18 mgd.

WATER DEMAND

The Town currently relies on groundwater that is recharged by precipitation and runoff from the adjacent mountains, and from water imported into the subarea serving the Town and planning area. MWA will continue to recharge the aquifer so that it will remain a reliable source of water for the foreseeable future. Among other things, MWA has established its groundwater replenishment program for the Mojave Water Basin, including the Alto Subarea, the purpose of which is to reduce annual and cumulative groundwater overdraft through artificial recharge to the groundwater basin.

Based on historic water withdrawals from the Alto Subarea it is clear that the subarea water table has experienced a steady decline. Water production within the Apple Valley Ranchos service area from 1999 through 2007, is shown in Table III-2. Water production within the Apple Valley Golden State north and south service areas for years 1996 through 2005 is shown on Table III-3.

Table III-2
Apple Valley Ranchos Annual Water Production
1999 - 2007

Year	Acre-Feet	Million Gallons
1999	14,916	4,860
2000	16,002	5,214
2001	14,741	4,803
2002	15,853	5,166
2003	15,536	5,062
2004	16,100	5,246
2005	16,189	5,275
2006*	15,123	4,928
2007*	16,527	5,385

Source: "Urban Water Management Plan," Table 6, prepared by Apple Valley Ranchos Water Company, 2005.
*Mojave Basin Area Water Master, Annual Reports 2007 and 2008.

Table III-3
Golden State Annual Water Production
1996 - 2005[1]

Year	Acre-Feet	Million Gallons
1996	1,052	3,251
1997	929	2,871
1998	893	2,759
1999	997	3,081
2000	1,038	3,207
2001	1,013	3,130
2002	1,136	3,510
2003	1,116	3,448
2004	1,206	3,727
2005	1,205	3,723

[1]Portions of the North and South systems are outside Town corporate limits but within its Sphere of Influence. Source: Combined totals: "Existing and Future Water Demands: Apple Valley North System," and "Existing and Future Water Demands: Apple Valley South System," prepared by CH2M Hill. 2007

Overdraft or depletion of the groundwater in storage has continued with the expansion of development of the Town of Apple Valley and other areas within the subarea. As shown in the table above, groundwater production has increased within the Town, which coupled with low precipitation within the region has led to a decline in groundwater levels within the Alto Subarea, resulting in a condition of overdraft. In overdraft conditions, the demand for groundwater exceeds the amount of recharge into the groundwater basin over a period of time. According to AVR's 2005 Urban Water Management Plan, the Alto Subarea experienced a groundwater level decline of approximately 60 feet from 1960 to 1995, declining from an elevation of 2,815 feet in 1960 to approximately 2,755 feet over that period. Presently, overdraft conditions continue to exist in almost all of the basins within the Mojave River Basin.

Overdraft conditions can produce significant adverse social, environmental and economic impacts, including an increased potential for land subsidence, which can result in ground fissuring and damage to buildings, sidewalks, and subsurface pipelines. Other adverse impacts

associated with overdraft conditions include increased infrastructure and energy costs associated with drilling deeper wells and installing larger pumps, and the threat of a diminishing long-term water supply.

In order to avoid an overdraft condition, and to maintain a safe water balance within the Alto Subarea and the other subareas throughout the Mojave Basin, a Free Production Allowance (FPA) has been established for each subarea. The FPA was established when the Mojave River Groundwater Basin was adjudicated through the Mojave Basin Area Judgment. As a result, a court reviews and adjusts the FPA on an annual basis. The MWA serves as the court appointed "Watermaster" for the Mojave Water Basin. The role of the Watermaster is to avoid overdraft by assuring that extractions do not exceed supply. This is accomplished, in part, by the assigned FPA.

