Water Supplies Available to the East Valley:

SALT RIVER PROJECT (SRP) WATER RIGHTS

Rights to SRP water are appurtenant to certain lands within the Salt River Reservoir District (SRRD). The term "appurtenant" means that, with few exceptions, the right to the water stays with the land that it is attached to, and cannot be moved to or used on other land. Therefore, this water cannot be used anywhere but on the land to which the rights are appurtenant.

In the 1990s, SRP and each municipality located within SRP's water service area (including EVWF participants Chandler, Gilbert, Mesa, Phoenix, Scottsdale, and Tempe) entered into a "water delivery and use agreement" (WDUA). The WDUA is the governing agreement regarding municipal access to water controlled or stored by SRP (Salt/Verde River water, groundwater, etc.) under SRP's articles of incorporation and bylaws, and federal reclamation law. Because of state assured water supply requirements, the WDUAs were given a term of one hundred years.

In general, the primary principles embodied in the WDUA include the following:

- Each municipality acts as the "agent" for owners of "eligible land" (land within the SRRD that has rights to SRP water) in accepting SRP water ("entitlement water") for delivery to such eligible land.
- The types of "entitlement water" that may be available to a municipality under the terms of the WDUA include Normal Flow (amount of flow in the Salt/Verde Rivers as described in the Kent Decree), Stored Water (Salt/Verde River water captured in SRP reservoirs and allocated by SRP's Board), Developed Water (groundwater allocated by SRP's Board), and Special Pump Right Water (groundwater made available to certain lands within SRP's water service area pursuant to resolutions of SRP's Board).
- As SRP eligible lands urbanize within a municipality, the water rights associated with such land are then made available, or "cut over", to the municipality as the agent of such urbanized lands. The municipality then accepts such water at its water treatment plants (or other points of delivery) for delivery and use by municipal customers who own eligible land (homes, businesses, etc.).
- Owners of eligible land retain the right to accept direct delivery of SRP water at any time.
- Under specific conditions allowed by SRP and state and federal law, SRP and a municipality can enter into water exchanges which allows municipalities to use SRP water on "non-eligible land" (lands within the SRRD that do not have water rights, or lands outside the SRRD) in exchange for municipal water delivered to SRP.
- Under the WDUA, and pursuant to applicable laws, municipalities can temporarily store SRP surface water underground (must be recovered within the month stored).

Once recovered, it can then be accounted for as surface water; however, the water must still be used on eligible land.

- Pursuant to SRP policies and procedures, municipalities can connect SRP wells directly to a municipality's potable water system (referred to as "direct connect wells").

Due to the fact that SRP's water allocation can change from year to year (including the allocation mix; ratio of surface water and groundwater), and the amount of eligible land "cut over" to a municipal account can change (up or down), it can be a challenge to estimate the amount of SRP water available to a municipality each year. However, SRP has provided the municipalities with estimates of the amount of water a municipality may have access to in a given year under different scenarios (normal, dry conditions; current acreage cut; maximum acreage cut, etc.). These estimates have been used by some of the municipalities for planning purposes.

Even though SRP water can only be used on the lands to which it is appurtenant, SRP water is currently the most important renewable surface water supply in the East Valley, supplying 75 percent of Chandler's annual demand, 70 percent of Gilbert's demand, half of Mesa's demand, seven percent of Scottsdale's demand, and 92 percent of Tempe's demand. Lands to the east of Mesa and Gilbert (east of the Eastern Canal) do not have rights to SRP water.

ROOSEVELT WATER CONSERVATION DISTRICT (RWCD) WATER

The Cities of Chandler and Mesa, and the Town of Gilbert also receive water from land that carries with it rights to water from the Roosevelt Water Conservation District (RWCD). RWCD is a public taxing authority that overlies parts of Mesa, Chandler, and Gilbert and was originally established for agricultural irrigation purposes. Pursuant to an agreement between SRP and RWCD in 1924 (as amended), RWCD agreed to line portions of SRP's canal system. In return, RWCD received an entitlement to Salt and Verde River water equivalent to 5.6% of SRP water diversions in the SRP water delivery system. The agreement expires in 2086.

