



# 2015

CENTRAL ARIZONA GROUNDWATER  
REPLENISHMENT DISTRICT

# PLAN OF OPERATION





# ACKNOWLEDGEMENTS

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# EXECUTIVE SUMMARY

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The Central Arizona Groundwater Replenishment District (“CAGR D”) 2015 Plan of Operation describes the activities that CAGR D proposes to undertake in the Phoenix, Pinal and Tucson Active Management Areas (“AMAs”) over the next 100 years based on continued membership enrollment through 2024.

Through December 31, 2013, CAGR D enrolled the water service areas of 23 municipal water providers as Member Service Areas. In addition more than 1,090 subdivisions, representing about 263,700 homes, have been enrolled as Member Lands of the CAGR D. From 2004 through 2013, CAGR D incurred a total of more than 340,870 acre-feet (“AF”) of groundwater replenishment obligation and fulfilled more than 280,540 AF of this obligation. CAGR D has met, and is continuing to meet, its replenishment obligation within a statutorily-prescribed three-year window.

Importantly, the long-term projection for replenishment obligation is now significantly lower than that projected in the 2005 Plan of Operation (113,000 AF compared to 227,000 AF). For the 2015 Plan of Operation, projections of enrollment and obligations were generated from a Central Arizona Project – Service Area Model for supply and demand, known as CAP-SAM, that simulates a range of future conditions. Based on model results, CAGR D estimates 119,000 new Member Land housing units are likely to enroll through 2024. Total annual replenishment obligation for current members and those that are projected to enroll through 2024 is estimated to reach approximately 86,900 AF by 2034; 62,700 AF of this total volume is for current members. In 2114, the projected annual replenishment obligation for current and projected members is 113,000 AF.

In 2011, CAGR D conducted a Water Supply Acquisition Study to identify an inventory of available water supplies and to develop an acquisition implementation plan to meet its current and future replenishment obligation. Based on conservative assumptions, CAGR D has identified an annual total of more than 980,000 AF of supplies that are available and could be used to meet replenishment obligations over the next 100 years. These available supplies are an order of magnitude greater than the amount of additional supplies that CAGR D will seek to acquire over the time period covered under this Plan. In addition, the Water Supply Program has established a planning goal of acquiring at least 50% of necessary water supplies as long-term (100-year or more) entitlements. The remaining water supplies could be acquired as part of short-term leases and/or as long-term storage credits (LTSCs).

CAGR D currently holds rights to approximately 36,530 AF of annual long-term water supplies. To meet the projected 2034 replenishment obligation of 86,900 AF/yr, CAGR D will seek to acquire approximately 50,370 AF/yr of additional water supplies over the next 20 years. CAGR D also will seek to acquire an additional 26,100 AF of annual entitlement over the subsequent 80 years. CAGR D has acquired sufficient long-term water supplies to meet its current obligation and is near its goal of securing 50% of its 2034 obligation in the form of long-term water supplies. Only an additional 6,900 AF/yr needs to be acquired over the next 20 years to meet this goal. Maintaining this goal will require developing approximately 13,100 AF/yr of additional long-term water supplies between 2034 and 2114.

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CAGRDR is required to establish and maintain a Replenishment Reserve of LTSCs in the Phoenix, Pinal and Tucson AMAs to help ensure fulfillment of replenishment obligation and to enhance rate stability. The target volume for these reserves totals about 764,500 AF. Sufficient water supplies are currently available to CAGRDR to meet the target through a combination of existing LTSCs in the Replenishment Reserve subaccount and Central Arizona Water Conservation District (“CAWCD”) dedicated LTSCs.

In May, 2013, the CAWCD Board approved a new policy regarding capacity priority for CAWCD Underground Storage Facilities (“USFs”). The policy allocates the highest priority for USF capacity to CAGRDR after contractual commitments are met and therefore preserves significant storage capacity within CAWCD’s USFs for use by CAGRDR for replenishment purposes. For the 2015 Plan of Operation, staff conducted an inventory of existing storage facilities which included a comparison of the operational capacity of each facility with replenishment capacity available to CAGRDR. This analysis showed that sufficient storage capacity is available to meet replenishment and reserve storage requirements for the next 20 years. Additionally, CAGRDR will continuously evaluate additional facilities that may be developed for specific supplies such as effluent, to reduce costs to its members, or to meet broader water management goals.

Statutes require that all of CAGRDR’s costs be paid by its members and also provide CAGRDR with the authority and responsibility to establish and collect all fees, assessments and taxes necessary to meet its statutory obligations. CAGRDR’s Board of Directors has adopted policies for establishing its fees and rates on an annual basis, thus providing CAGRDR with flexibility as economic and operational conditions change. Financial flexibility has recently been further enhanced to include annual membership dues and bonding authority. Therefore, all mechanisms are in place to ensure that CAGRDR has sufficient financial capacity to meet its obligation.

In conclusion, this Plan of Operation demonstrates that CAGRDR has the capability and the authority to meet all of its statutory obligations over the next 100 years for current members and new members that will enroll through 2024.

# CAGRD PLAN OF OPERATION REQUIREMENTS

Arizona Revised Statutes (A.R.S.) § 45-576.02.C mandates that CAWCD, acting in its capacity as the Central Arizona Groundwater Replenishment District or “CAGRD”, submit a Plan of Operation to the Director of the Arizona Department of Water Resources (“ADWR”) every ten years.

**This 2015 CAGRD Plan of Operation must be submitted by December 31, 2014.**

The purpose of the Plan, as defined by statute, is to describe the activities that CAGRD proposes to undertake during the 100 calendar years following submittal of the Plan. The Plan must include the following information for the Phoenix, Pinal and Tucson Active Management Areas (“AMAs”):

- a. CAGRD’s groundwater replenishment obligation and the extent to which that obligation has been met in the ten years preceding submittal of the Plan.
- b. An estimate of CAGRD’s current and projected groundwater replenishment obligation, as that term is defined and used in *Title 48, Chapter 22*, for current members for the 20 calendar years following the submission of the Plan; and an estimate of CAGRD’s projected groundwater replenishment obligation for current members and potential members for the 100 calendar years following the submission of the Plan based on reasonable projections of real property and service areas that could qualify for membership in the ten years following the submission of the Plan.
- c. A description of the water resources that CAGRD plans to use for replenishment purposes during the 20 calendar years following submission of the Plan and water resources potentially available to CAGRD for groundwater replenishment purposes during the subsequent 80 calendar years.
- d. A description of CAGRD’s current replenishment reserve activities in each active management area for the ten years preceding the current Plan and planned replenishment reserve activities for the ensuing ten years to be undertaken pursuant to A.R.S. § 48-3772.E.
- e. A description of any facilities and projects to be used for replenishment and the replenishment capacity available to CAGRD during the 20 calendar years following submission of the Plan.
- f. An analysis of potential storage facilities that may be used by CAGRD for replenishment purposes.
- g. A description of CAGRD’s capability to meet the current and projected groundwater replenishment obligation for the 20 calendar years following the calendar year in which the conservation district submits the Plan.
- h. Any other information that the Director may require.

## **ADWR REVIEW AND APPROVAL PROCESS**

Within 60 days of receiving CAGRD's Plan of Operation, the Director of ADWR must determine whether CAGRD has submitted sufficient information to determine whether the Plan is consistent with the management goals of the Phoenix, Pinal and Tucson AMAs. If the Director determines that the information is insufficient for such a determination, the Director shall notify CAGRD of the insufficiency in writing and shall specify what additional information is required. CAGRD must provide the additional information within a reasonable time as specified by the Director.

On determining that the Plan is complete, the Director must publish a notice in a newspaper of general statewide circulation once each week for two consecutive weeks. The public notice shall request public comment concerning the information supplied by CAGRD in its Plan and shall set a date and location of a public hearing to be held to provide any person, including ADWR, an opportunity to comment on or to present evidence concerning the submitted Plan. CAGRD must respond in writing to all public comments whether received at the hearing or otherwise received by a date announced by the Director.

Within 120 days after the public hearing, the Director must issue a decision for each AMA (Phoenix, Pinal and Tucson) determining whether or not the Plan submitted with respect to the AMA shall be designated as being consistent with achieving the management goal of the AMA. If the Director determines that the Plan is consistent with achieving the management goal of the particular AMA, the designation for that AMA remains effective until it expires. The Director's determination expires on December 31 of the year following the year in which CAGRD is required to submit its next plan, or the date the Director issues a decision determining that the next plan is consistent with achieving the management goal of the AMA, whichever occurs first.

**The Director shall make a determination that CAGRD's plan is consistent with achieving the management goal for each AMA if all of the following have been demonstrated:**

- CAGRD has identified sufficient water supplies to meet its replenishment obligation for current members during the 20 calendar years following submission of the Plan and has identified water supplies potentially available for CAGRD's projected groundwater replenishment obligation for 100 calendar years following submission of the Plan for current members and potential members based on reasonable projections of real property and service areas that could qualify for membership in the ten years following the submission of the plan.
- The replenishment reserve target for each AMA was calculated as prescribed in A.R.S. § 48-3772.E, and CAGRD is developing a replenishment reserve in each AMA pursuant to that statute.
- CAGRD has identified sufficient capacity at storage facilities and projects to be used for replenishment purposes during the 20 calendar years following submission of the Plan.
- CAGRD has made a reasonable estimate of its projected replenishment obligation for the 100 calendar years following submission of the Plan.

If at any time between the second anniversary and the eighth anniversary of the Director's determination of consistency with the management goal, the Director finds that there has been either an unexpected increase in CAGRD's projected groundwater replenishment obligation or an unexpected reduction in water

supplies available to meet CAGR D's current obligation such that the Plan no longer demonstrates consistency with the management goal for one or more AMAs, the Director shall require CAGR D to submit a revised Plan of Operation. The revised plan must be submitted within one calendar year of the date that the Director notifies CAGR D of such a determination, unless the Director extends this time for good cause. The Director shall review, hold a hearing on and make a determination on the revised plan just as described above, except that the Director shall only hold a public hearing regarding those conditions that have changed. If CAGR D is unable to submit a revised plan that satisfies the Director's concerns for one or more AMAs, then CAGR D's Plan shall expire for the respective AMA(s).

# 1.0 BACKGROUND

## 1.1 HISTORICAL BACKGROUND AND CREATION OF CAGR D

In 1993, the Arizona Legislature (“Legislature”) passed the Groundwater Replenishment District Act. The 1993 Act added groundwater replenishment authorities to the statutory authorities already assigned to the Central Arizona Water Conservation District (“CAWCD”). CAWCD’s unique duties and operations under these authorities are commonly referred to as the Central Arizona Groundwater Replenishment District (“CAGR D”).

This section provides a short chronology of significant water management events that led to the creation of CAGR D. It begins with a brief history of the 1980 Groundwater Management Act and the state’s first attempt to adopt Assured and Adequate Water Supply rules some ten years later. Also provided is a description of how CAGR D evolved out of the water community’s response to the state’s initial rule-making attempt and the need for a politically viable option in proving water supplies for future developments to support the state’s economic growth.

### 1.1.1 Early Groundwater Management Efforts

Groundwater development in Arizona began around the turn of the century, increasing gradually through the 1930’s, 1940’s and 1950’s. Over time however, increasing mining and agricultural activities, and the associated groundwater demand resulted in several areas of the state reaching a condition of ongoing groundwater overdraft and severely declining water levels.

Over the years, the Legislature has engaged in several attempts to address the groundwater overdraft issue within the state. Arizona’s first groundwater code was enacted in 1948 and attempted, mostly unsuccessfully, to curb groundwater overdraft in “critical groundwater areas”. In 1973, the Legislature charged the Arizona Water Commission (predecessor of ADWR) with administering a new Adequate Water Supply Program. That program was created to address mounting concerns over land fraud in the state, where tracts of desert land with little or no available water supply were sold to uninformed buyers. The 1973 Adequate Water Supply Program required that initial buyers of subdivided land be notified of the adequacy or inadequacy of the water supply; the lack of an adequate water supply for the subdivision, however, did not prevent the sale of land.

### 1.1.2 1980 Groundwater Management Act

In 1977, the Legislature created the Groundwater Management Study Commission (“Study Commission”) to investigate alternatives to improve Arizona’s groundwater law. It was expected that the Study Commission’s recommendations would generate changes which ultimately would bring groundwater pumping and natural recharge more closely into balance.

The work of the Study Commission, coupled with continuing declines in groundwater levels due to overdraft, and a decision by Secretary of the Interior Cecil Andrus to condition continued funding for the Central Arizona Project (“CAP”) on the state’s enactment of stricter groundwater regulations, led to the adoption in 1980 of a comprehensive groundwater code. This code is known as the Groundwater Management Act (“GMA”; “Groundwater Code”).

<sup>1</sup> A.R.S. §§ 45-401 through 45-704.

Among other provisions, the GMA created ADWR and charged it with administering the Groundwater Code's provisions. The GMA also established AMAs, which are geographic areas in the state where groundwater overdraft was most critical. The Groundwater Code imposed new regulations on groundwater use within the AMAs, including limits on new groundwater users and the drilling of new wells. The GMA also mandated water conservation measures and required all new developments within an AMA to prove access to a reliable water supply for a 100-year period.

### **1.1.3 Post-Groundwater Code Assured and Adequate Water Supply Program**

With the passage of the Groundwater Code in 1980, the 1973 Adequate Water Supply Program was replaced with the Assured and Adequate Water Supply ("AAWS") Program. The AAWS Program required developers to prove to ADWR that the development had an "adequate" water supply, if the development is located outside an AMA, or that the development has a 100-year "assured" water supply ("AWS"), if the development is located inside an AMA.

For new development within the AMAs, the AAWS Program significantly shifted the approach from a consumer information program to a consumer protection program. If the findings of the water supply evaluation for a development concluded that an AWS could not be demonstrated, the plat would not be approved and lots could not be offered for sale. *Section 1.2* describes the criteria that must be met in order to prove an AWS.

In the first few years following passage of the Groundwater Code, ADWR continued to operate the AAWS Program under guidelines similar to the criteria developed for the Adequate Water Supply Program in the 1970s. It was recognized, however, that the allowable overdraft, or acceptable decline in groundwater level, as outlined in the guidelines could not continue and still be considered "consistent with the management goal" within those AMAs where the management goal was safe-yield (a long-term balance between the annual amount of groundwater withdrawn and the annual amount of water recharged to the aquifer).

### **1.1.4 Initial Draft Rules of the AAWS Program – 1988**

In 1988, the first draft rules of the AAWS Program were released to the public. The draft rules for AWS designations described management criteria to transition from overdraft to safe-yield with proposed reductions in the allowable rate of water-level decline. Very low rates of water-level decline were proposed for undeveloped areas. New developments, which were typically in more rural areas of the AMAs, would be required to find alternative sources of water supply. This requirement would have limited new growth in these undeveloped areas unless a conveyance system could be constructed to the nearest supply, or the proposed area could be included in the service area of a designated water provider, or there was access to CAP water supplies. The draft rules also effectively restricted the density of new development and, in the view of the state's agricultural interests, severely limited the value of agricultural land sold for new residential development.

Many cities and towns without access to CAP water, agricultural interests, and the real estate and development community strongly opposed the draft rule package, each for their own reasons. In response to this opposition, ADWR withdrew the draft rule package and continued to operate under the existing guidelines for the next several years.

### **1.1.5 Formal AWS Rules Adopted – 1995**

Given the lack of alternative sources of supply in many areas of the AMAs, much concern remained over the potential impacts of any proposed AWS rules on growth. In the early 1990s, ADWR spent over three

years developing a series of draft rules, including an extensive public participation process. ADWR also commissioned an economic impact study<sup>2</sup> to evaluate the impact of projected scenarios on employment, income, housing, retail sales, and population. The study concluded that impacts were small throughout the three-county service area, assuming that a replenishment district was available to provide the new water supplies. Without the replenishment district, impacts were greater, as water providers may have been required to buy and store up front a 100-year water supply at prohibitive expense.

The inevitability that ADWR would promulgate rules to significantly reduce reliance on mined groundwater supplies by new development led to concurrent legislative activity to create groundwater replenishment districts within both the Phoenix and Tucson AMAs. In 1990, the Legislature enacted a bill creating a provisional Tucson AMA Water Augmentation Authority, which was later modified to become the Santa Cruz Valley Water District (“SCVWD”). In 1991, the Legislature also enacted legislation to allow for the creation of a replenishment district in the Phoenix AMA.

In 1992, ADWR developed a concept paper for the AWS program that evaluated three possible approaches to addressing the consistency with management goal criteria. Comparison of the approaches resulted in an ADWR preferred alternative of a replenishment model that allowed for orderly transition to renewable supplies and was most consistent with existing augmentation authority and replenishment district legislation.

In 1993, the Legislature created an additional replenishment district through the Groundwater Replenishment District Act, which allowed for voluntary membership throughout the Phoenix, Pinal and Tucson AMAs. At the same time, the SCVWD was authorized to perform similar replenishment functions as an alternative to the three-AMA district. The SCVWD ultimately did not become permanent and the Phoenix AMA replenishment district was never formed; however, both of these statutes remain in the Groundwater Code.

The Groundwater Replenishment District Act authorized CAWCD to perform replenishment for groundwater use that exceeded the amount of pumping allowed, as proposed in the draft AWS Rules. The replenishment authority is referred to as CAGRDR; it operates throughout that portion of CAWCD’s three-county service area that is within an AMA. CAGRDR recharges CAP water or other alternative water supplies to replenish Excess Groundwater<sup>3</sup> withdrawals by municipal water users that have become CAGRDR members. Membership is voluntary and members can meet AAWS program requirements without directly utilizing renewable resources.