All groundwater pumped beyond the FPA is subject to replacement, which can be achieved through payment to the Watermaster of a replenishment fee ($277 acre-feet for 2007-08) to be used to acquire additional water, or through the transfer of unused water rights within the Alto Subarea from another party to the Judgment. For water year 2005-06, AVR's consumption achieved a safe yield (imports, inflows, return flows and outflows equal consumption).[2]

Each year the Watermaster takes an account of the average and minimum annual flows, which must be maintained between subareas making up the Mojave Basin. The Judgment requires that all water extracted in excess of any producer's share of the FPA must be replaced by the producer, which is typically in the form of payment to the Watermaster of funds sufficient to purchase an equal amount of replacement water. It should be noted that an underlying assumption of the Judgment is that sufficient water supplies will be available to the MWA to meet the needs of the basin from future supplies that are a combination of natural recharge, imported water (SWP and other sources), water conservation, water reuse and transfers of FPA among producers.

According to the MWA 2005 Urban Water Management Plan Update, as water demands increase over the next 20 years, additional projects and water management actions are needed to continue to recharge the groundwater basins to maintain groundwater levels and protect groundwater quality for municipal, agricultural, industrial, recreational, and environmental uses. If such projects are not implemented and groundwater overdraft persists or intensifies, the presiding Judge for the Mojave Basin Area Judgment could require mandatory cutbacks in production.

WATER CONSERVATION EFFORTS

To enhance water conservation, local stakeholders in and around the Apple Valley planning area established the Alliance for Water Awareness and Conservation (AWAC) in August of 2003. According to the MWA Regional Water Management Plan (2004), the purpose of the AWAC is

[2] Under the Mojave Basin Judgment, "production safe yield" is defined as: "The highest average Annual Amount of water that can be produced from a Subarea: (1) over a sequence of years that is representative of long-term average annual natural water supply to the Subarea net of long-term average annual natural outflow from the Subarea, (2) under given patterns of Production, applied water, return flows and Consumptive Use, and (3) without resulting in a long-term net reduction of groundwater in storage in the Subarea."

to "provide a vehicle to attract support for a regional water conservation program and coordinate implementation of activities by forming partnerships to obtain common measurable goals."[3] Goals of the AWAC include the reduction of regional water use by 10% gross per capita by 2010 and 15% gross per capita by 2015.

The California Public Utilities Commission adopted a Water Action Plan in 2005 with the primary objective to strengthen water conservation programs of regulated water utilities. This plan also contains a number of specific actions designed to increase water conservation programs.

AVR and Golden State work closely with the County of San Bernardino and the Town of Apple Valley to encourage water conservation. The County has promulgated several General Plan policies that both require and encourage water conversation. Furthermore, the County requires the use of drip irrigation systems or systems of equivalent efficiency for all landscaping at commercial facilities and all common areas of residential developments.

The Town of Apple Valley adopted a Water Conservation Plan ordinance (Development Code Chapter 9.75) that includes water regulations prohibiting wasteful water use practices, including washing driveways and walkways with water and excessive runoff of landscape irrigation water. Penalties have been established for violation of these regulations. In addition, a goal of 10% municipal conservation by 2020 has been established by MWA, and in an effort to meet this goal development within the Town shall follow the recently adopted MWA 2005 Urban Water Management Plan.[4]

The availability of water supplies for local purveyors to meet the demand associated with build out of the General Plan is dependent upon MWA's ability to manage the basin and to implement whatever additional infrastructure projects and water management actions are needed to continue to recharge the groundwater basin, maintain groundwater levels, secure additional sources of supply and protect groundwater quality. MWA's Supplement A: 2005 Urban Water Management Plan Update, concludes that adequate supplies will be available through 2030. This availability is based on a combination of project demand management measures, increased reliance on stored groundwater, and management mechanisms implemented through the Mojave Basin Judgment, Warren Basin Judgment, and the MWA Regional Water Management Plan.

WATER QUALITY

Groundwater quality is dependent upon a number of factors, including the water source, type of water-bearing materials in which groundwater water occurs or is stored, depth to the water table, proximity to faults, presence of surface or subsurface contaminants, and quality of well maintenance. The Consumer Confidence Report generated by AVR states that the local water quality within the Town is considered to be very high. According to this report, hundreds of water samples are taken every month and analyzed to assure AVR complies with all federal and state drinking water standards. Similarly, Golden State Water Annual Water Quality Report provides testing results for approximately 80 types of constituents. In many instances, water

[3] Mojave Water Agency 2004 Regional Water Management Plan, p. 7-1.
[4] Urban Water Management Plan, prepared by the Mojave Water Agency, November 2005.p. 17.

quality in Golden State wells exceeds U.S. EPA and California Department of Health Services standards.