In a manner similar to the SRP WDUA, Chandler, Gilbert and Mesa obtain access to RWCD water under provisions of a domestic water service agreement with RWCD. In general, as lands within RWCD urbanize, the surface water that was used by irrigators is made available to the municipality for municipal use.

Just as SRP water can only be used on specific lands that have water rights, RWCD water can only be used on RWCD lands. The amount of RWCD water to which municipalities are entitled is also difficult to quantify because the amount changes year by year based on the flow of the Salt and Verde Rivers, and demand within the SRP

water service area (5.6% limit). Additionally, RWCD has yearly obligations to deliver some of its surface water to the Fort McDowell Indian Community, the Salt River Pima/Maricopa Indian Community, and the Gila River Community. These obligations diminish the amount of surface water that is left over for RWCD landholders. There are approximately 39,415 acres within RWCD. After obligations to the Indian Communities are met, the supply available to landowners is generally somewhere around .4 acre-feet per acre, or just under 16,000 acre-feet of surface water in total. As of 2005, more than half of RWCD landowners have cut over their water to the cities for delivery through their municipal water systems. It is expected that a majority of RWCD lands will eventually urbanize and receive water through the local municipal water systems.

MODIFIED ROOSEVELT DAM NEW CONSERVATION SPACE (NCS) WATER

In 1986, the United States, the Central Arizona Water Conservation District (CAWCD), Maricopa County Flood Control District, SRP, the Cities of Chandler, Glendale, Mesa, Phoenix, Scottsdale, Tempe, and the State of Arizona, reached agreement on funding for an increase in capacity to Roosevelt Dam (part of the Plan 6 Agreement). In exchange for the monetary contribution, these cities are entitled to a percentage ownership of the increased water captured in the new conservation space at modified Roosevelt Dam (NCS), which can be used anywhere in a city's service area. In 1993, as required in the Plan 6 agreement, SRP and the Cities of Chandler, Glendale, Mesa, Phoenix, Scottsdale, Tempe entered into an agreement for the operation of the NCS space at modified Roosevelt Dam (NCS Operating Agreement).

Pursuant to ADWR's storage permit and the NCS Operating Agreement, the maximum amount of water available in NCS in any one year is 272,500 acre-feet. Of that maximum, 10% would be available to Chandler, 10% to Glendale, 15% to Mesa, 50% to Phoenix, 10% to Scottsdale, and 5% to Tempe. Under the terms of water transportation agreements between the cities and SRP, NCS water can be delivered to city points of delivery along SRP's water delivery system. It can also be exchanged under the terms of the WDUA.

COLORADO RIVER WATER FROM THE CENTRAL ARIZONA PROJECT (CAP)

The East Valley's second-largest source of surface water is delivered through the Central Arizona Project (CAP), operated by the Central Arizona Water Conservation District (CAWCD). The CAWCD pumps water from the Colorado River at Lake Havasu for delivery to Maricopa, Pinal, and Pima Counties. Among the Lower Colorado River Basin water users, the priority of the CAP entitlement is last. This means that Nevada, California, and various towns and cities on the Colorado River are entitled to take their water before the CAP allocation can be diverted. Priorities on the Colorado River are important because they dictate how much water each user can divert during times of Colorado River water shortage.

While all water currently delivered through the CAP is physically the same—Colorado River water—the water that water providers receive through the CAP differs in price, legal title, and priority. Currently, East Valley water providers have varying access to Municipal & Industrial (M & I) Subcontract water, Wellton-Mohawk water, Hohokam water, Salt River Pima-Maricopa Indian Community Lease water, Fort McDowell Indian Community Lease water, San Carlos Apache Lease water, RWCD Assignment water, Agricultural Pool water, Indian water, Incentive Recharge water, and Excess water through the CAP system. CAP water is not appurtenant to any land and may be used anywhere within the water provider's service area.