The 1993 legislation provided a workable mechanism that satisfied both the needs of developers and the requirements of ADWR in achieving compliance with the AAWS program. This mechanism allowed those parties without CAP subcontracts or without direct access to CAP water or other renewable water supplies to demonstrate consistency with the management plan and management goal for the AMA (i.e., achieving safe-yield). Once this general consensus was reached in the water community, development of the rule package proceeded and formal AWS Rules were subsequently adopted by ADWR in February, 1995.

<sup>2</sup> *Macro and Microeconomic Impacts of the Arizona Department of Water Resources Proposed Assured Water Supply Rules Within Arizona Active Management Areas*, June 28, 1993. Prepared by L. William Seidman Research Institute, Economic Outlook Center of ASU in cooperation with Elliott D. Pollack and Company.

<sup>3</sup> Excess Groundwater is defined in A.R.S. § 48-3701.7 as the amount of groundwater delivered to a member in a calendar year in excess of the amount of groundwater that may be used by the member in that calendar year consistent with the applicable Assured Water Supply rules adopted by ADWR for the AMA where the member is located. It should be noted that the agreements between CAGRDR and its members generally identify a minimum volume that must be reported as Excess Groundwater in each calendar year. This minimum volume is calculated based on the total volume of groundwater used by a member in that year. If a member uses no groundwater in a given calendar year, then its Excess Groundwater use is also zero for that year.

## 1.2 CAGR D'S WATER RESOURCE MANAGEMENT ROLE

CAGR D's role in water resource management cannot be fully understood without a basic understanding of the state's AWS Rules. Within the AMAs, the Rules are designed to protect groundwater supplies and to ensure that people purchasing subdivided land have a water supply of adequate quality and quantity. Thus, in each AMA the developer of a new subdivision must demonstrate to ADWR that a 100-year AWS is available to serve the subdivision before sales can begin. An AWS can be demonstrated in one of two ways. First, a municipal water provider may apply for and obtain a Designation of Assured Water Supply ("DAWS") for its entire service area. In this case, new subdivisions that will be served by the designated provider are automatically deemed to have proven an AWS so long as the designated volume of assured supply is not exceeded. Alternatively, if the municipal water provider that will serve a new subdivision has not received a DAWS for its service area, the developer of the subdivision must apply for a Certificate of Assured Water Supply ("CAWS") and prove an AWS for the individual subdivision.

**There are five basic criteria that an applicant for an AWS must prove:**

1. A sufficient quantity of water is physically, legally and continuously available to satisfy the water demands of the subdivision or service area for 100 years;
2. The water source meets applicable water quality standards;
3. The proposed use of water is consistent with the AMA management plan;
4. The proposed use is consistent with the AMA water management goal; and
5. The applicant is financially capable of installing the necessary water distribution and treatment facilities.

The consistency with management goal section of the AWS Rules limits the quantity of mined groundwater that an applicant may use to demonstrate an AWS. The effect of this groundwater pumping limitation is to prevent new development from relying solely on mined groundwater to serve its water demands.

Development, however, is not necessarily stymied for those landowners and water providers who have no direct access to CAP water or other renewable supplies. If a water provider or a landowner has access to groundwater and desires to rely exclusively on the availability of groundwater to demonstrate a 100-year water supply, it may do so provided it joins CAGR D. Membership in CAGR D provides a means by which an AWS applicant can show that the proposed water use is consistent with the water management goal of the particular AMA (criterion #4 above). As a member of CAGR D, the landowner or municipal water provider must pay CAGR D to replenish any groundwater pumped by the member that exceeds the pumping limitations imposed by the AWS Rules, thereby making the member's groundwater use consistent with the AMA management goal.

In 1999, the Legislature expanded CAWCD's replenishment authorities by passing the Water Sufficiency and Availability Act. This Act authorizes CAGR D to play a limited role in helping a municipal water provider prove to the Director of ADWR that the provider has a continuously available supply of water for 100 years (criterion # 1 above). Under the Act, the CAWCD Board of Directors ("CAWCD Board") may grant Water Availability Status ("WAS") to a municipal provider by adopting a Board resolution that commits CAGR D to replenish a specified average annual volume of water in a location where the municipal provider may

physically access it for service to its customers. On June 15, 2000, the Director of ADWR issued a determination that CAGR D has the capability to grant water availability status to Member Service Areas in the three AMAs. By law, water availability status membership is limited to a maximum total of 20,000 acre-feet ("AF") per year and CAWCD cannot grant water availability status to members after December 31, 2010.

Recommendations from the December 2001 Final Report of the Governor's Water Management Commission resulted in additional CAGR D authorities and responsibilities. Legislation adopted in 2003 requires CAGR D to establish and maintain a Replenishment Reserve of long-term storage credits ("LTSCs") to ensure that CAGR D is able to meet its replenishment obligation while also enhancing rate stability for its members. In addition, CAGR D's planning requirements were made more stringent and criteria under which ADWR is to review and approve CAGR D plans were more clearly defined.

## 1.3 MEMBERSHIP TYPES

Membership in CAGR D is voluntary. Any city, town, private water company, subdivision or homeowner's association located in the Phoenix, Pinal or Tucson AMA may join CAGR D. CAGR D is comprised of two types of members: Member Service Areas ("MSAs") and Member Lands ("MLs").

### 1.3.1 Member Service Areas

A city, town, district or water company enrolls in CAGR D when it adopts a resolution and executes an agreement that declares its service area and all extensions to be an MSA of CAGR D. These agreements are referred to as MSA Agreements. Under an MSA Agreement, the municipal provider is required to submit reports to CAGR D annually identifying the volume of Excess Groundwater delivered within the service area. The MSA Agreement also requires the municipal provider to pay CAGR D replenishment taxes based on the amount of Excess Groundwater delivered within the service area each year. When applying to enroll a service area in CAGR D, the applicant provides a projection of future population and water use. This projection serves as a basis for estimating CAGR D's long-term replenishment obligation for the service area. However, changing political and economic conditions could impact population growth and/or the service area boundaries and, consequently, CAGR D's long-term obligation. Therefore, the commitment made by CAGR D through enrollment of an MSA will not be fully known until many years into the future. A municipal provider's enrollment in CAGR D as an MSA allows the provider to obtain a DAWS for its service area by fulfilling the consistency with the AMA management goal in the Rule requirements for an AWS designation.

### 1.3.2 Member Lands (Subdivisions)

An individual subdivision enrolls as an ML of CAGR D when: (1) its owner executes and records an irrevocable declaration of covenants, conditions and restrictions ("ML Declaration") running with the land that includes the land in CAGR D and subjects it to the replenishment assessment; and (2) the owner and the municipal provider that will supply water to the subdivision execute and record an agreement ("ML Agreement") under which the water provider agrees to submit the water delivery information necessary to calculate the replenishment assessment for each parcel of land annually to CAGR D. Individual parcels within a CAGR D ML are categorized as Category 1 MLs or Category 2 MLs. Category 2 MLs are those parcels that are part of a golf course and that choose not to participate in CAGR D's replenishment reserve program (as described in Chapter 5 of this Plan). Category 1 MLs are all ML parcels that do not qualify as Category 2 MLs.

The commitment made by CAGR D upon enrollment of MLs is well defined. The boundaries of the subdivision define the ML and, once enrolled, may be modified, amended or revoked only by written consent of CAWCD, ADWR, and the owner(s). In addition, the applicant must establish the number of individual units (homes, businesses, etc.) that are to be built within the subdivision before it can receive a CAWS from ADWR. This is the best available information for projecting the ML's long-term water use. Enrollment of a proposed subdivision as an ML allows the developer/landowner to obtain a CAWS for a development by fulfilling the consistency with the AMA management goal Rule requirement for an AWS certificate.

### **1.3.3 Water Availability Status Members**

Water Availability Status Members (WAS members) are CAGR D member service areas that have been granted water availability status in accordance with the 1999 Water Sufficiency and Availability Act. See *Section 1.2*.

## **1.4 CHRONOLOGY OF PLANS OF OPERATION**

### **1.4.1 Initial Plan of Operation**

The initial CAGR D Plan of Operation was submitted on June 1, 1994 and adopted by ADWR on February 24, 1995. The Decision and Order for the Phoenix, Pinal and Tucson AMAs designated that the initial Plan was consistent with the goals of the AMAs. With these designations of consistency, CAGR D began the process of enrolling MLs and MSAs. The initial Plan was effective through October 31, 2005, when the Director of ADWR ("Director") approved the second Plan of Operation.

### **1.4.2 Second Plan of Operation**

CAGR D's second Plan of Operation was submitted on November 8, 2004 (referred to in this report as the "2005 Plan"). The Director of ADWR issued the Decision and Order on October 31, 2005 determining that the Plan was consistent with achieving the management goals of the Phoenix, Pinal and Tucson AMAs. The 2005 Plan expired on August 5, 2015 the date the Director issued a decision determining that this Plan is consistent with achieving the management goals of the AMAs.

### **1.4.3 Mid-Plan Review**

In 2011, seven years following adoption of the 2005 Plan, a Mid-Plan Review was completed by CAGR D. Following the widespread crisis in the financial sector and the associated depressed housing economy, particularly affecting growth states like Arizona, the Mid-Plan Review was prepared to provide an update on the status of CAGR D's projected enrollment and replenishment obligation.

### **1.4.4 Third Plan of Operation**

This third CAGR D Plan of Operation (referred to as the "2015 Plan" or "this Plan") was submitted to the Director on December 29, 2014 and covers the ten-year period from 2015-2024. As noted above, the Director issued a decision on August 5, 2015.

## 1.5 STAKEHOLDER PROCESS

CAGRDR initiated a stakeholder process intended to facilitate discussion on numerous topics concerning CAGRDR and the 2015 Plan. Approximately 70 participants attended nine public meetings held between April and September, 2013. The meetings were open to all interested parties.

The CAGRDR stakeholder process was largely focused around a set of CAGRDR Guiding Principles adopted by the CAWCD Board in September of 2012. The Guiding Principles identified and provided guidance to staff on a number of key issues that the Board wanted CAGRDR staff to address in a stakeholder process prior to developing the 2015 Plan.

A Stakeholder Working Group was formed through a self-selection process, providing representation of 22 entities throughout the water community. The task of each member of the Working Group was to communicate and reflect the interests of the other stakeholders they represented, state their position in order for the process to move forward and provide feedback and suggestions for areas of concern on the key "scoping" issues as described in the Guiding Principles. Likewise, CAGRDR staff committed to keep the Working Group and CAWCD Board informed, to conduct an open and transparent process allowing everyone to have a voice, as well as a commitment to allow the Working Group to raise additional issues relevant to the 2015 Plan and the concepts in the scoping issues. At the outset of the stakeholder process, a series of informational topics were reviewed to provide relevant information to the Working Group during discussions. These topics include statutory Plan requirements, the 2005 Plan and 2011 Mid-Plan Review.

**Key scoping issues discussed with the Working Group during the Stakeholder Process were as follows:**

- Mitigation of Financial Risk of Acquiring Water
- Member Land De-Enrollment
- Enhanced Annual Reporting and Mid-Plan Review
- Location of Pumping/Replenishment
- Direct Delivery by CAGRDR
- CAGRDR Conservation Program
- Alternatives to CAGRDR Model
- Cost of Development on Member Lands vs within Member Service Areas
- Tribal Water Availability
- Mitigating Risks of Water Acquisition
- Other issues to be part of additional stakeholder discussions after submittal of the Plan

The meeting summaries and the status and proposed implementation of these issues can be found on the CAGRDR website at [www.cagrdr.com](http://www.cagrdr.com) and a PowerPoint presentation from the October 24, 2013, meeting of the CAGRDR & Underground Storage Committee.



## 2.0 HISTORIC OPERATIONS

The statutory requirements relating to past obligation and replenishment for the CAGR D Plan of Operation are identified below.

### **A.R.S. § 45-576.02.C.2**

...the plan shall include the following information for each active management area in which a member land or member service area is located:

### **A.R.S. § 45-576.02.C.2(a)**

The conservation district's groundwater replenishment obligations and the extent to which those obligations have been met in the ten years preceding submittal of the plan.

This chapter addresses these elements with a summary of current enrollment, the replenishment obligation of the past ten years, and the extent to which that obligation has been fulfilled or completed. A compilation of tables is provided below, which compares Excess Groundwater Deliveries and completion of the groundwater replenishment obligation associated with those deliveries for each AMA for the period 2004 through 2013 (**Tables 2.3** through **2.6**). Information in this chapter is based on enrollment and obligation/replenishment through December 31, 2013.

**Appendix B** presents the Conservation District Annual Reports submitted to ADWR for the ten years preceding submittal of this Plan. These reports include the full details of each year's replenishment activities.

## 2.1 ENROLLMENT HISTORY

### 2.1.1 Membership in the Phoenix AMA

#### 2.1.1.1 MEMBER LANDS

A total of 828 subdivisions have enrolled as MLs in the Phoenix AMA. These 828 subdivisions represent 175,025 homes. Of these 828 ML subdivisions, 533 are located in the west portion of the Phoenix AMA (representing 131,335 homes) and 295 are located in the east portion of the Phoenix AMA (representing 43,690 homes)<sup>1</sup>.

<sup>1</sup> A.R.S. § 48-3772.I. requires that for the Phoenix AMA, CAGR D, to the extent reasonably feasible, shall replenish groundwater in the east portion of the AMA and in the west portion of the AMA in the approximate proportion that the groundwater replenishment obligation is attributable in a particular year to members located in the respective portions of the AMA. Therefore, CAGR D tracks enrollment and replenishment obligations for the Phoenix AMA based on their location within the AMA.

2.1.1.2 MEMBER SERVICE AREAS

A total of nine municipal water providers have enrolled their water service areas as MSAs in the Phoenix AMA. Of these, four are in the west portion of the AMA and five are in the east portion, indicated as follows:

---

**MSAS IN THE WEST PHOENIX AMA**

- City of Avondale
- City of El Mirage
- City of Goodyear
- City of Surprise

---

**MSAS IN THE EAST PHOENIX AMA:**

- Apache Junction WUCFD  
(Water Utilities Community Facilities District)
- Chaparral City Water Company
- City of Scottsdale
- Johnson Utilities, LLC
- Town of Gilbert

2.1.1.3 WATER AVAILABILITY STATUS MEMBER

The City of Scottsdale (“Scottsdale”) is the only WAS Member of CAGR. See *Chapter 1, Section 1.3* for a general description of water availability status membership. On October 4, 2001, the CAWCD Board adopted a Water Availability Status Resolution which granted water availability status to Scottsdale and approved both the Water Availability Status Contract and the Member Service Area Agreement between CAWCD and Scottsdale (“WAS Agreements”). Pursuant to the WAS Agreements, CAWCD committed to deliver up to 3,460 AF of replenishment water per year to Scottsdale’s turnout. Scottsdale committed to either store this water at replenishment facilities where Scottsdale may physically access the stored water for service to its customers or to directly deliver this water to its customers. The location where this replenishment must occur is shown on **Figure B-1**<sup>2</sup> in **Appendix B**. On March 7, 2013, the CAWCD Board approved Amendment No. 1 to the Water Availability Status Contract and Amendment No. 1 to Scottsdale’s Member Service Area Agreement. Among other things, the amendment reduced CAWCD’s obligation to deliver replenishment water to Scottsdale’s turnout from 3,460 AF/yr to 2,910 AF/yr.

<sup>2</sup> Alternatively, replenishment water provided by CAGR may be delivered by Scottsdale directly to its customers that would otherwise use groundwater pumped from within the replenishment area shown in Figure B-1. Such direct deliveries are authorized under A.R.S. § 48-3772.B.11 on the condition that CAWCD determines that direct deliveries will not harm other CAP customers or increase the replenishment taxes and rates for other CAGR members.

## 2.1.2 Membership in the Pinal AMA

### 2.1.2.1 MEMBER LANDS

A total of 137 subdivisions have enrolled as MLs of CAGR in the Pinal AMA. These 137 subdivisions represent 62,153 homes.

### 2.1.2.2 MEMBER SERVICE AREAS

The following four municipal water providers have enrolled their water service areas as MSAs of CAGR in the Pinal AMA:

- City of Casa Grande  
*Formerly Copper Mountain Ranch CFD (Community Facilities District)*
- City of Eloy
- Johnson Utilities, LLC
- Town of Florence

## 2.1.3 Membership in the Tucson AMA

### 2.1.3.1 MEMBER LANDS

A total of 129 subdivisions have enrolled as MLs of CAGR in the Tucson AMA. These 129 subdivisions represent 26,529 homes.

### 2.1.3.2 MEMBER SERVICE AREAS

The following ten municipal water providers<sup>3</sup> have enrolled their water service areas as MSAs of CAGR in the Tucson AMA:

- City of Tucson
- Flowing Wells Irrigation District (FWID)
- Metropolitan Domestic Water Improvement District (MDWID)
- Metropolitan Domestic Water Improvement District (MDWID) – West
- Sahuarita Water Company
- Spanish Trail Water Company
- Town of Marana
- Town of Oro Valley
- Vail Water Company
- Willow Springs Utilities, LLC

**Figures 2.1, 2.2 and 2.3** illustrate the location of CAGR MLs and MSAs in the Phoenix, Pinal and Tucson AMAs, respectively. These figures also identify those MLs with reported obligation vs MLs without reported obligation.