Total Dissolved Solids

Based on data provided in the AVR 2006/2007 Annual Water Quality Report, AVR water wells within the Town of Apple Valley contain total dissolved solids (TDS) concentrations ranging from 120 to 960 milligrams per liter (mg/L), with an average of 248 mg/L. The State Maximum Contaminant Level (MCL) is 1,000 mg/L. AVR indicates that run-off and leaching from natural deposits are the potential sources of TDS.

The Golden State Water Company Water Quality Report for 2007 shows TDS concentrations in its wells ranged from 400 to 470 mg/L (average 435 mg/L) based on year 2005 sampling data for the Apple Valley North system. In the Apple Valley South system, year 2006 sampling data show these concentrations within a range of 120 to 680 mg/L, averaging 310 mg/L.

Nitrates

The long-term discharge from on-lot septic systems has the potential to adversely impact groundwater supplies. The greatest impacts to groundwater quality are expected to occur where septic systems serve large populations in high densities. Well-maintained community sewer systems provide excellent protection of groundwater resources through the prompt removal of sewage materials and levels of treatment at the plant and in the soil column to assure safe recharge into the subsurface groundwater basin.

AVR water quality data for 2006/2007 indicate that AVR wells average concentrations range between 2.5 and 17 parts per million (ppm) of nitrates as NO_3, with an average of 6.4 ppm. The State MCL and Public Health Goal (PHG) or Maximum Contaminant Level Goal (MCLG) is 45 ppm.

Golden State water quality data for nitrates shows concentrations at a range of between 5.7 to 7.7 mg/L, averaging 6.7 mg/L in the Apple Valley North system. For Apple Valley South, nitrate concentrations ranged from "not detectable" to 5.0 mg/L, with an average of 2.8 mg/L. Sampling data for both systems was from year 2006.

As discussed in the Water, Wastewater and Utilities Element, approximately 30 percent of the Town of Apple Valley is connected to the existing sewer system. The Town adopted a Sewer Connection Policy in January 2006 requiring all new single-family subdivisions with lots less than one acre and within one-half mile of existing sewer infrastructure to connect to the Town sewer system. Developers of subdivisions with less than one-acre lots and located further than one-half mile from existing sewer lines are required to install a dry sewer system on-site. The policy provides for options to the dry sewer requirement, which are subject to Town and/or California Regional Water Quality Control Board (CRWQCB) approval. These include an interim holding tank system or a community septic system, both of which are designed as sewage collection and treatment systems located within the developments they may serve. Many of these systems will be abandoned over time, as future development occurs and infrastructure is expanded, thereby allowing projects on their own collection and treatment systems to connect to the larger community system. Given the costs to convey wastewater from many areas of the

Town that are outside the existing wastewater treatment system to the VVWRA, the Town has identified areas where sub-regional wastewater treatment plants might be located to serve existing and future development. The possible expansion of these facilities is further discussed in the Water, Wastewater and Utilities Element.

WATER QUALITY REGULATION

Water quality control efforts are legislated through a variety of federal and state laws and regulations that are intended to ensure that water quality control efforts are adequately planned, implemented and enforced. On the federal level, these include the Clean Water Act and the National Environmental Policy Act (NEPA). The State of California has enacted water quality statutes and administrative laws such as the California Water Code, California Environmental Quality Act (CEQA) and California Code of Regulations, as well as other applicable codes that include the Health and Safety Code, Fish and Game Code and Public Resources Code.

California Water Code (Section 13260) requires "any person discharging waste or proposing to discharge waste that may affect waters of the State, except to a community sewer system, to file a report of waste discharge with the regional board of that region" where densities exceed two (2) dwelling units/acre. Commercial and industrial wastewater discharges are also subject to these requirements where discharge volumes exceed certain thresholds.