Subcontract and Indian Water:
M&I Priority water has a priority equal to that of Indian Priority water, and together the two classes of water comprise the highest priority water in the CAP system.

Wellton-Mohawk Water:
In the East Valley, Chandler, Mesa, Scottsdale, and Tempe own rights to a portion of Wellton-Mohawk Irrigation District water. The Wellton-Mohawk Irrigation District is located on the Colorado River near Yuma. Wellton-Mohawk water has a priority higher than that of CAP water.

Hohokam Water
Hohokam water is CAP Agricultural Priority water originally contracted to the Hohokam Irrigation and Drainage District in Pinal County. The Secretary of the Interior later transferred this water to the Cities of Chandler, Mesa, Phoenix, and Scottsdale as replacement water for a dam that was planned but never completed. Agricultural Priority water has a priority lower than that of M&I Priority water. However, in the year 2043 the water offered under this subcontract converts to M&I Priority.

Indian Community Lease Water
As part of various water settlements, different water providers lease water from certain Indian communities. Generally these leases are for 100 years.

RWCD Assignment Water
As part of the Salt River Pima-Maricopa Indian Community water settlement, Roosevelt Water Conservation District transferred some of its Agricultural Priority water to the Cities of Chandler, Gilbert, Mesa, Scottsdale, and Tempe.

Agricultural Pool Water
Certain agricultural users are entitled to CAP's agricultural pool water. This water is available at a subsidized rate and can only be used for agricultural purposes. Availability of agricultural pool water will decrease over time to zero by the year 2030.

Excess Water
CAP Excess water is the water left over after M&I, Indian, and agricultural users have scheduled their CAP water. The CAWCD markets this water to anyone in Arizona with a use for it. Excess water is not expected to be available in the long-term, except for possibly during surplus years on the Colorado River.

Incentive Recharge Water
As part of its effort to move water off of the Colorado River and make use of Arizona's full entitlement to CAP water, the CAWCD currently offers water used for artificial recharge at a discounted rate. The amount of water available varies year by year. This water can be used only for recharge purposes and is delivered directly to the recharge partner or facility.

East Valley cities make use of this relatively inexpensive source of water through partnerships with SRP, New Magma Irrigation District, and RWCD at their Groundwater Savings Facilities (GSF). Cities purchase the incentive water and the water is in turn delivered directly to the GSF partner. The GSF partner uses this water in lieu of pumping groundwater. Five percent of the water used by the GSF partner is credited to the aquifer, as a "cut to the aquifer." The Department of Water Resources assigns 95 percent of the water used by the GSF partner to the cities in the form of Long-term Storage Credits. These credits can be recovered—or pumped from any recovery well—at any point within the area of hydrogeological impact, at any time. Long-term Storage Credits basically amount to water in the bank.

RECLAIMED WATER
Unlike groundwater, which is a public resource, reclaimed water is legally owned by the producer. Reclaimed water supply, unlike groundwater, cannot be controlled; it is produced on a constant basis and is independent of weather and economic conditions. The reclaimed water's use is a function of its quality and the ability to directly use or seasonally store the reclaimed water. When the supply cannot be managed to meet the demand, reclaimed water then becomes a disposal issue.

The ability to use reclaimed water is directly related to the level of treatment and the ability to directly use or seasonally store the reclaimed water. Generally, reclaimed water must be treated to secondary or tertiary levels before use. The Arizona Department of Environmental Quality (ADEQ) sets the standards for reclaimed water quality and reuse. Reclaimed water is generated at a fairly constant rate throughout the entire year but its demand for irrigation use is highest in the summer. This seasonal imbalance between supply and demand presents some challenges for the management of this resource. Except for cooling uses, almost all of the reclaimed water use is for outside watering such as: irrigation of crops, landscape irrigation (including golf

courses, parks, landscaped areas, and rights-of-way), decorative lakes, and riparian vegetation. These types of use require less water in the winter months and larger quantities of water during the summer months. To effectively manage the reclaimed water supply, storage is used when the demand drops off (i.e., during rain events) and during the winter months when demand is low.