<sup>3</sup> On January 9, 2014, CAWCD approved a Member Service Area agreement with Metropolitan Domestic Water Improvement District (MDWID), Southwest, Diablo Village (Metro Diablo); this agreement was amended by MDWID and approved by CAWCD on November 6, 2014. Although this chapter includes information only on enrollment and obligation through December 31, 2013, Metro Diablo was modeled as an MSA for the projections in Chapter 3.

FIGURE 2.1

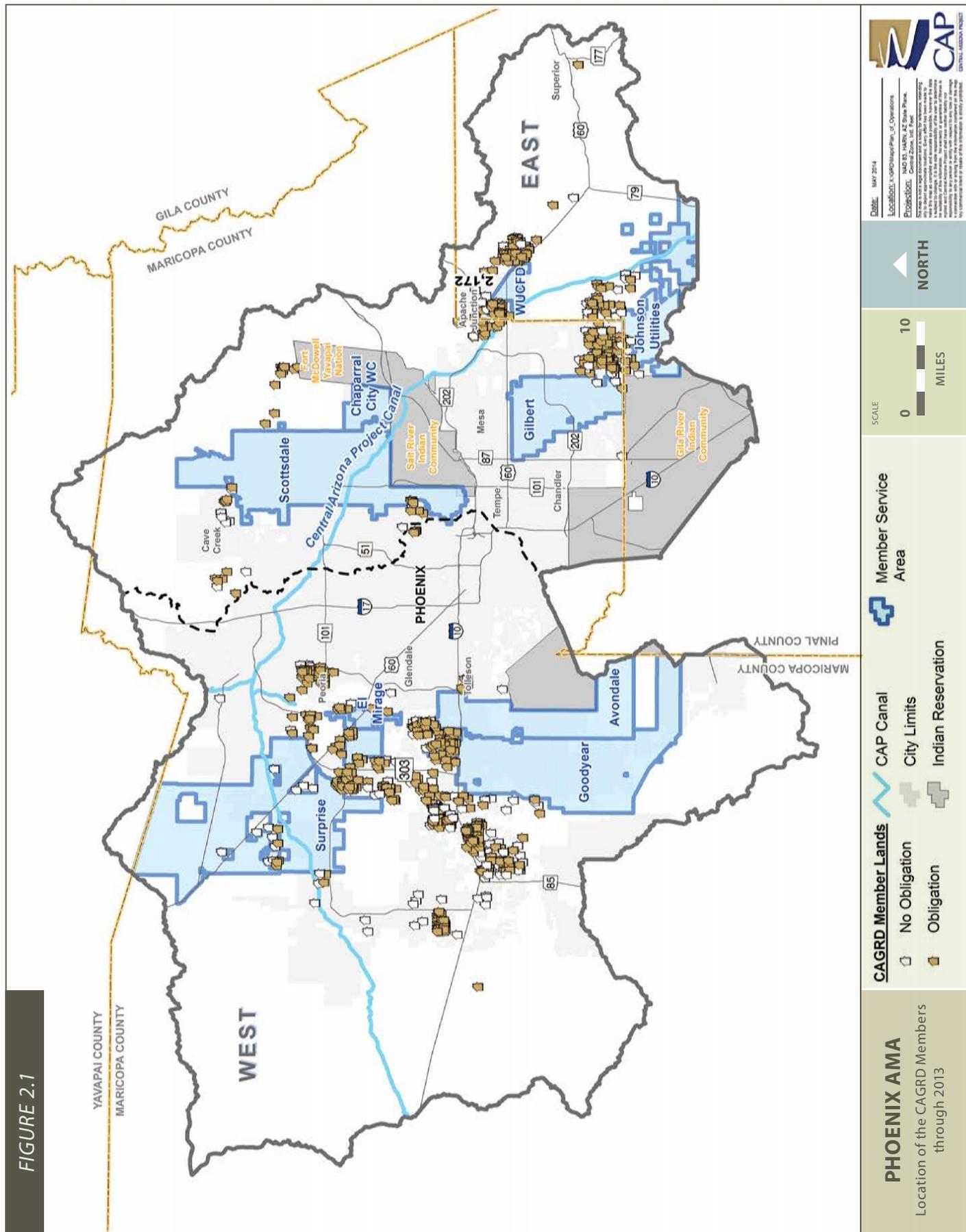
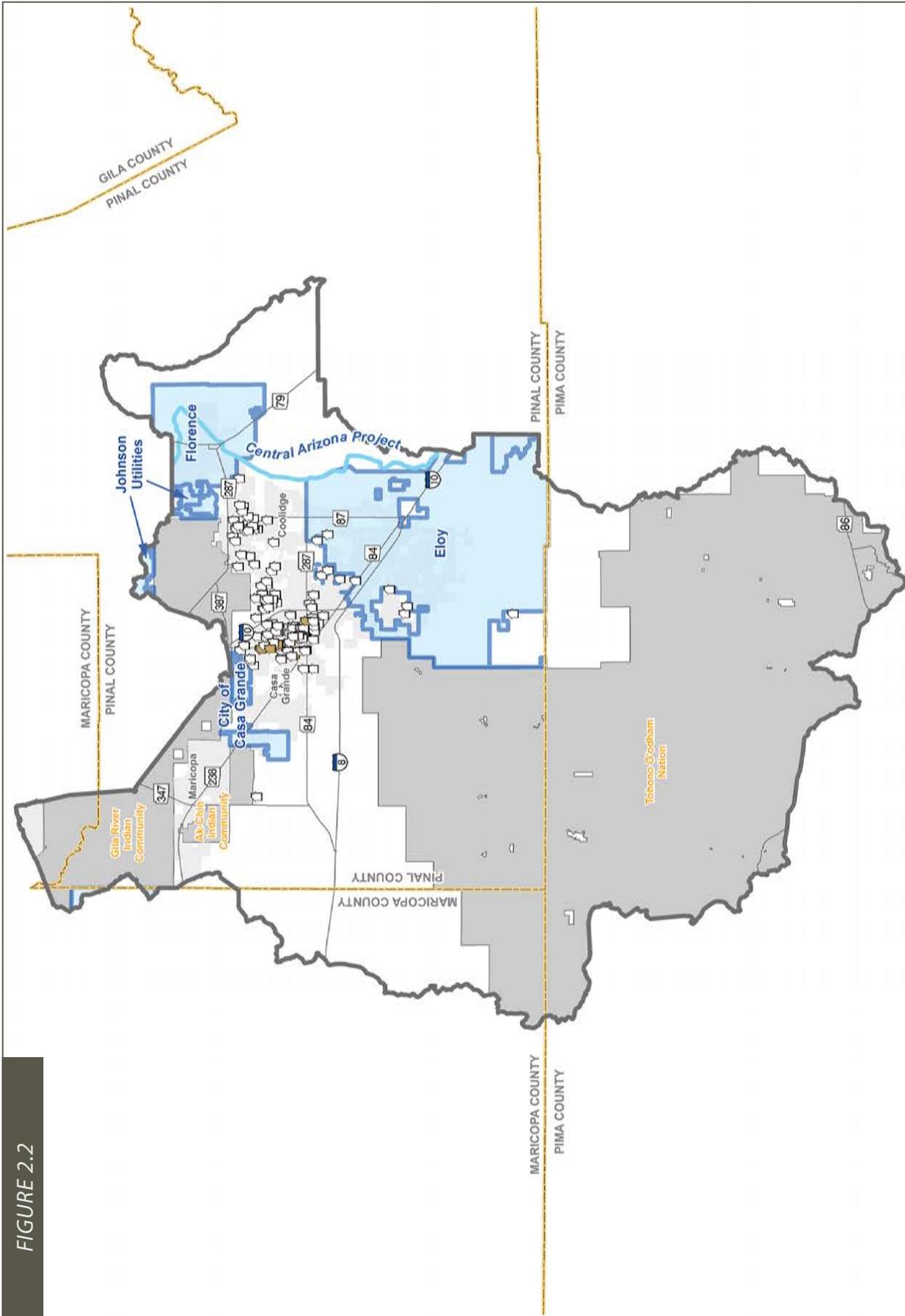


FIGURE 2.2



**PINAL AMA**  
Location of the CAGRD Members through 2013

**CAGRD Member Lands**

- No Obligation
- Obligation

**CAP Canal**

CAP Canal

**City Limits**

City Limits

**Indian Reservation**

Indian Reservation

Member Service Area

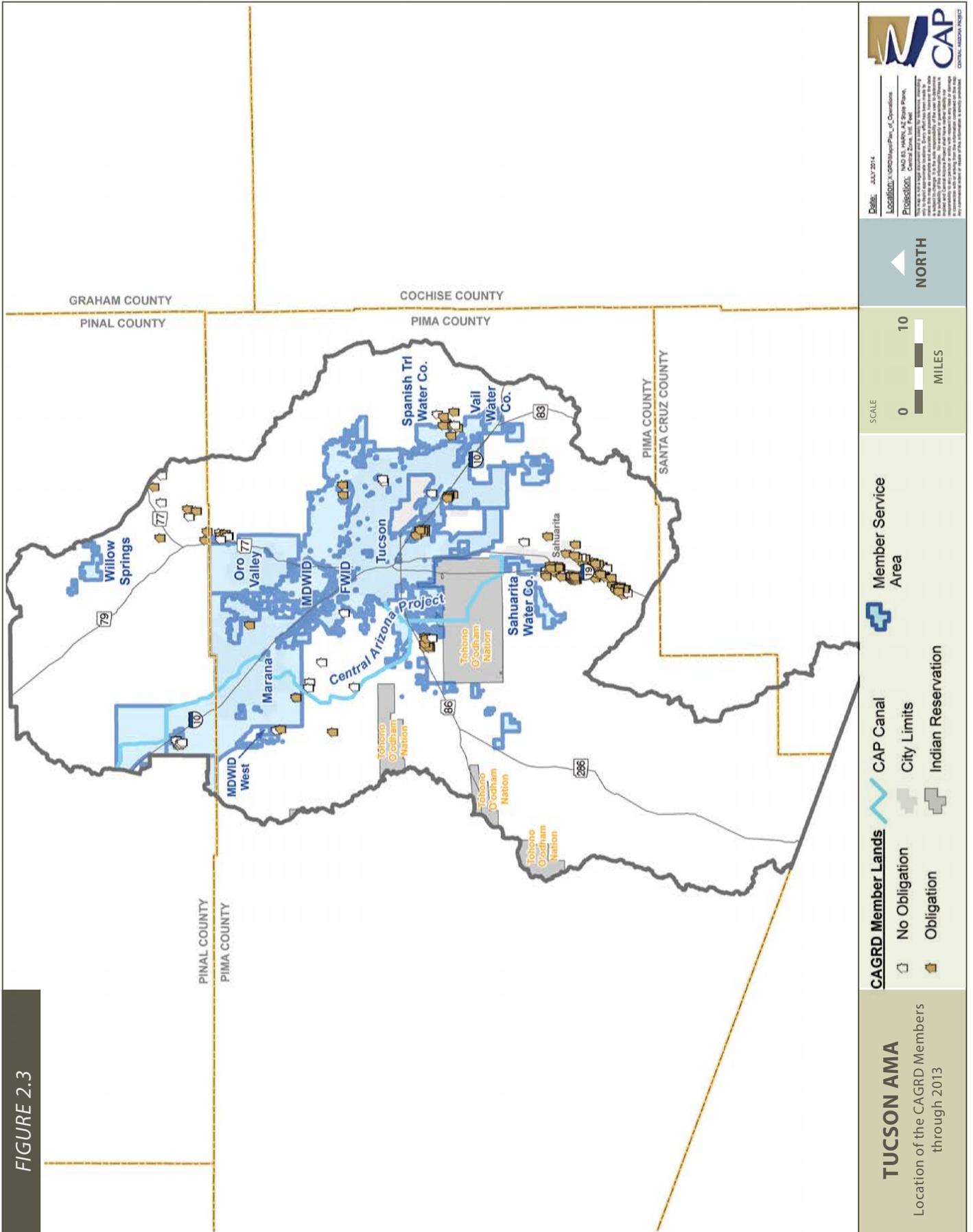
SCALE

0 10  
MILES

NORTH

Date: JULY 2014  
 Location: C:\projects\pinal\_ama\pinal\_ama.aprx  
 Projection: NAD 83 StatePlane Arizona Albers  
 Units: Feet  
 This map is a visual representation of the information presented. It is not intended to be used as a legal document. The information presented on this map is for informational purposes only. The information presented on this map is not intended to be used as a legal document. The information presented on this map is not intended to be used as a legal document.

FIGURE 2.3



## 2.1.4 Historic Enrollment

**Table 2.1** provides a summary of CAGR ML enrollment from inception through December 31, 2013 for the Phoenix, Pinal and Tucson AMAs. **Figure 2.4** graphically illustrates ML enrollment as housing units for the same time period.

TABLE 2.1

### CAGR MEMBER LAND ENROLLMENT

Through December 31, 2013

YEAR	PHOENIX AMA				PINAL AMA		TUCSON AMA		TOTAL	
	West Phx AMA		East Phx AMA		MLs	ML HOMES	MLs	ML HOMES	MLs	ML HOMES
	MLs	ML HOMES	MLs	ML HOMES						
1995	1	132	1	16	0	0	2	35	4	183
1996	11	2,715	18	1,830	1	11	7	524	37	5,080
1997	18	4,516	25	2,658	5	394	16	1,279	64	8,847
1998	10	1,784	36	2,635	4	347	2	354	52	5,120
1999	21	4,740	35	3,833	11	794	5	669	72	10,036
2000	22	5,803	31	3,802	17	12,815	7	6,485	77	28,905
2001	29	13,254	11	2,040	13	5,119	9	3,503	62	23,916
2002	30	6,439	10	4,379	5	490	7	2,533	52	13,841
2003	75	16,906	18	2,882	6	1,266	16	2,039	115	23,093
2004	91	12,737	10	2,344	9	2,509	13	2,031	123	19,621
2005	101	13,747	25	4,554	14	3,502	13	2,639	153	24,442
2006	74	27,519	34	5,532	25	23,833	11	2,229	144	59,113
2007	27	10,490	12	4,146	13	7,803	10	1,377	62	23,816
2008	11	5,669	19	1,336	10	3,092	4	602	44	10,699
2009	3	1,275	2	85	1	56	2	34	8	1,450
2010	2	175	2	535	2	116	3	70	9	896
2011	1	852	0	0	1	6	0	0	2	858
2012	3	1,481	0	0	0	0	2	126	5	1,607
2013	3	1,101	6	1,083	0	0	0	0	9	2,184
<b>TOTAL</b>	<b>533</b>	<b>131,335</b>	<b>295</b>	<b>43,690</b>	<b>137</b>	<b>62,153</b>	<b>129</b>	<b>26,529</b>	<b>1,094</b>	<b>263,707</b>

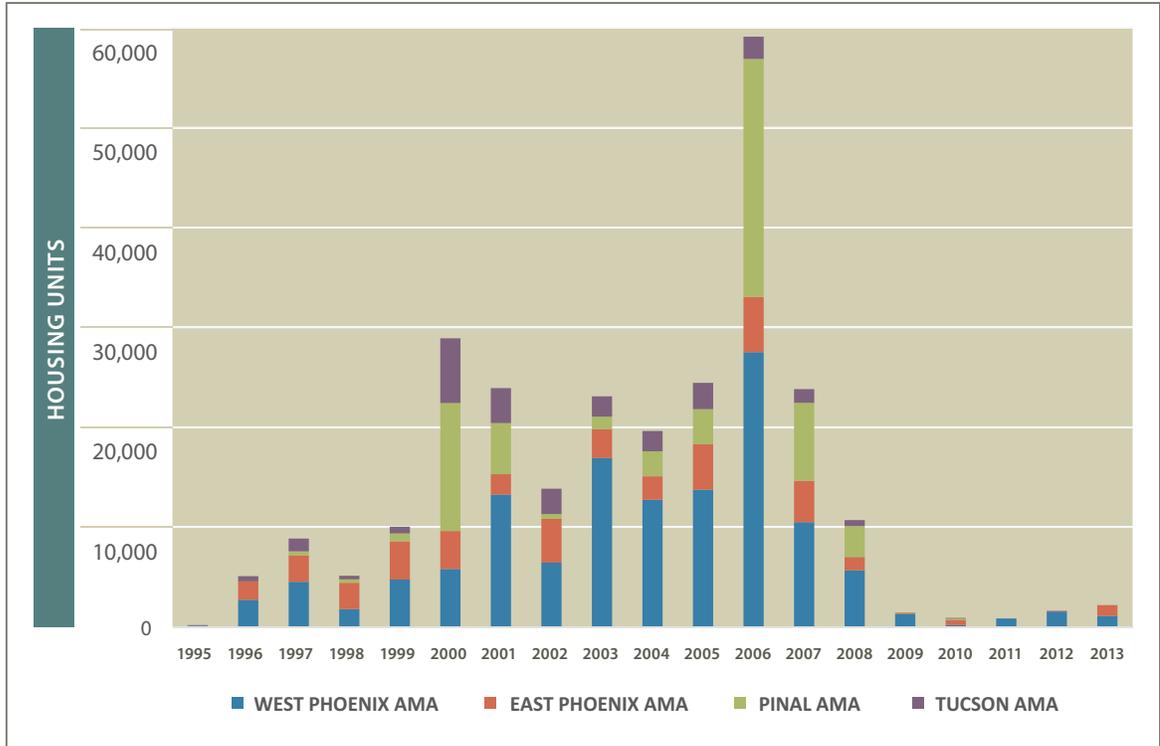
**TABLE NOTES:**

- Member Lands (MLs) refers to subdivisions enrolled in CAGR.
- Enrollment numbers may vary slightly from earlier Plan(s) due to on-going reconciliation.