The California Regional Water Quality Control Board, Lahontan Region (CRWQCB), implements federal and state laws and regulations pertaining to water quality. The Town and the CRWQCB have entered into a Memorandum of Understanding (MOU) that allows the Town to issue building permits for development projects that use individual septic systems without obtaining RWQCB approval, based on certain conditions.

As discussed above, the CRWQCB addresses issues regarding septic and sewer systems, as well as concerns about the Mojave River and other sources of surface water. CRWQCB oversight and monitoring also includes responding to illegal discharges of human or animal waste, leaking fuel storage tanks, and unauthorized hazardous and toxic materials dumping sites.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) was adopted in 1990. It implements the federal Clean Water Act and requires that municipalities develop, adopt and implement storm water management plans and programs. The NPDES is intended to ensure that local jurisdictions "effectively prohibit non-storm water discharge into the storm drain and require controls to reduce the discharge of pollutants from storm water systems to waters of the United States to the maximum extent possible." CEQA analysis is not required for pollutant control measures. The Town of Apple Valley's NPDES program is managed by the Town Engineering Division.

FUTURE DIRECTIONS

Apple Valley and other Southern California communities will need to continue to focus on water conservation measures and wise water usage policies and practices. The Town's development code requires that developers utilize water-efficient irrigation design and drought-tolerant landscaping materials; the use of water-conserving home appliances and fixtures is also encouraged. The Town will continue to work with AVR, Golden State, and other water companies serving the Town and Sphere of Influence to further reduce water consumption.

Groundwater pollution or contamination can affect a region as well as a local jurisdiction, since groundwater subbasins in the planning area overlap jurisdictional boundaries. Extension of sewer services within the Town will aid in the protection of the region's groundwater quality.

In order to ensure adequate water supplies for future development of the Town, additional long-term sources for ground water, including but not limited to imported water and the use of reclaimed water, will need to be secured. New development will generate a need for additional water capacity. The responsibility for provision of this additional water for future development projects will rest largely on the new development.

GOAL, POLICIES AND PROGRAMS

Goal

A dependable supply of safe, high-quality domestic water to meet the needs of all segments of the community.

Policy 1.A
The Town shall coordinate land development and assure a balance of development and water supply that ensures the long-term maintenance of an adequate supply of water, and its continued high quality.

Program 1.A.1
The Town shall coordinate with the Apple Valley Ranchos Water Company, Golden State Water Company, and other water purveyors to assure that State Water Project water allotted to the Town can be delivered.
Responsible Agency: Planning Division, Public Works Division, Apple Valley Ranchos Water Company, Golden State Water Company, other water purveyors.
Schedule: 2009-2010, Ongoing

Policy 1.B
To ensure that overall and per capita water demand from new development is reduced, the Town shall continue to require the use of drought-tolerant, low water consuming landscaping, intelligent irrigation controllers, and other water-conserving strategies and technologies in irrigated areas.

Program 1.B.1
The Town shall, by requiring the use of native and other drought-tolerant planting materials, and efficient irrigation systems, continue to implement its Water Conservation/Landscaping Regulations.
Responsible Agency: Public Works Division, Planning Division
Schedule: Ongoing

Program 1.B.2
The Town shall confer and coordinate with the Apple Valley Ranchos Water Company, Golden State Water Company, and other water purveyors serving the Town and its Sphere of Influence, to strengthen and expand programs that educate the public about the importance of water conservation and water-efficient landscaping.
Responsible Agency: Public Works Division, Planning Division, Apple Valley Ranchos Water Company, Golden State Water Company**,** other water purveyors
Schedule: Ongoing

Policy 1.C
The Town shall continue to coordinate with the Building Industry Association and other members of the building industry to encourage the use of faucets, showerheads and appliances that exceed Titles 20 and 24 water efficiency requirements.