The East Valley cities have effectively used reclaimed water to offset potable water uses. In areas that are served by a central sewer system (i.e., areas not on septic tanks), almost all of the reclaimed water is put to use.

More and more reclaimed water is produced in the East Valley every year. Because public acceptance of direct use by drinking reclaimed water is extremely low, present uses for reclaimed water are limited to non-drinking-water purposes. The Groundwater Code (Code) provides some incentives for reclaimed water use, but effluent use itself is not subject to regulation under the Code. Reclaimed water use is not accounted for in the determination of a city's gallons-per-capita-per-day (GPCD) water usage, so for those water providers that are subject to ADWR's GPCD conservation program, there is an incentive to use reclaimed water, but the more important incentive to reclaimed water use is that for many providers it is a valuable renewable water supply that is used to meet customer demand.

Many water providers employ reclaimed water directly by delivering it to turf facilities such as golf courses. The Scottsdale Water Campus and the Gilbert Wetlands Facility are both excellent examples of the beneficial uses of reclaimed water. In addition, some water providers deliver reclaimed water for industrial uses, such as SRP's Kyrene Electric Generating Station in Tempe, which uses reclaimed water for their cooling towers.

In 2002, Mesa and Chandler signed an agreement with the Gila River Indian Community through which Mesa and Chandler will exchange their reclaimed water for the Community's CAP water. Mesa and Chandler will deliver up to 40,600 acre-feet of reclaimed water to the Community, which will use the water for irrigation purposes. In exchange, Mesa and Chandler will receive up to 32,500 acre-feet of CAP water that can be used as part of these cities' potable water supply. In effect, the exchange allows Mesa and Chandler to convert a non-drinking water supply of water into a potable supply. The net amount of water delivered to the Gila River Indian Community, 8,100 acre-feet, constitutes part of the Community's water rights settlement water budget.

GROUNDWATER CREDITS

Municipal supplies throughout the East Valley are supplemented by access to Groundwater Allowance and Long-term Storage Credits, which can be used from any designated "recovery" well within the water provider's service area.

In 1995, cities designated with a 100-year assured water supply were provided with an initial Groundwater Allowance, the use of which was determined to be consistent with the Groundwater Code and the goal of safe-yield. An amount roughly equal to 5 percent of the water provider's total water use is added to the Groundwater Allowance account each year, which equals an amount of water presumed to be recharged incidentally throughout the City's service area each year. A list of Groundwater Allowance Credits is included in this Plan as Appendix K.

Long-term Storage Credits are created through the artificial recharge of surface water and effluent. For each acre-foot of CAP water or effluent it recharges, a water provider receives .95 acre-feet in CAP Long-term Storage Credits. For each acre-foot of reclaimed water it recharges, a water provider receives one acre-foot in reclaimed water Long-term Storage Credits.

In the Phoenix AMA which has safe-yield as a goal, with the exception of a certain amount of groundwater use during times of surface water drought, any water pumped from wells by municipal water providers that are designated as having an assured water supply (excluding Annual Storage & Recovery water), and any water received by municipal water providers through the SRP system that is legally counted as groundwater must be replenished by debiting either the Groundwater Allowance or Long-term Storage Credit accounts. Undesignated providers do not have a groundwater use limitation and can continue to serve groundwater to customers within their service areas. However, new subdivisions in undesignated service areas must obtain individual certificates of assured water supply. Although subdivisions certificated after 1995 have a replenishment obligation, no replenishment is required of subdivisions certificated prior to 1995.

The management goal for the Pinal AMA is often described as "planned depletion," where a certain amount of groundwater overdraft is allowed. Even though safe-yield is not the management goal, the Assured Water Supply program is administered in a similar way in the Pinal AMA as it is in safe-yield AMAs. Under the new (2007) AWS rules for the Pinal AMA, limited replenishment is required by designated municipal providers and subdivisions receiving assured water supply certificates after 2007.