FIGURE 2.4

## CAGR MEMBER LAND ENROLLMENT THROUGH 2013

Portrayed as Residential Units



**Figure 2.4** illustrates the trends in CAGR enrollment activity from inception through 2013<sup>4</sup>. Prior to 1995, in anticipation of the impending AWS Rules, many developers obtained plat approvals for new subdivisions years before construction was scheduled to begin. In 2000 and 2001, increased enrollment likely was a result of developers anticipating stricter regulations associated with the state’s Growing Smarter legislation and proposed growth initiatives. In the years following, residential construction was increasing rapidly consistent with the state’s population growth. Home prices continued to escalate together with this high pace of home construction, resulting in a real estate bubble that peaked in 2006. At the same time, another policy-driven spike in enrollment occurred in the Pinal AMA in anticipation of a pending change in the AWS Rules that would increase restrictions on groundwater in 2007. Importantly, although enrollment was on the rise, the number of unconstructed subdivisions also continued to grow. Following the burst of the Arizona real estate bubble in late 2006 and the widespread financial crisis of 2007-2008, housing prices plummeted, resulting in unprecedented numbers of evictions and foreclosures, and high rates of unemployment, all of which contributed to several years of virtually no new home construction in the state.

<sup>4</sup> CAGR Mid-Plan Review: Enrollment, Demand and Obligation, October 20, 2011 provides additional information on the effect of the housing crisis on CAGR’s demand and projected obligations.

**Table 2.2** provides a summary of CAGR D MSA enrollment from inception through December 31, 2013 for the Phoenix, Pinal and Tucson AMAs.

TABLE 2.2

## CAGR D MEMBER SERVICE AREA ENROLLMENT

Through December 31, 2013

MEMBER SERVICE AREA	AMA	MEMBERSHIP DATE	AMENDED AGREEMENT DATE
Vail Water Company	Tucson	11/20/1995	
Town of Marana	Tucson	12/12/1995	
Metropolitan Domestic Water Improvement District	Tucson	12/13/1995	
Apache Junction WUCFD	EPhx	2/15/1996	
City of Tucson	Tucson	12/19/1996	
Town of Oro Valley	Tucson	3/18/1997	
Spanish Trail Water Company	Tucson	12/14/1997	
City of Avondale	WPhx	1/16/1998	
City of Surprise	WPhx	7/21/1998	
Town of Florence	Pinal	1/11/1999	
Sahuarita Water Company	Tucson	7/26/1999	
City of El Mirage	WPhx	8/23/1999	
City of Eloy	Pinal	2/3/2000	
Johnson Utilities, LLC	EPhx	5/18/2000	8/27/2007
Johnson Utilities, LLC	Pinal	5/18/2000	8/27/2007
City of Goodyear	WPhx	10/4/2001	10/21/2010
City of Scottsdale	EPhx	11/21/2001	
City of Casa Grande (Copper Mountain Ranch CFD)	Pinal	6/20/2002	
Chaparral City Water Company	EPhx	4/7/2004	
Metropolitan Domestic Water Improvement District – West	Tucson	12/19/2005	
Flowing Wells Irrigation District	NTucson	5/27/2006	2/12/2009
Willow Springs Utilities, LLC	Tucson	10/22/2006	
Town of Gilbert	EPhx	4/17/2007	

## 2.2 HISTORIC REPLENISHMENT OBLIGATION

### 2.2.1 Groundwater Replenishment Obligation

CAGRDR's annual groundwater replenishment obligation for each AMA is defined in statute as the cumulative Member Land Parcel Replenishment Obligation plus the cumulative Member Service Area Replenishment Obligation in that AMA for the particular calendar year (A.R.S. § 48-3701.9).

#### 2.2.1.1 MEMBER LAND PARCEL REPLENISHMENT OBLIGATION

ML Parcel Replenishment Obligation reflects the volume of Excess Groundwater delivered by municipal water providers serving CAGRDR ML subdivisions. For each ML subdivision that it serves, the municipal water provider is required by statute to file an annual report with CAGRDR indicating the volume of groundwater and the volume of Excess Groundwater delivered to each parcel in the subdivision (A.R.S. § 48-3775.A). These reports must be submitted to CAGRDR by March 31st of each year, and the volumes reported represent deliveries from the previous year (the "Report Year"). Thus, CAGRDR incurs Parcel Replenishment Obligation in the calendar year following that in which the Excess Groundwater is actually delivered to ML subdivision parcels. A.R.S. § 48-3771.A requires CAGRDR to "complete" the replenishment of its Parcel Replenishment Obligation within three calendar years after it is incurred. By statute, CAGRDR Parcel Replenishment Obligation is fulfilled or "complete" when CAGRDR's conservation district account has been credited to reflect either the storage of replenishment water or the transfer of LTSCs in sufficient volume to meet the parcel replenishment obligation.

#### 2.2.1.2 MEMBER SERVICE AREA REPLENISHMENT OBLIGATION

This obligation reflects the volume of Excess Groundwater deliveries that MSA providers make within their service areas. MSA's are required by statute to file an annual report with CAGRDR<sup>5</sup> indicating the volume of groundwater and the volume of Excess Groundwater delivered within their service area (A.R.S. § 48-3775.B). These reports must be submitted to CAGRDR by March 31st of each year, and the volumes reported represent deliveries from the previous year (the "Report Year"). Thus, CAGRDR incurs Member Service Area Replenishment Obligation in the calendar year following that in which the Excess Groundwater is actually delivered. CAGRDR must complete its Member Service Area Replenishment Obligation within three calendar years after it is incurred.

##### 2.2.1.2.1 CONTRACT REPLENISHMENT OBLIGATION

This obligation represents the amount of groundwater that CAGRDR replenishes in a year on behalf of an MSA in advance of that member's use of Excess Groundwater; this advance replenishment is made pursuant to a specific contract with the municipal provider. CAGRDR may perform contract replenishment on behalf of any MSA. Metropolitan Domestic Water Improvement District (MDWID) entered into a contract to replenish for 586 AF in 2005. This contract replenishment obligation was satisfied through a transfer of credits from MDWID's long-term storage account to CAGRDR's Conservation District Account.

##### 2.2.1.2.2 WATER AVAILABILITY STATUS CONTRACT REPLENISHMENT

As set forth in *Section 2.1.1.3*, the City of Scottsdale is the only entity with whom CAWCD has entered into a water availability status contract. From October 2001 through March 2013, CAWCD was obligated to deliver up

<sup>5</sup> By statute, the municipal provider must also submit a copy of each annual report to ADWR.

to 3,460 AF of replenishment water per year to Scottsdale's turnout. On March 7, 2013, CAWCD and Scottsdale agreed to amend Scottsdale's Water Availability Status Contract to reduce this annual volume from 3,460 AF/yr to 2,910 AF/yr. Annual volumes of water delivered to Scottsdale are shown in **Table B-1** in **Appendix B**.

## 2.3 SATISFACTION OF HISTORIC OBLIGATION

### 2.3.1 Methods of Satisfying Obligation

CAGR D has satisfied its replenishment obligation through underground storage (constructed underground storage facilities and groundwater savings facilities), purchase and extinguishment of LTSCs, direct deliveries, and long-term storage credit transfers. CAGR D's Replenishment Rate Setting Policy<sup>6</sup> states that CAGR D replenishment "will be accomplished at reasonably priced facilities in consideration of water resource management goals". This means that CAGR D will, to the best of its ability, replenish as close to member pumping as possible, provided that such replenishment is hydrologically and financially sound. The following describes each method of replenishment used to date by CAGR D.

#### 2.3.1.1 CONSTRUCTED UNDERGROUND STORAGE FACILITIES

CAGR D has satisfied a portion of its replenishment obligation using constructed Underground Storage Facilities ("USFs"). Recharge was accomplished using spreading basin recharge facilities constructed and operated by CAWCD. The locations of these facilities are shown on **Figure D-1** in **Appendix D**.

#### 2.3.1.2 GROUNDWATER SAVINGS FACILITIES

CAGR D has satisfied a portion of its replenishment obligation using Groundwater Savings Facilities ("GSFs"). The groundwater savings program is authorized by state law and allows an entity to deliver renewable water supplies to an irrigation district rather than to a USF. The irrigation district uses the renewable water supplies in lieu of groundwater the district otherwise would pump and the entity that delivered the renewable water supply receives LTSCs for the amount of groundwater saved. The locations of these facilities are shown on **Figure D-1** in **Appendix D**.

#### 2.3.1.3 PURCHASE AND EXTINGUISHMENT OF LONG-TERM STORAGE CREDITS

CAGR D has satisfied a portion of its replenishment obligation through the purchase of LTSCs. A.R.S. § 48-3713.B.11 allows CAWCD to assign LTSCs to CAGR D, provided that CAGR D pays "fair value" for the LTSCs.

CAGR D has purchased LTSCs and has allowed several MSAs to transfer LTSCs to CAGR D to fulfill those MSAs' replenishment obligations. This mechanism for satisfying groundwater replenishment obligation was authorized by the CAWCD Board in its CAGR D Assessment Rate Setting Policy. This policy states:

*To the extent allowed by state law, a member with a CAP subcontract entitlement may schedule all or a portion of its entitlement for delivery to a recharge/replenishment facility acceptable to CAGR D and transfer the resulting storage credits to CAGR D for use in meeting the groundwater replenishment obligation incurred as a result of that member's excess groundwater pumping. The corresponding cost savings realized by CAGR D will be reflected in that member's replenishment assessment/tax.*

<sup>6</sup> CAGR D Replenishment Rate Setting Policy originally adopted by the Board of Directors on April 5, 2001, and subsequently revised and adopted on June 17, 2004, and May 6, 2010. The portion of the policy relating to location of replenishment has remained constant since the original policy was adopted.

In other words, an MSA can reduce its replenishment assessment/tax by transferring LTSCs to CAGR. CAGR, in turn, uses these credits to offset the transferring entity's groundwater replenishment obligation.

## 2.4 EXCESS GROUNDWATER DELIVERIES AND COMPLETION OF REPLENISHMENT OBLIGATION

**Tables 2.3** (West Phoenix), **2.4** (East Phoenix), **2.5** (Pinal), and **2.6** (Tucson) list the volumes of Excess Groundwater delivered/withdrawn from 2004 through 2013 and identify the extent to which the replenishment obligation resulting from those deliveries has been completed from 2006 through 2013.

The following explanation is offered to assist in interpreting **Tables 2.3, 2.4, 2.5** and **2.6**.

Please refer to **Table 2.3**, showing a comparison of the Excess Groundwater deliveries to completion of replenishment obligation for the West Phoenix AMA.

The top row shows the year in which deliveries or withdrawals of Excess Groundwater occurred. For example, the 2005 column illustrates that a total of 14,453 AF of Excess Groundwater was delivered to MLs and withdrawn by MSAs in 2005. Fulfillment of this obligation occurred over a two-year period: 11,725 AF in 2007 and 2,728 AF in 2008. The two rows toward the bottom of the table showing the volume "completed to date" and "unmet to date" reflect ongoing replenishment activities to fulfill or complete the obligation associated with Excess Groundwater deliveries. For example, the 2012 column illustrates a total of 14,620 AF of Excess Groundwater delivered or withdrawn in 2012; in 2013, 3,679 AF had been replenished leaving 10,941 AF of remaining obligation.

**Figures 2.5, 2.6, and 2.7** graphically portray the deliveries of Excess Groundwater and the method of replenishment that has been employed to complete replenishment obligations in the Phoenix, Pinal, and Tucson AMAs, respectively. It is important to note that the information portrayed in these figures is similar to but not exactly the same as provided in **Tables 2.3, 2.4, 2.5, and 2.6**. These figures portray the actual activities of CAGR for this time period and not the satisfaction of the replenishment obligation.

TABLE 2.3

## EXCESS GROUNDWATER DELIVERIES AND COMPLETION OF REPLENISHMENT OBLIGATION

For West Phoenix AMA

WEST PHOENIX AMA	EXCESS GROUNDWATER OBLIGATION by Report Year <sup>1</sup> (AF)										TOTAL SATISFIED BY YEAR
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	
	11,286	14,453	17,338	20,130	20,320	13,259	14,997	14,450	14,620	14,062	
YEAR OBLIGATION COMPLETED	2004										0
	2005										0
	2006	11,286									11,286
	2007		11,725								11,725
	2008		2,728	17,338							20,066
	2009				20,130	5,112					25,242
	2010					15,208	55				15,263
	2011						13,204	2,359			15,564
	2012							12,569			12,569
	2013							69	14,450	3,679	18,198
AMOUNT COMPLETED TO DATE	11,286	14,453	17,338	20,130	20,320	13,259	14,997	14,450	3,679	0	
AMOUNT UNMET TO DATE	0	0	0	0	0	0	0	0	10,941	14,062	

TOTAL OBLIGATION	<b>154,916</b>	TOTAL COMPLETED	<b>129,913</b>	TOTAL UNMET	<b>25,003</b>
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**TABLE NOTES:**

<sup>1</sup> Report Year refers to year in which Excess Groundwater was delivered to each ML or withdrawn from each MSA; volumes reported in hundredths have been rounded to whole numbers for this Plan, resulting in minor discrepancies of 1 AF in some cumulative totals.

TABLE 2.4

## EXCESS GROUNDWATER DELIVERIES AND COMPLETION OF REPLENISHMENT OBLIGATION

For East Phoenix AMA

EAST PHOENIX AMA	EXCESS GROUNDWATER OBLIGATION by Report Year <sup>1</sup> (AF)										TOTAL SATISFIED BY YEAR	
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013		
	6,582	8,562	11,123	13,358	12,872	12,627	13,260	15,957	15,429	16,909		
YEAR OBLIGATION COMPLETED	2004											0
	2005	545										545
	2006	5,629										5,629
	2007	408	7,969									8,377
	2008		592	8,888	426							9,906
	2009			2,235	12,932							15,167
	2010					12,872	191					13,063
	2011						12,436	75				12,511
	2012							12,644				12,644
	2013							541	15,957	3,254		19,751
AMOUNT COMPLETED TO DATE	6,582	8,562	11,123	13,358	12,872	12,627	13,260	15,957	3,254	0		
AMOUNT UNMET TO DATE	0	0	0	0	0	0	0	0	12,175	16,909		

TOTAL OBLIGATION **126,678**TOTAL COMPLETED **97,594**TOTAL UNMET **29,084**

## TABLE NOTES:

<sup>1</sup> Report Year refers to year in which Excess Groundwater was delivered to each ML or withdrawn from each MSA; volumes reported in hundredths have been rounded to whole numbers for this Plan, resulting in minor discrepancies of 1 AF in some cumulative totals.

TABLE 2.5

# EXCESS GROUNDWATER DELIVERIES AND COMPLETION OF REPLENISHMENT OBLIGATION

For Pinal AMA

PINAL AMA		EXCESS GROUNDWATER OBLIGATION by Report Year <sup>1</sup> (AF)									TOTAL SATISFIED BY YEAR	
		2004	2005	2006	2007	2008	2009	2010	2011	2012		2013
		100	79	134	380	141	282	213	246	318		704
YEAR OBLIGATION COMPLETED	2004											0
	2005											0
	2006	97										97
	2007	3	76									79
	2008		3	133								136
	2009			1	364							365
	2010				16	119						135
	2011					22	282	1				305
	2012							212	22			234
	2013								224	1		225
AMOUNT COMPLETED TO DATE		100	79	134	380	141	282	213	246	1	0	
AMOUNT UNMET TO DATE		0	0	0	0	0	0	0	0	317	704	

TOTAL OBLIGATION	<b>2,597</b>	TOTAL COMPLETED	<b>1,576</b>	TOTAL UNMET	<b>1,021</b>
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**TABLE NOTES:**

<sup>1</sup> Report Year refers to year in which Excess Groundwater was delivered to each ML or withdrawn from each MSA; volumes reported in hundredths have been rounded to whole numbers for this Plan, resulting in minor discrepancies of 1 AF in some cumulative totals.