Program 1.C.1
Provide educational information on the use of low-flush toilets, and low-flow showerheads and faucets, and require the application of water-conserving technologies in conformance with Section 17921.3 of the Health and Safety Code, Title 20, California Administrative Code Section 1601(b), and applicable sections of Title 24 of the State Code.
Responsible Agency: Planning Division, Public Works Division, Building Industry Association, Apple Valley Ranchos Water Company, Golden State Water Company, other water purveyors
Schedule: Immediate, Ongoing

Program 1.C.2
Continue to implement the Town's Water Conservation/Landscaping Regulations to optimize conservation and comply with State Assembly Bill 325 (AB 325), by requiring the use of native and other drought-tolerant planting materials and efficient irrigation systems.
Responsible Agency: Public Works Division, Planning Division, Apple Valley Ranchos Water Company, Golden State Water Company**,** other water purveyors
Schedule: Continuous

Program 1.C.3
The Town shall coordinate and cooperate with the Mojave Water Agency and local water purveyors to expand and strengthen educational/public relations programs regarding the importance of water conservation and water-efficient landscaping. Programs may include informational flyers, community workshops, technology transfer fairs and other means of education and information dissemination.
Responsible Agency: Public Works Division, Community Development Department, MWA, Water Purveyors
Schedule: Immediate; Continuous

Policy 1.D
To the greatest extent practicable, the Town shall direct new development to provide irrigation systems that are able to utilize reclaimed water, when available, for use in common area and streetscape landscaping.

Program 1.D.1
The Town shall confer and coordinate with the Victor Valley Wastewater Reclamation Authority to explore the possible future provision of recycled/reclaimed wastewater that can serve new and existing development projects in the Town.
Responsible Agency: Planning Division, Public Works Division Victor Valley Wastewater Reclamation Authority
Schedule: Immediate, Ongoing

Policy 1.E
To the greatest extent practicable, the Town shall continue to require new development to connect to the community sewer system. Where sewer service is not available and lots are created of less than one (1) acre in size, the Town shall require the installation of "dry sewers" and the payment of connection fees for future sewer main extensions.

Policy 1.F
Consistent with community design standards and local and regional drainage plans, the Town shall provide development standards and guidelines for the construction of on-site storm water retention facilities

Program 1.F.1
Require that the development and maintenance of project-specific on-site stormwater retention/detention basins implements the NPDES program, enhances groundwater recharge, complements regional flood control facilities, and addresses applicable community design policies subject to all applicable regulations, standards and guidelines.
Responsible Agency: Public Works Division, Planning Division
Schedule: Ongoing.

Policy 1.G
To facilitate the sharing of information on potential groundwater contamination and potential sources, the Town shall confer and coordinate with the California Regional Water Quality

Control Board, Apple Valley Ranchos Water Company, Golden State Water Company, other water purveyors that serve the Town and its Sphere of Influence.

Program 1.G.1
The Town shall initiate and maintain regular consultation and coordination with and between Apple Valley Ranchos Water Company, Golden State Water Company, other water purveyors that serve the Town and its Sphere of Influence, as well as CRWQCB and other appropriate agencies. The parties shall jointly develop and maintain a system to share records and technical information with regarding sites that have the potential to contaminate groundwater resources serving the Town.
Responsible Agency: Public Works Division, Apple Valley Ranchos Water Company, Golden State Water Company, other water purveyors that serve the Town and its Sphere of Influence, California Regional Water Quality Control Board.
Schedule: 2008-09; Ongoing.

Policy 1.H
The Town shall confer with appropriate water agencies and purveyors, as necessary, to assure adequate review and mitigation of potential impacts of proposed development on local water resources.

Policy 1.I
Existing development shall be encouraged to institute water conservation measures, including the reduction in turf areas and increased use of native and drought-tolerant planting materials, as well as the installation of efficient irrigation systems and controllers.

Program 1.J.1
The Town and Apple Valley Ranchos Water Company, Golden State Water Company and other water purveyors that serve the Town and its Sphere of Influence shall establish incentive programs to encourage that existing development be retrofitted to utilize water conserving fixtures, and landscaping and irrigation materials and controllers.
Responsible Agency: Public Works Division, and Apple Valley Ranchos Water Company, Golden State Water Company, other water purveyors that serve the Town and its Sphere of Influence.
Schedule: 2009-2010