TABLE 2.6

## EXCESS GROUNDWATER DELIVERIES AND COMPLETION OF REPLENISHMENT OBLIGATION

For Tucson AMA

TUCSON AMA	EXCESS GROUNDWATER OBLIGATION by Report Year <sup>1</sup> (AF)										TOTAL SATISFIED BY YEAR	
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013		
	8,077	8,743	10,496	6,561	4,402	5,411 <sup>2</sup>	3,523	3,515	3,021	2,933		
YEAR OBLIGATION COMPLETED	2004	324										324
	2005	5,205										5,205
	2006	2,362	6,115									8,477
	2007	186	2,628	9,265								12,079
	2008			1,231	4,128							5,359
	2009				2,432	604						3,037
	2010					3,798	2,897					6,694
	2011						2,471	905				3,376
	2012						43	1,738	936			2,718
	2013							880	2,578	734	0	4,192
AMOUNT COMPLETED TO DATE	8,077	8,743	10,496	6,561	4,402	5,411	3,523	3,515	734	0		
AMOUNT UNMET TO DATE	0	0	0	0	0	0	0	0	2,286	2,933		

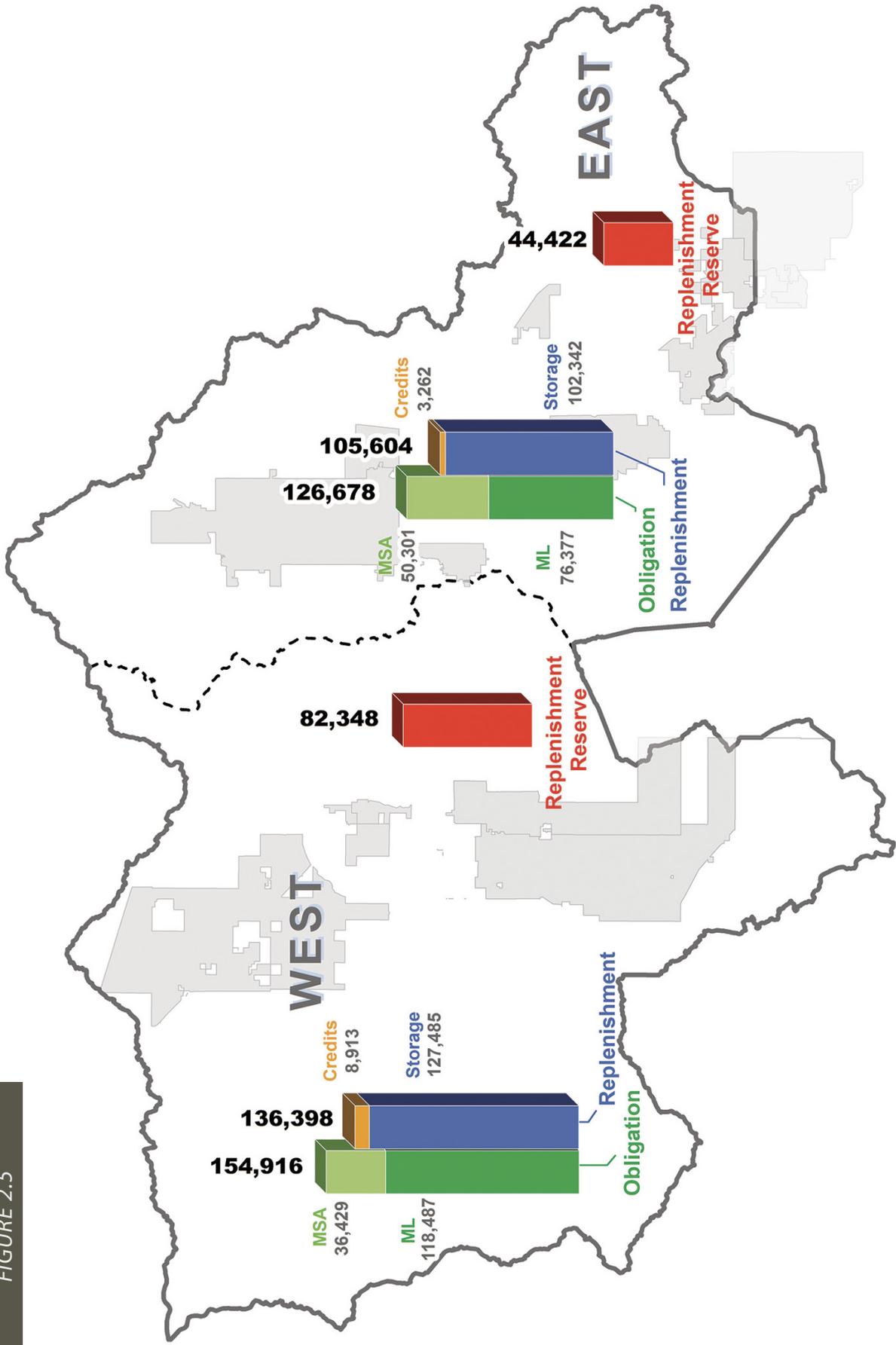
TOTAL OBLIGATION **56,681**TOTAL COMPLETED **51,462**TOTAL UNMET **5,219**

## TABLE NOTES:

<sup>1</sup> Report Year refers to year in which Excess Groundwater was delivered to each ML or withdrawn from each MSA; volumes reported in hundredths have been rounded to whole numbers for this Plan, resulting in minor discrepancies of 1 AF in some cumulative totals.

<sup>2</sup> The 2009 obligation of 5,411 AF includes 77 AF that was unreported for 2003. The actual 2009 obligation is 5,334 AF. In 2004, after the 2003 Annual Report was filed, the Town of Marana amended its 2003 Annual Report, resulting in a 77 AF increase in CAGR 2003 obligation. The correct total obligation for 2003 is 7,403 AF.

FIGURE 2.5



Date: AUGUST 2014  
 Location: X:\GRD\MapPlan\_of\_Operations  
 Projection: NAD 83, NADN, AZ State Plane, Contiguous US  
 SYSTEM UNITS: METERS  
 UNIT CONVERSION: 1 METER = 3.28084 FEET  
 SCALE: 1:50,000  
 THIS MAP IS FOR INFORMATIONAL PURPOSES ONLY. IT IS NOT TO BE USED FOR ANY OTHER PURPOSES. THE USER ASSUMES ALL RESPONSIBILITY FOR THE ACCURACY OF THE INFORMATION AND THE RESULTS OF ANY ANALYSIS OR ACTION BASED ON THIS INFORMATION. THE USER ASSUMES ALL LIABILITY FOR ANY DAMAGE OR INJURY TO PERSONS OR PROPERTY, INCLUDING THE USER'S OWN, ARISING FROM THE USE OF THIS INFORMATION. THE USER ASSUMES ALL LIABILITY FOR ANY DAMAGE OR INJURY TO PERSONS OR PROPERTY, INCLUDING THE USER'S OWN, ARISING FROM THE USE OF THIS INFORMATION.

SCALE

0 10  
MILES

NORTH

CAGRD Member Lands

Member Service Area

**PHOENIX AMA**  
 Obligation and Replenishment  
 Activity 2004 through 2013

FIGURE 2.6

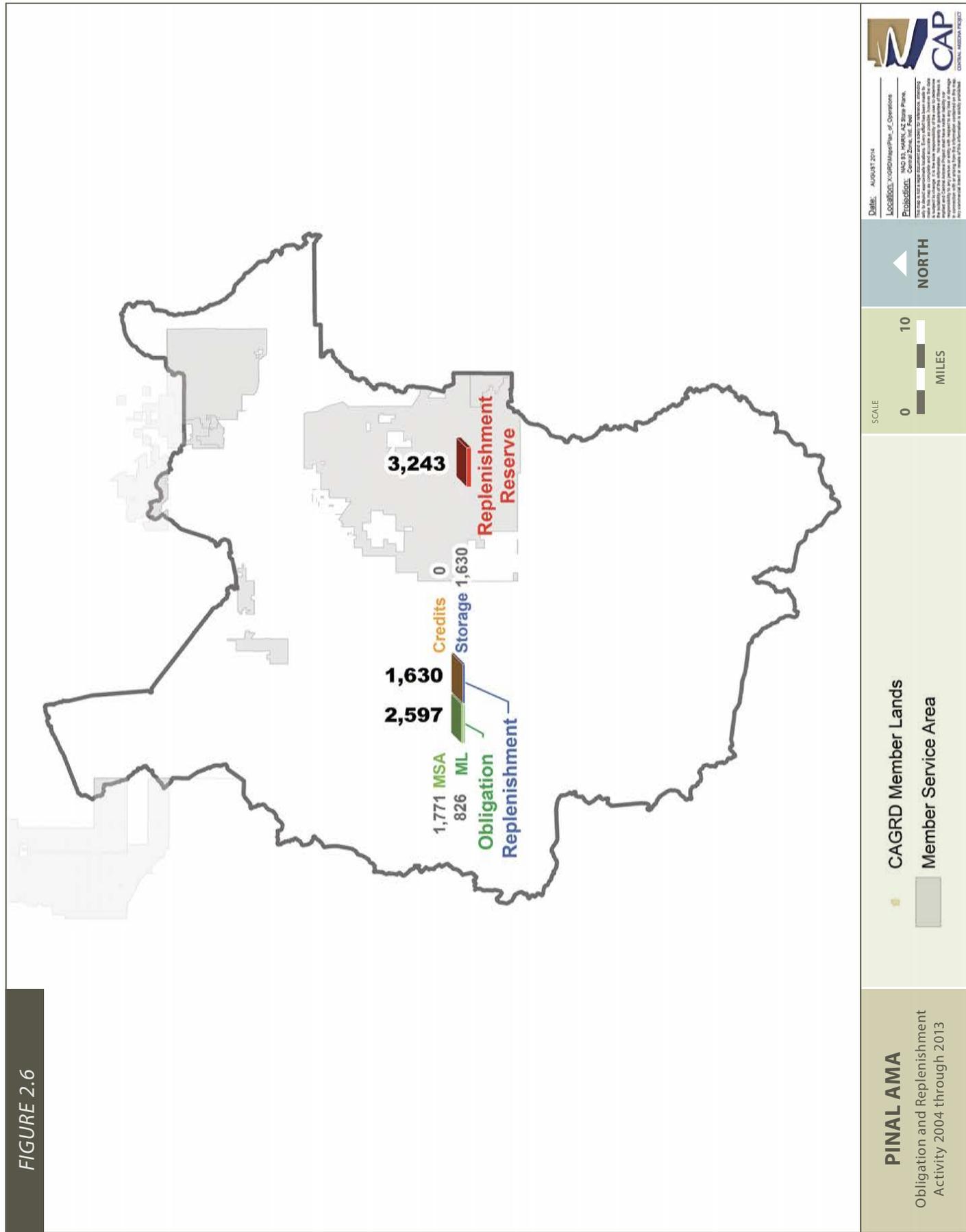
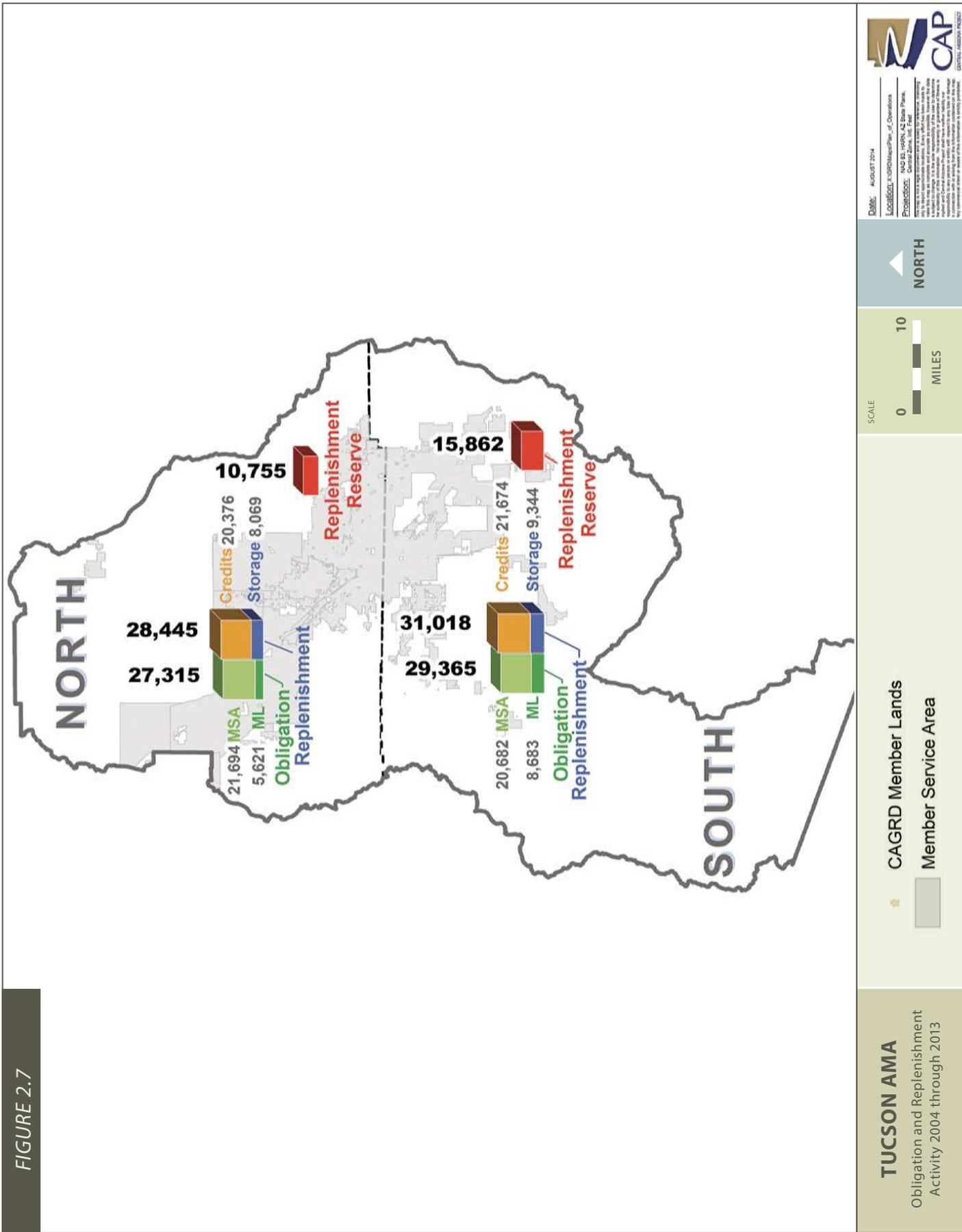


FIGURE 2.7



**Table 2.7** shows that CAGR D has completed a total of 336,065 AF of its groundwater replenishment obligation through the end of 2013 and has 60,326 AF of replenishment obligation that has not yet been completed. The majority of this unsatisfied obligation is the result of CAGR D members' use of Excess Groundwater in 2012 and 2013.

TABLE 2.7

## TOTAL OBLIGATION & REPLENISHMENT

1995 – 2013

AMA	TOTAL OF OBLIGATION INCURRED (AF)	TOTAL REPLENISHMENT COMPLETED (AF)
Phoenix (West)	175,243	146,504
Phoenix (East)	139,523	114,176
Pinal	2,805	1,785
Tucson	78,820	73,600
<b>TOTAL ALL AMAS</b>	<b>396,391</b>	<b>336,065</b>

## 3.0 OBLIGATION AND ENROLLMENT

The statutory requirements related to projected groundwater replenishment obligation for the CAGR D Plan of Operation are identified below.

### **A.R.S. § 45-576.02.C.2**

...the plan shall include the following information for each active management area in which a member land or member service area is located:

### **A.R.S. § 45-576.02.C.2(b)**

An estimate of the conservation district's current and projected groundwater replenishment obligations... for current members for the twenty calendar years following submission of the plan and an estimate of the district's projected groundwater replenishment obligations for the one hundred calendar years following submission of the plan for current members and potential members based on reasonable projections of real property and service areas that could qualify for membership in the ten years following submission of the plan.

For purposes of this Plan, the period of estimation for obligation for current members is 2015 through 2034. Projected obligation for current and potential members is estimated for the period 2015 through 2114, with the estimates based on projected membership enrollment through 2024.

In reviewing CAGR D's Plan of Operation, ADWR must be satisfied that the projected replenishment obligation and enrollment are reasonable. The following sections include descriptions of the projection methodologies used and summary results.

## 3.1 METHODOLOGY

Projections of CAGR D enrollment, demand, and obligation require consideration of supply and demand for the entire CAP service area, coupled with detailed subdivision-level analysis and the application of specific statutes, rules and policies. Considering only the existing membership, CAGR D projections must account for nearly 1,100 ML subdivisions with over 263,000 associated lots, along with 24 MSAs<sup>1</sup>, each of which has a unique supply portfolio and a wide range of historic CAGR D reliance. Projections also consider new CAGR D enrollment and potential changes in current membership status.

Additional complexity is added because of the unprecedented volatility in the housing market since development of the 2005 Plan. This volatility has compounded the uncertainty of population and housing forecasts and has resulted in a large backlog of ML lots that are enrolled but not yet constructed. In the Pinal AMA alone, nearly 90 percent of enrolled lots are currently unconstructed (56,693 lots out of 63,353 enrolled). Changes in water use patterns continue to occur as well, including declines in per capita use and the utilization of a wider variety of supplies, notably increased leasing of CAP water and LTSC accrual activity.

<sup>1</sup> Includes new MSA agreement with Metro Diablo, January 2014 (see footnote on pg. 2-3).

To tackle these challenges and produce credible projections of enrollment and obligation, CAGR D relies primarily on a supply and demand model developed by CAP staff. The CAP service area model — “CAP:SAM” — can be used to simulate a wide range of future conditions and to generate a comprehensive set of results, including estimates of CAGR D enrollment and obligation. The model was developed using GoldSim software, which is a graphical, object-based modeling environment that allows complex mathematical relationships to be defined and calculations to be performed that would be difficult or impractical to implement using spreadsheets or traditional computer code.

CAP:SAM performs a large number of interrelated supply and demand calculations, broadly organized into three conceptually simple steps: 1) project demands, 2) determine available supplies, and 3) fulfill demands on the basis of the legal and physical availability of supplies. Additional descriptions of these steps, along with analysis and results that are pertinent to this Plan, are provided in the following sections.

## 3.2 DEMAND

To simulate municipal water demand, CAP:SAM produces individual demand projections for 80 public and private water providers in the CAP service area. These providers account for more than 99% of the demand in the municipal sector. To help differentiate the effects of observed long-term declines in water use from future growth-related trends, the model separately considers existing and new municipal demand.

### 3.2.1 Existing Demand

Existing municipal demand represents baseline water use prior to the consideration of future growth. Water providers have experienced an average annual decline in per capita demand of about 2.0% per year over the previous ten years as a result of changes in water rates, changes in average household size, landscape changes, and fixture replacements, among other factors. To simulate this effect, the model begins with the initial (2012) baseline demand specific to each water provider as reported to ADWR on 2012 annual reports. A conservative -0.5% reduction in existing demand per year is then applied, representing approximately 1/4 of the annual decline experienced historically (ADWR Assessment Template, October 25, 2010). Additionally, a floor of 200 gallons per housing unit per day (“GPHUD”) and/or an overall 15% reduction in GPHUD was used to restrict demand from reaching unrealistic lows. Using these assumptions, the projection of demand by existing units is shown in **Figure 3.6**.

### 3.2.2 New Demand

New municipal demand is defined as water use attributed to forecasted development in the CAP Service Area. CAP:SAM models new demand as a function of projected housing units, which provide a stronger relationship with water demand than does population growth. Housing unit projections used for this Plan originate from Maricopa Association of Governments (MAG), Central Arizona Governments (CAG), and Pima Association of Governments (PAG).

The geographic projections provided by the Associations are based on growth modeling that incorporates a large number of factors, including demographic data from the U.S. Census, construction data, planned

developments, land uses, employment patterns, and transportation infrastructure. The population and housing data used for the Plan also match the county-level totals that the Arizona Department of Administration uses as the state’s official forecast. This approach results in a consistent set of housing unit data for all three counties in the CAP service area.

### **3.2.3 Spatial Housing Unit Distribution**

The model’s ability to run spatial growth projections is critical to the Plan. The projected location of future development determines which water provider will serve that development, along with the water use characteristics and water supply portfolio of that provider. Shown in **Figure 3.1**, the growth projections were supplied at a level of geographic detail — Transportation Analysis Zone (“TAZ”) — that was sufficient to generate provider-specific projections by overlaying a GIS layer of each water provider’s projected service area. These areas were defined by CAP staff on the basis of a provider’s current service territory, as well as Municipal Planning Areas, Certificates of Convenience and Necessity, and incorporated boundaries. **Figure 3.2** provides a map of the projected water provider service areas for reference.

As a result of recent volatility in the housing market, observed growth rates in the CAP Service Area from the 2010 Census through 2014 have trailed forecasts generated by the Associations of Governments. To account for this recent lag, annual growth assumptions in CAP:SAM are set to relatively quickly catch up with long-term projections, resulting in aggressive housing recovery activity in the near-term.

### **3.2.4 Member Land Housing Unit Distribution by Plan Period**

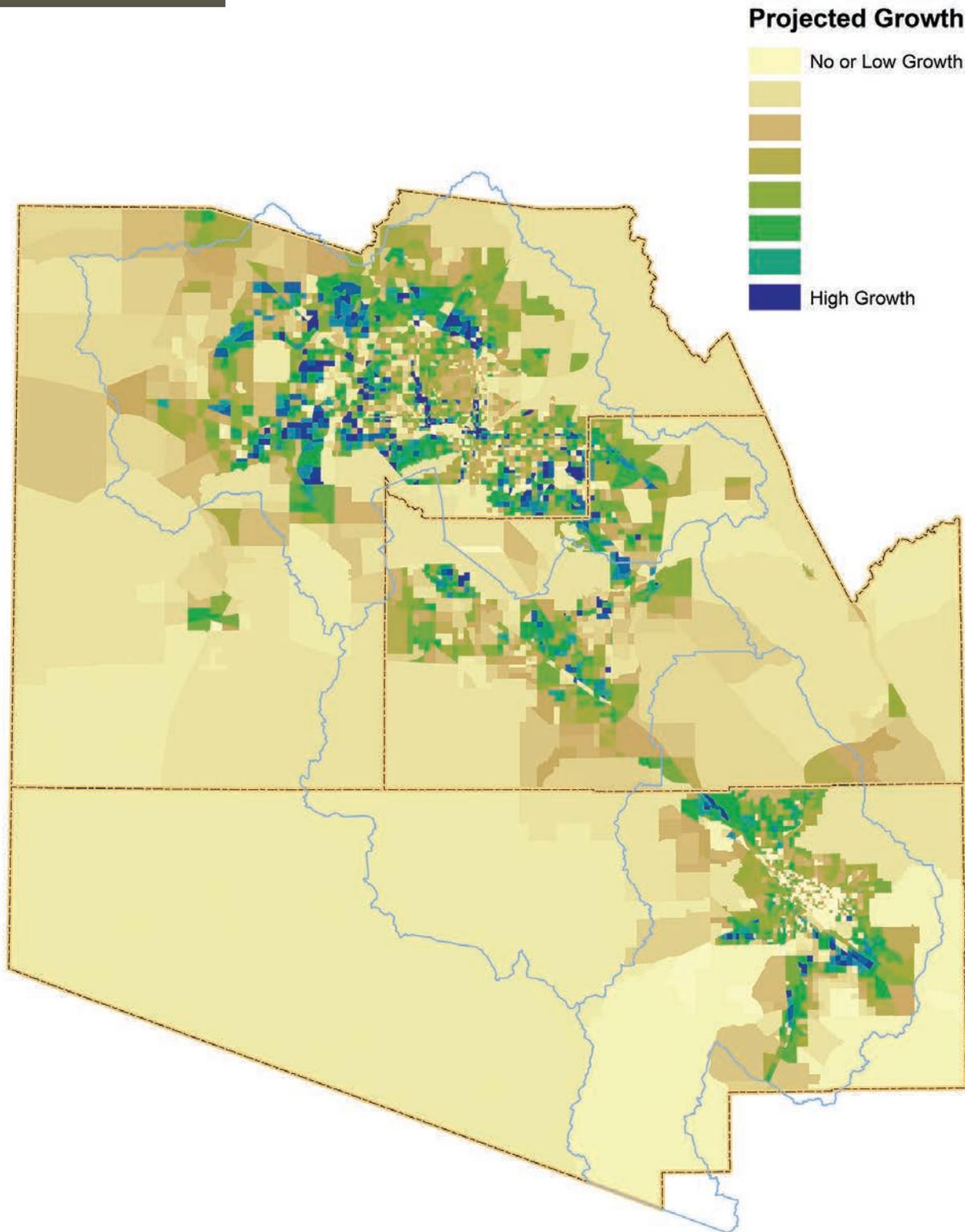
The projected timing of future development heavily influences subsequent demand and obligation to CAGR due to the relationship of new development to CAGR and the applicable AWS rules. While new development in existing MSAs is incorporated in the service area demand of each water provider in a straightforward manner, the timing and location of development that will be served by ML water providers is more complex. Due to the large backlog of enrolled but unconstructed lots, and since there continues to be new CAGR enrollment, the model needed to account for how many of the projected housing units will be associated with new MLs versus currently enrolled MLs that have unconstructed lots.

Therefore, modeling of MLs begins with the housing unit projection described above and the current balance of unconstructed lots, by water provider and Plan period (Initial Plan and 2005 Plan). Then, for each undesignated provider, the model dynamically allocates annual housing units among five possible categories:

- exempt lots (e.g., pre-1995 subdivisions, non-subdivisions);
- unconstructed lots enrolled in Initial Plan;
- unconstructed lots enrolled in 2005 Plan;
- lots that will be enrolled in 2015 Plan;
- Post-2015 Plan lots.

The allocation among these five categories is based on distribution ratios that change through time. The model first allocates housing units to the “exempt lots” category. For this Plan, the allocation ratio to this category was set at 10%, based on an analysis of county assessor data and the occurrence of residential construction in older subdivisions. The remaining housing units are distributed among the other categories

FIGURE 3.1



**CAP SERVICE AREA**  
Housing Unit Growth by TAZ  
2010 – 2040

 AMA Boundary  
 County Boundary

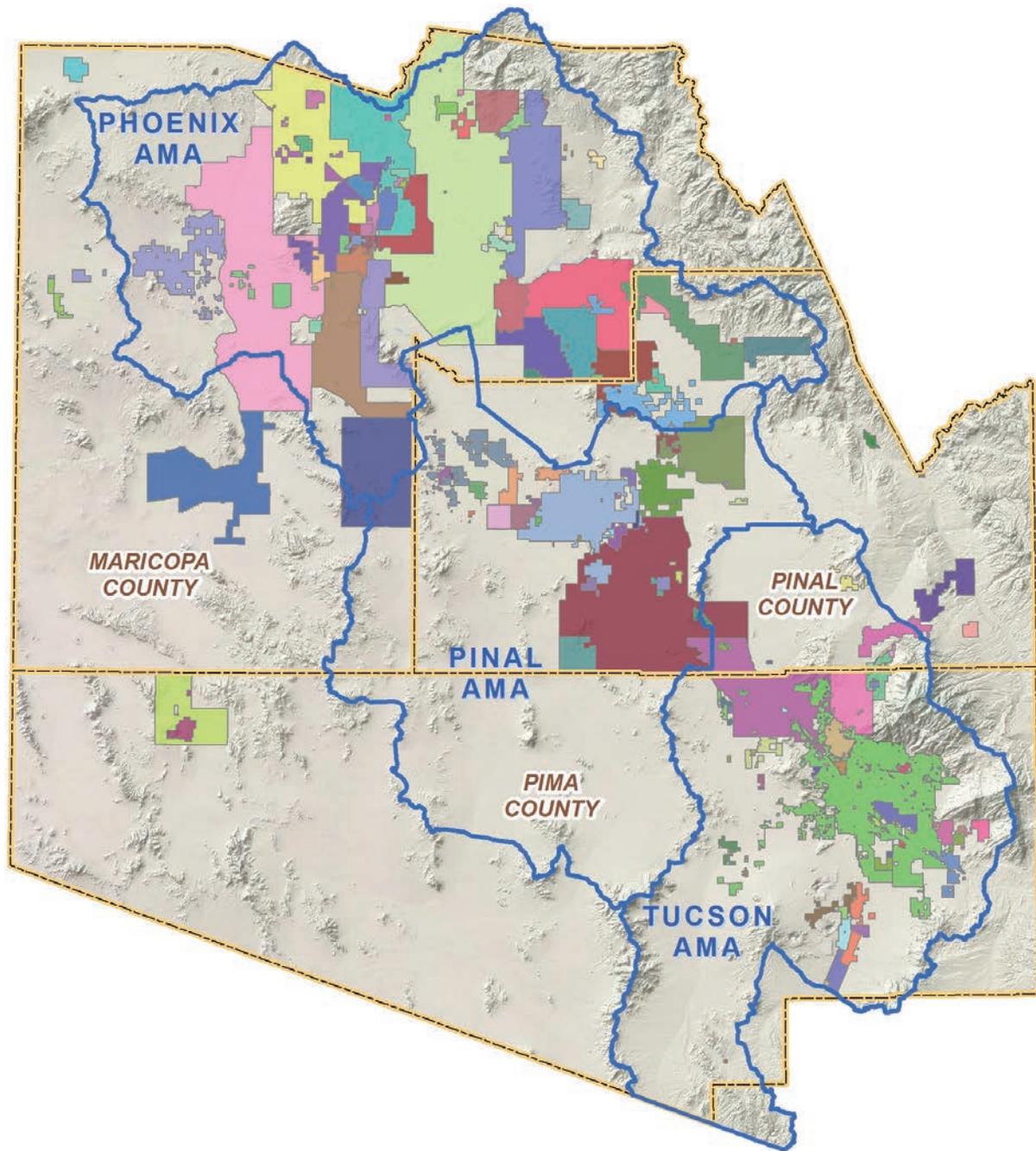
SCALE

0 5 10  
MILES

 NORTH

Date: AUGUST 2014  
Location: A-100-1000 Plan of Operations  
Projection: NAD 83 NAD83 AD Base Plane  
Central Zone, US State Plane  
Source: 2000 CAG, 2010  
CAP  
CENTRAL ARIZONA PLANNING

FIGURE 3.2



**CAP:SAM WATER PROVIDER SERVICE AREA COVERAGE**

 AMA Boundary  
 County Boundary

 Projected Water Provider Service Areas

SCALE  
 0 5 10  
 MILES

 NORTH

**Date:** AUGUST 2014  
**Location:** CAP:SAM Water Provider Service Areas  
**Projection:** NAD 83, NAD 83 Zone 11N  
**Source:** ADWR, AZ Dept. of Transportation, CAP:SAM Water Provider Service Areas  


based on assigned ratios. Those ratios were based on a general assumption that construction is somewhat more likely in recently platted subdivisions compared to subdivisions platted much earlier. In other words, a subdivision that was platted two years ago is more likely to construct than one that has been platted but unconstructed for 15 years<sup>2</sup>.

More specifically, the beginning of the projection period assigns 80% of the new housing unit growth to lots associated with the Initial Plan and the 2005 Plan. By 2020, lots associated with those plans represent only 45% of new housing units, while new 2015 Plan enrollment accounts for 45% of new construction served by ML providers. Then, by 2030, only 20% of newly constructed lots are associated with previous plans, 30% are associated with the 2015 Plan, and 40% are associated with the post-2015 Plan.

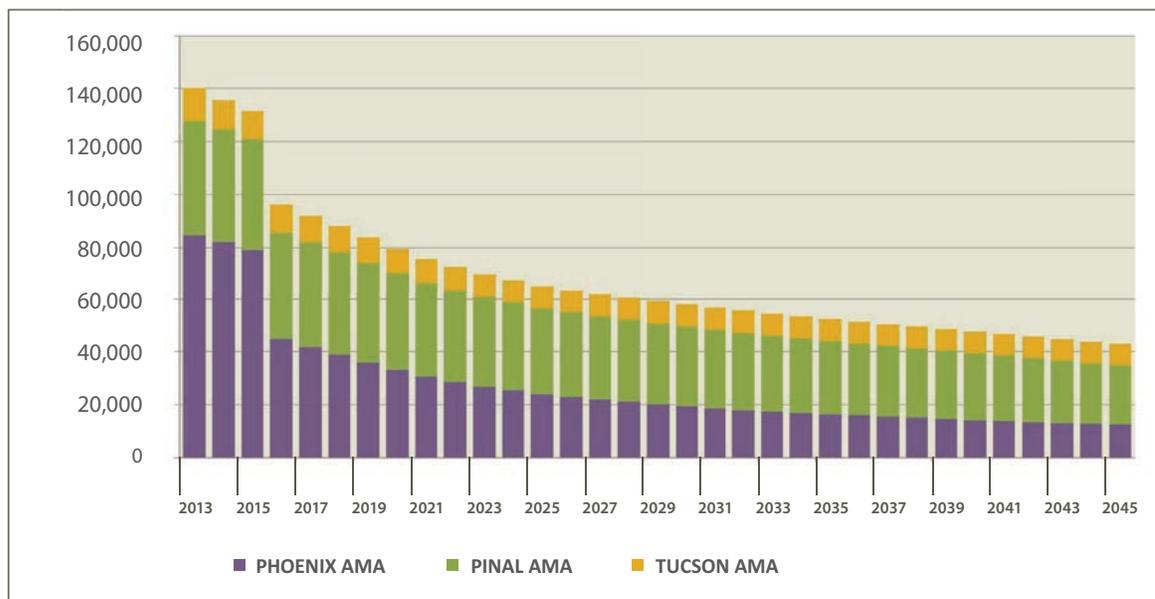
Importantly, however, if an individual water provider does not have any remaining unconstructed lots in one category, the model recalculates the ratios among the remaining categories for that provider. These dynamic allocation ratios add complexity to the model but provide a systematic means of analyzing assumptions about new versus existing enrollment and limit overestimation of obligation.

Under the baseline projection used for this Plan, 62% of the current inventory of enrolled but unconstructed lots is eventually constructed by 2034 (86,700 lots out of 140,200 currently unconstructed). **Figure 3.3** shows this decline in currently enrolled but unbuilt lots through time. The drop in unbuilt lots shown in 2016 is due to the inactivation of Buckeye ML lots (nearly 24,000 lots) after the water provider is converted to an MSA. The remaining 38% of unbuilt enrolled lots are incorporated into the projection of demand for the subsequent 80-year period (2035–2114).

FIGURE 3.3

## ENROLLED/UNBUILT MEMBER LAND LOTS

By AMA



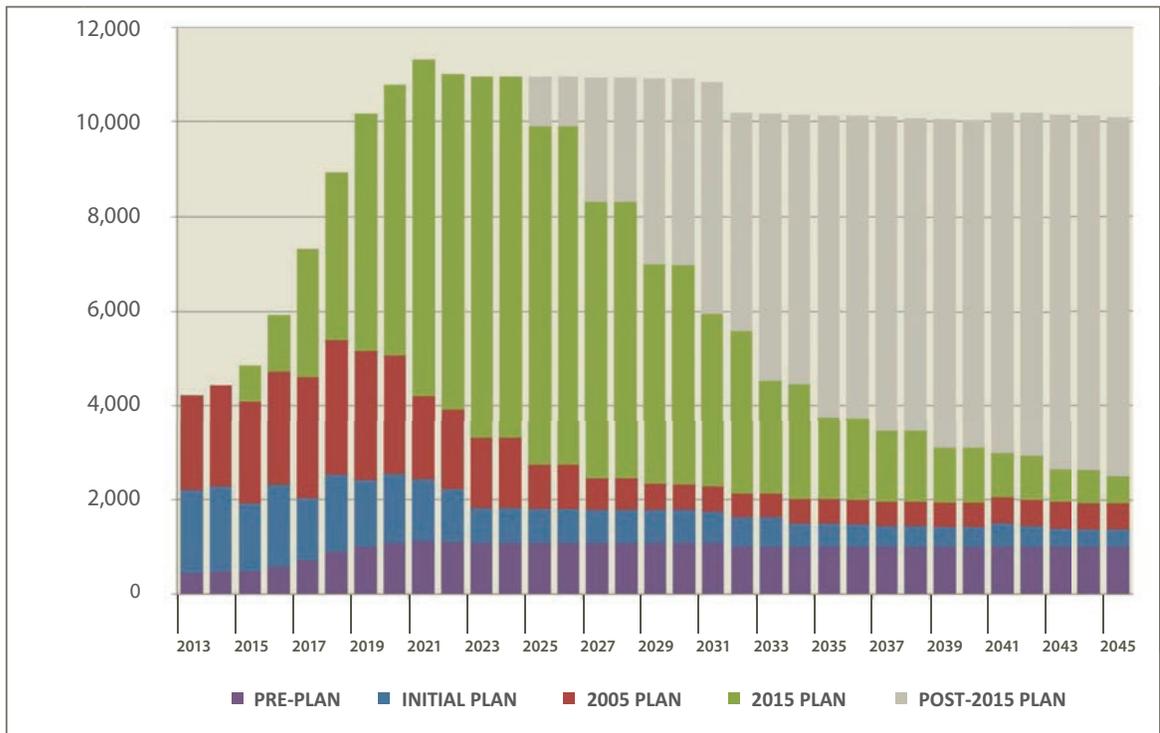
<sup>2</sup> This assumption does not affect the total number of constructed units, but does strike a balance between assuming that growth will occur primarily in already enrolled subdivisions and assuming growth will be associated primarily with new enrollment.

**Figure 3.4** shows projected ML housing unit construction by the Plan period in which it enrolled. Demand associated with post-2015 Plan lots is not included as part of this Plan.

FIGURE 3.4

## PROJECTED MEMBER LAND HOUSING UNIT CONSTRUCTION

By Plan Period



### 3.2.5 Gallons per Housing Unit per Day (GPHUD)

To develop projections of new demand for each water provider, (including MSAs and those who serve MLs), each new housing unit is multiplied by a provider-specific GPHUD factor that includes both the demand from the housing unit itself and a fraction of the ancillary growth-related demands (e.g., new parks, commercial land uses, etc.). There are several methods for estimating this type of demand factor. For this Plan, the factor is calculated by dividing total (2010) provider demand by total housing units in the provider’s service area based on block-level data from the 2010 Census. This method results in a conservative (i.e., high) estimate because newer demands are typically lower than the average of existing demands. A modest demand reduction of -0.1% per year was then applied to this GPHUD based on an assumption that newer uses have a lower conservation potential compared to existing uses.

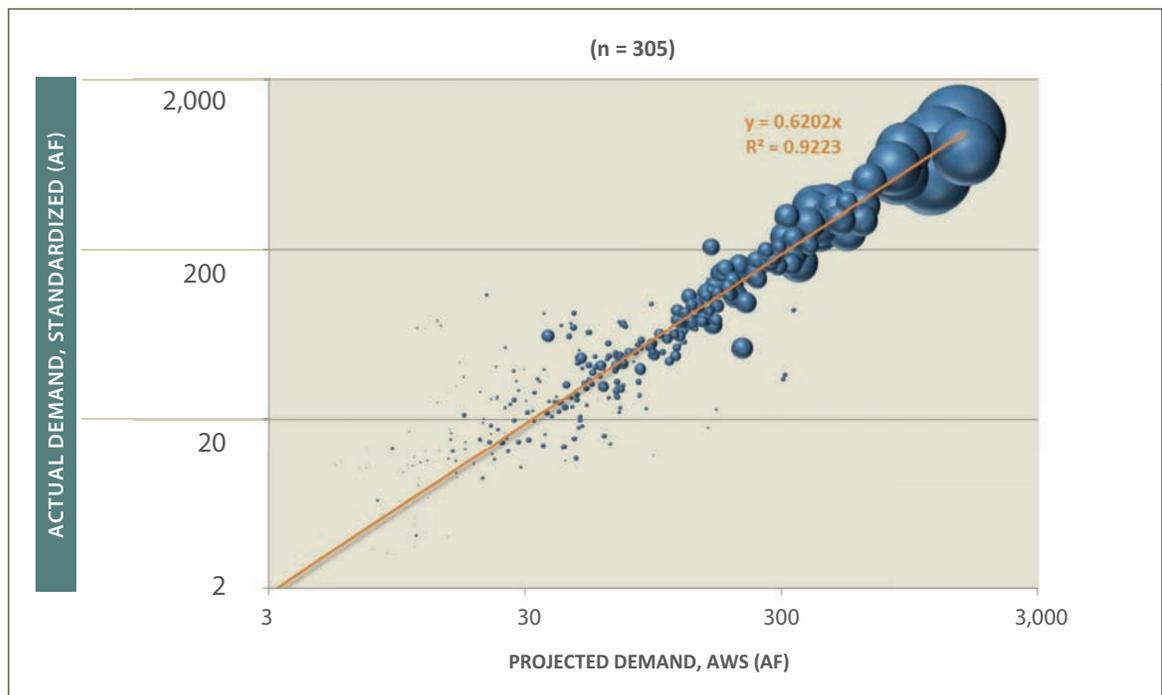
### 3.2.5.1 MEMBER LAND GPHUD

In addition to the aggregate GPHUDs for each water provider, specific GPHUDs were developed for each of the nearly 1,100 ML subdivisions. Certificates of Assured Water Supply (“CAWS”) associated with MLs have historically over-projected water demands. As a result, an adjustment factor was developed based on a regression analysis<sup>3</sup> of 305 of the ML subdivisions that met a “stabilization” test. The test required three criteria be met by the ML in order for its water demand to be considered “stabilized”:

- 1) >90% of the housing units are constructed;
- 2) Three-year parcel water use variance <+/-10%;
- 3) Large-lot adjustments and subdivisions with golf courses excluded.

FIGURE 3.5

## ACTUAL VERSUS PROJECTED MEMBER LAND DEMAND



<sup>3</sup> Regression is a statistical technique for assessing the predictive relationship between variables. In this study linear regression was used to compare the actual water use of stabilized subdivisions to the projected water use from their CAWS. The resulting equation is: Stabilized use = 0.62 \* AWS projection, with an R<sup>2</sup> value of 0.92. The very high R<sup>2</sup> value (a value of 1 indicates that the regression line perfectly fits the data), and the relatively large sample size, provide confidence that the equation can be used to project water use. Note, however, that this result is not an adequate substitute for the plat-level analysis of demand that is performed during the CAWS application process.

This analysis identified a strong association between the stabilized water use and the projected water use identified on the associated CAWS, multiplied by a reliance factor of 0.62 (see **Figure 3.5**). This analysis provided the foundation for estimating the unique projected demand for the ML lots that have not yet been constructed.

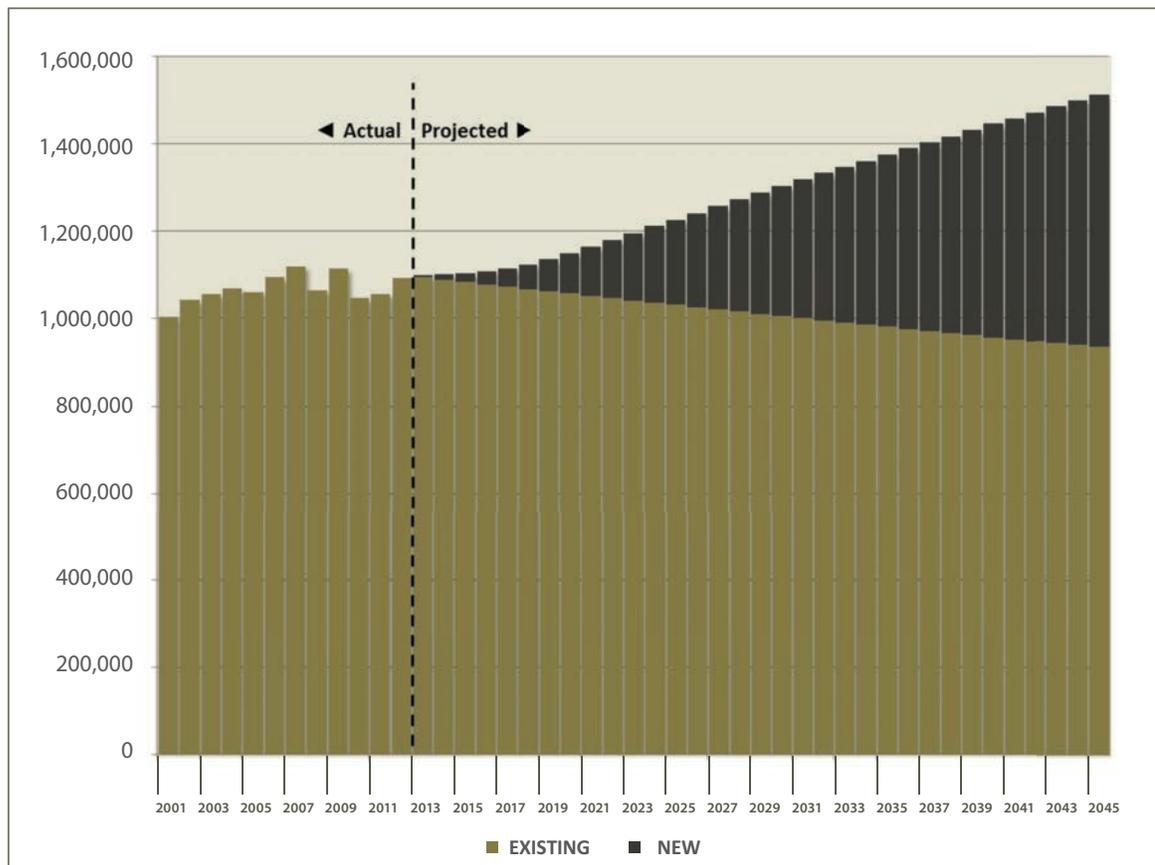
With the ML housing units distributed among providers and Plan periods, it is possible to calculate the associated demands. For each ML provider, the “stabilization” ratio method was used to develop demand projections for each of the unfinished ML subdivisions they serve. Those demands were summed by Plan period and then converted to GPHUDs by dividing by the number of unconstructed lots. Projected housing units that are associated with the Initial Plan and 2005 Plan are then multiplied by those GPHUDs to generate new ML demand. For 2015 Plan housing units, ML demand is estimated by multiplying by 80% of the GPHUD that is associated with new housing units for that water provider. The 20% reduction is intended to adjust for the fact that ML demand only applies to the subdivision itself, not ancillary demands or water that is lost or unaccounted.

**Figure 3.6** shows the final projected demand for both new and existing housing units for all municipal providers (not just those served by CAGR) through 2045.

FIGURE 3.6

## PROJECTED TOTAL MUNICIPAL DEMAND

New and Existing Housing Units (AF)



### 3.3 SUPPLY UTILIZATION

The projected demands shown in **Figure 3.6** will be met with a variety of supplies by each provider. CAP:SAM evaluates 16 different water supply types<sup>4</sup>, including Excess Groundwater<sup>5</sup> reported to CAGR. However, the projection of Excess Groundwater can only be estimated after all other supply types available to water providers have been considered. The modeling steps include: calculation of the overall availability of the supply type; tracking each provider’s legal and physical entitlement to the supplies; and incorporating supply use patterns and preferences by provider.

The data and methods used to establish supply availability and entitlements vary by supply type, as shown in **Table 3.1**.

TABLE 3.1

### SUPPLY ASSUMPTIONS

SUPPLY TYPE	ASSUMPTIONS
<b>EFFLUENT</b>	The 2012 volume reported to ADWR by water providers is assumed to remain available and increases in proportion to housing unit growth.
<b>SURFACE WATER</b>	Based on three-year average delivery volumes as reported to ADWR on Annual Reports (2010–2012) and non-shortage conditions.
<b>CAP</b>	Based on non-shortage conditions on the Colorado River; average supply to CAP of 1.55 million AF.
<b>LONG-TERM STORAGE CREDITS</b>	Initial long-term storage account volumes based on ADWR reported balances through 2012.
<b>GROUNDWATER ALLOWANCE</b>	Based on balances supplied by ADWR; both incidental recharge rates and pledged extinguishment credits were obtained from Designation Orders. Additional allowance data were collected for the Pinal AMA to allow the effects of the 2007 AWS rule modifications to be properly modeled.
<b>EXEMPT GROUNDWATER</b>	Based on remediated groundwater use for designated providers, extended past 2025, and demand from pre-1995 subdivisions, non-subdivisions, and lost and unaccounted water for undesignated providers.

Modeling for this Plan does not include any leasing activity beyond currently known short- and long-term leases of CAP water. This is a conservative assumption that likely overestimates the volume of Excess Groundwater that MSAs will report as their demands grow since many will continue to pursue other supplies on their own to avoid reporting Excess Groundwater to CAGR.

<sup>4</sup> Including Effluent; SRP surface water; Other surface water; CAP P3 Priority; CAP M&I Priority; CAP Indian Priority; CAP NIA Priority; CAP Ag Settlement Pool; CAP Other Excess; Long-term Storage Credits, CAP; Long-Term Storage Credits, Effluent; Groundwater, Allowance; Groundwater, Excess; Groundwater, Exempt; Groundwater, In-Lieu; and Unknown.

<sup>5</sup> CAGR is obligated to replenish Excess Groundwater per A.R.S. § 48-3701.7.

### 3.3.1 Demand Fulfillment

In CAP:SAM, demand and supply are reconciled by iterating through each supply type, incrementally fulfilling each providers’ demand (limited by their entitlements), until the entire demand is satisfied<sup>6</sup>. The primary fulfillment sequence is: effluent (non-potable); exempt groundwater; surface water; CAP; long-term storage credits; groundwater allowances; and Excess Groundwater. In general, the modeling for the Plan assumes that supply usage patterns and preference by water providers mirror past practices, unless there is specific knowledge of a change (e.g., a pending DAWS application, anticipated lease, etc.). The combination of supply preference and iteration allows the model to generate results that dynamically incorporate changes through time, such as the availability of CAP Non-Indian Agricultural (“NIA”) Priority water or the exhaustion of groundwater allowance accounts. This approach allows the development of a range of scenarios but also allows for testing of assumptions and calibration with historic data in ways that can add confidence to the rigor of the assumptions.

**Table 3.2** summarizes major supply utilization assumptions.

TABLE 3.2

## SUPPLY UTILIZATION ASSUMPTIONS

SUPPLY TYPE	ASSUMPTIONS
EFFLUENT	Base year (2012) reported use is adjusted annually based on change in water providers’ total demand.
SURFACE WATER	Based on historic reporting patterns.
CAP	Use limited to existing long-term contract volumes, recommended NIA Priority reallocation volumes, and known leases, exchanges and assignments, with specific adjustments for undesignated providers.
LONG-TERM STORAGE CREDITS	Based on initial balances and annual accrual; debit of 1% per year to meet demands if needed.
GROUNDWATER ALLOWANCE	Uses a maximum of 5% balance per year when available in Phoenix and Tucson AMA; Pinal AMA calculations based on ADWR procedures for calculating use of renewable groundwater allowances.
EXEMPT GROUNDWATER	Fully used by provider when available.
EXCESS GROUNDWATER	Used by CAGRDR members to fulfill remaining demands.

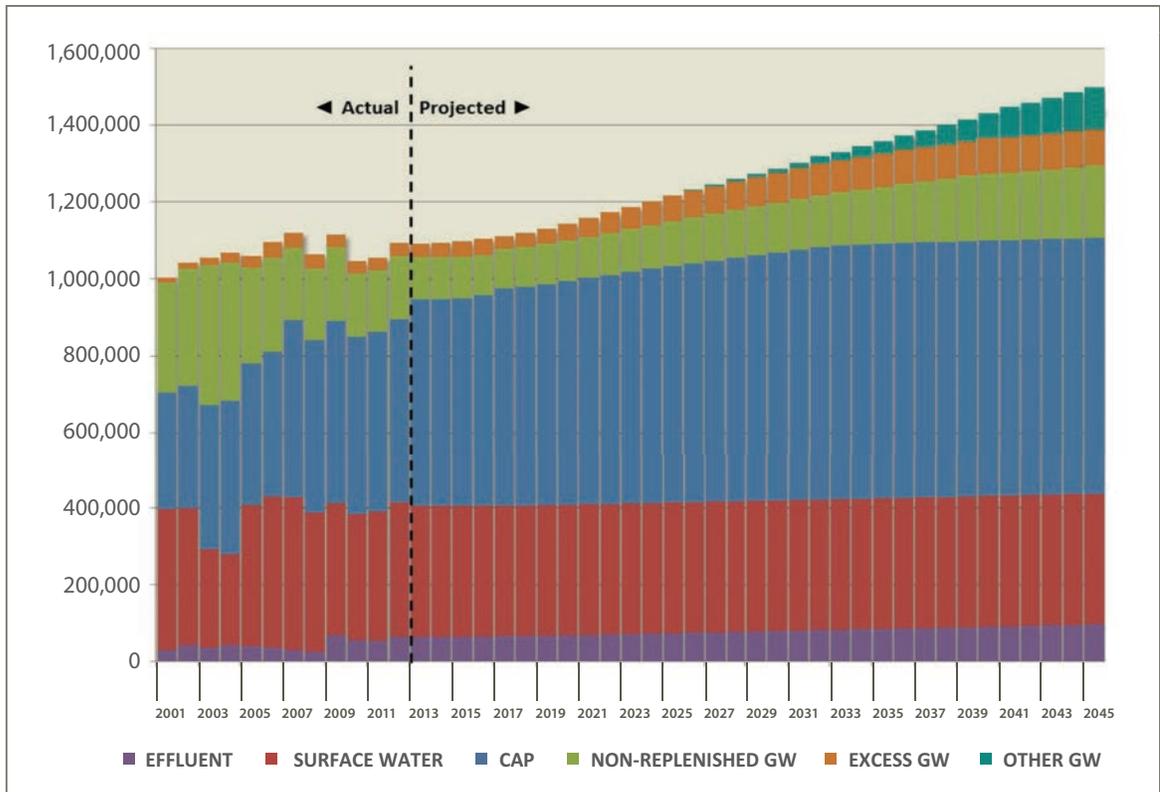
An output of CAP:SAM, **Figure 3.7** shows the supplies projected to fulfill all municipal demands through 2045. Non-replenished groundwater includes exempt groundwater, the use of groundwater allowances, and groundwater use by pre-1995 subdivisions not required to report to CAGRDR. Excess Groundwater shown represents groundwater use that will be reported to CAGRDR as obligation. Other groundwater represents demands that may be reported to CAGRDR as Excess Groundwater under future Plans if it is not met with other supplies by the provider.

<sup>6</sup> The model also accounts for the use of CAP and effluent for LTSC accrual (i.e., above what is needed to meet annual demand).

FIGURE 3.7

## DEMAND FULFILLMENT

By Supply Type (AF)



### 3.4 REPLENISHMENT OBLIGATION

CAGR’s replenishment obligation results from Excess Groundwater reported by MSAs and water providers serving MLs (illustrated in **Figure 3.8**). As noted in the previous section, Excess Groundwater is one of the supply types that CAP:SAM uses when fulfilling demands, and it is generally last in the sequence of the supply types used to meet demands. However, the actual modeling steps are more complex and must incorporate factors such as the likelihood that a projected housing unit will be associated with an existing versus new ML, the providers’ groundwater reliance, and Groundwater Allowance use. The projection methodology for MSAs and MLs is described in the following sections.

#### 3.4.1 Member Service Areas

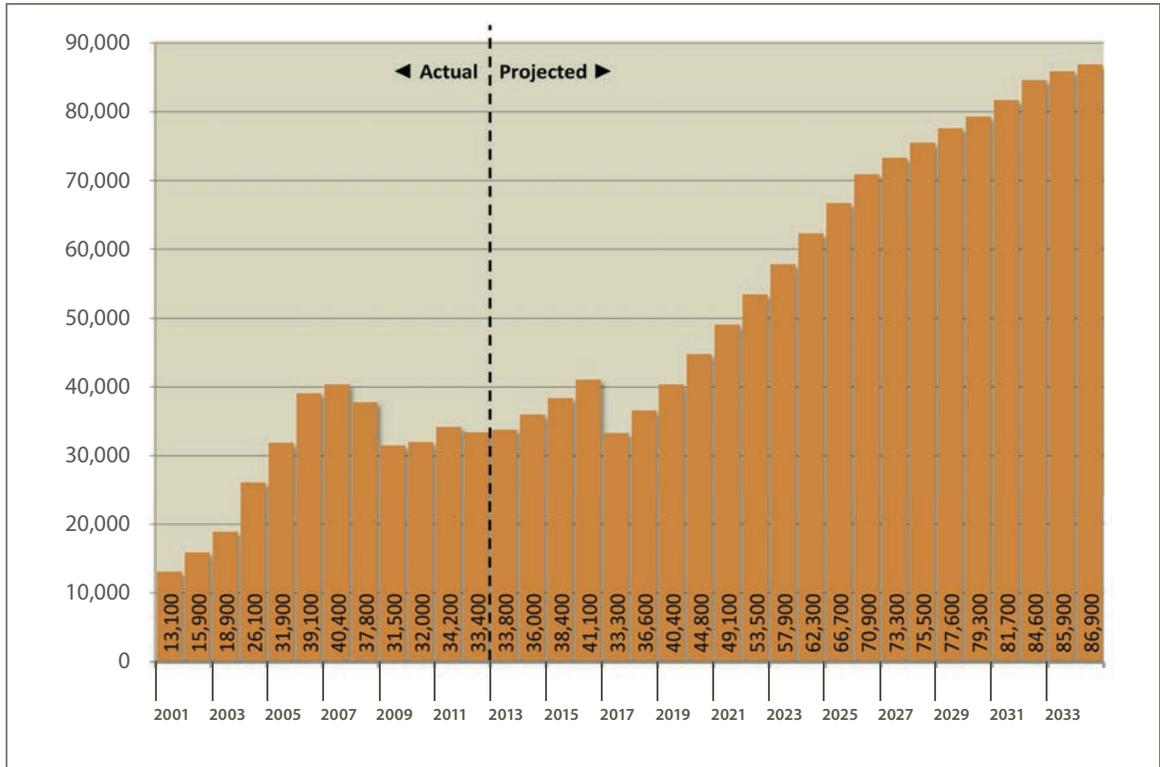
For MSAs, the projection of Excess Groundwater use is relatively straightforward. The overarching assumption is that reporting Excess Groundwater to CAGR is the option of last resort because the utility’s ratepayers will bear the comparatively high cost<sup>7</sup>. This assumption is reflected in the sequence the model uses to fulfill water provider demand as described above, in which renewable supplies are generally used before groundwater.

<sup>7</sup> \$574/AF for Phoenix AMA in 2014/15.

FIGURE 3.8

## EXCESS GROUNDWATER PROJECTION

(AF)



To the extent an MSA relies on groundwater, a portion of the demand is met with the provider’s Groundwater Allowance, which does not require replenishment, and any remainder is met with Excess Groundwater, which does require replenishment. In the Phoenix and Tucson AMAs, groundwater allowances are essentially finite volumes (growing only through incidental recharge and the addition of extinguishment credits), so the Plan assumes that the allowances will be used sparingly (maximum of 5% of balance per year). In the Pinal AMA, the AWS provisions related to groundwater allowances and extinguishment credits are more generous, so the modeling assumptions rely more heavily on the allowance to satisfy annual demands<sup>8</sup>.

To generate an MSA obligation forecast that complies with the statutory requirements and is comparable to the ML forecast (detailed below), it is necessary to project the obligation that the MSA will incur by the end of the Plan period (2024), plus any obligation that will result from subdivisions that the provider has committed to serve during the Plan period but that have not yet constructed by 2024. To accomplish this, the committed demand is estimated by extending the forecast out two additional years. This approach is consistent with methods used by ADWR in an AWS context and by CAGR as part of the calculation for Annual Membership Dues. For the City of Buckeye, which is projected to convert from an ML provider to an MSA in 2015, the committed demand has been further increased to reflect the projected demand of the unconstructed, inactivated ML lots (over 9,800 AF).

<sup>8</sup> The model employs a utilization sequence in the Pinal AMA that matches ADWR’s “Calculation Decision Tree”: Base Allowance > Account balance > Extinguishment Credits > Excess Groundwater.

As indicated in **Table 3.3**, the majority of the MSAs have portfolios of supplies that allow them to avoid any reliance on CAGR through the end of the Plan period. A description of how these supplies were prioritized to meet demands in the model was provided in *Section 3.3.1*. Total projected water provider demand, particularly for MSA water providers, is much higher than their resulting projected obligation because of their large renewable supply portfolios and historic avoidance of reporting Excess Groundwater to CAGR.

TABLE 3.3

## PROJECTED MEMBER SERVICE AREA DEMAND & OBLIGATION

By AMA (AF)

ACTIVE MANAGEMENT AREA		2015	2020	2025	2030	2034
Phoenix AMA	Demand	126,600	139,400	159,400	179,900	200,000
	Obligation	10,300	7,900	13,000	14,100	14,100
Pinal AMA	Demand	5,600	7,600	10,500	13,400	16,400
	Obligation	700	1,200	2,300	2,500	2,400
Tucson AMA	Demand	143,200	148,300	154,200	159,100	162,800
	Obligation	1,400	2,300	4,600	5,200	5,200
TOTAL	Demand	275,400	295,300	324,100	352,400	379,200
	Obligation	12,400	11,400	19,900	21,800	21,700

### 3.4.2 Member Lands

Projecting ML obligation is more complex than projecting MSA obligation. Undesignated water providers that serve (or will serve) MLs do not have the same motivation to reduce their reliance on CAGR as do MSAs. The cost of replenishment is collected through an assessment on the property tax for the owner of the individual parcel rather than the water provider itself. Most ML water providers, therefore, choose not to incur the rate impacts of using more expensive renewable supplies and instead choose to have ML landowners incur the cost of replenishment.

Once the ML demand has been calculated, it is multiplied by the water provider's overall groundwater reliance. Reliance is calculated as the ratio of groundwater use to total demand. The resulting ML groundwater demand is further adjusted based on groundwater allowance usage. Most ML water providers report the minimum two-thirds of their groundwater use as Excess Groundwater, with the remainder debited from their allowance. Once their allowance is exhausted, 100% of the groundwater use is reported as Excess Groundwater to CAGR.

Total ML projected demand and obligations are shown in **Table 3.4**. Annual obligations for MLs and MSAs for the 20-year planning horizon are combined and shown in **Figure 3.9**.

TABLE 3.4

# PROJECTED MEMBER LAND WATER PROVIDER DEMAND & OBLIGATION

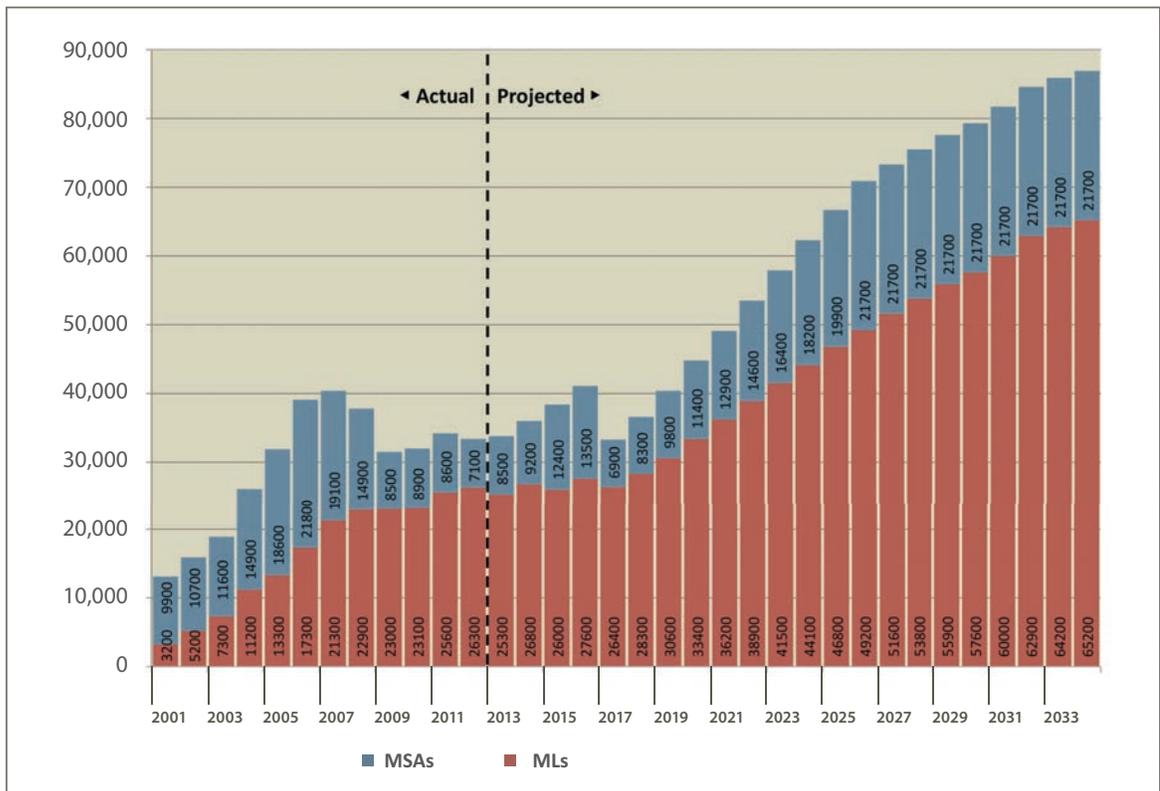
By AMA (AF)

ACTIVE MANAGEMENT AREA		2015	2020	2025	2030	2034
Phoenix AMA	Demand	116,700	125,500	138,100	150,500	158,800
	Obligation	24,000	29,800	40,300	48,400	54,500
Pinal AMA	Demand	21,300	23,600	27,200	30,800	34,300
	Obligation	100	300	1,200	2,400	3,200
Tucson AMA	Demand	15,100	17,100	19,600	22,000	23,800
	Obligation	1,900	3,300	5,300	6,800	7,500
TOTAL	Demand	153,100	166,200	184,900	203,300	216,900
	Obligation	26,000	33,400	46,800	57,600	65,200

FIGURE 3.9

# PROJECTED CAGR D OBLIGATION

New and Existing Housing Units (AF)



### 3.4.3 Estimated 20-Year Obligation for Current Members

In summary, CAGR D is required to provide an estimate of its current and projected groundwater replenishment obligation for current members for the 20 calendar years following the submission of this Plan (A.R.S. § 45-576.02.C.2(b)). **Table 3.5** provides these estimates for each AMA during five-year intervals in the period of 2015 to 2034. These volumes reflect estimated obligations for CAGR D members — both MLs and MSAs — enrolled through December 31, 2014. They assume that currently enrolled MSAs and MLs will remain so, with the exception of the City of Buckeye converting from an ML water provider to an MSA in 2015.

TABLE 3.5

## ESTIMATED 20-YEAR REPLENISHMENT OBLIGATION FOR CURRENT MEMBERS (MSAs and MLs) (AF)

ACTIVE MANAGEMENT AREA	2015	2020	2025	2030	2034
Phoenix AMA	34,300	35,400	44,900	48,700	52,200
Pinal AMA	800	1,200	2,300	2,500	2,500
Tucson AMA	3,300	4,600	7,200	7,900	8,000
<b>TOTAL</b>	<b>38,400</b>	<b>41,200</b>	<b>54,400</b>	<b>59,100</b>	<b>62,700</b>

### 3.4.4 Estimated 100-Year Obligation for Current and Future Members

CAGR D is further required to provide an estimate of its projected groundwater replenishment obligation for the next 100 calendar years for current members and members expected to enroll during the ten-year Plan horizon (through December 31, 2024) (A.R.S. § 45-576.02.C.2(b)). **Table 3.6** provides these estimates for each AMA across the period of 2015 to 2114. The 100-year obligation projection includes demand associated with lots that are enrolled but unbuilt by the end of the 20-year projection, December 31, 2034. To account for this, an estimate of 40% of currently enrolled but unconstructed units described in the housing unit section have an associated obligation of approximately 15,000 AF added in the 100-year obligation forecast.

TABLE 3.6

## ESTIMATED 100-YEAR REPLENISHMENT OBLIGATION FOR CURRENT AND FUTURE MEMBERS

(MSAs and MLs) (AF)

ACTIVE MANAGEMENT AREA	2015	2020	2025	2030	2034	2114
Phoenix AMA	34,300	37,700	53,300	62,500	68,600	84,200
Pinal AMA	800	1,500	3,500	4,900	5,600	15,500
Tucson AMA	3,300	5,600	9,900	12,000	12,700	13,300
<b>TOTAL</b>	<b>38,400</b>	<b>44,800</b>	<b>66,700</b>	<b>79,400</b>	<b>86,900</b>	<b>113,000</b>

### 3.5 ENROLLMENT

The Plan of Operation statute requires an estimate of both current enrollment and potential enrollment over the ten-year Plan period (2015–2024). Current enrollment includes all MLs and MSAs enrolled before the start of this Plan period. Potential (new) enrollment of MLs during the Plan period is estimated using the housing unit distribution methodology described in *Section 3.2*. No new municipal providers are projected to enroll as MSAs during the Plan, with the exception of Buckeye, a current municipal provider serving MLs which is expected to become a designated provider at the beginning of the Plan period.

As shown in **Figure 3.4**, CAP:SAM generates housing unit projections that are differentiated by Plan period. The model projects that 2015 Plan housing units will be constructed over a period of several decades (see **Figure 3.10**). However, each of those 2015 Plan housing units had to have been enrolled during the ten-year Plan period. New ML enrollment is therefore modeled by summing all of the housing units designated as 2015 Plan housing units and distributing them within the ten-year Plan period (see **Figure 3.11**). To reach a more adequate estimate of 2015 Plan enrollment, an additional enrollment factor of 10% was later applied to account for subdivisions that enroll but have not constructed by 2045. This results in an additional 10,800 enrolled and constructed units with an associated replenishment obligation of 2,800 AF. Overall, 119,000 new ML housing units are projected to enroll during the Plan period.

FIGURE 3.10

### 2015 PLAN MEMBER LAND CONSTRUCTION (HOUSING UNITS)

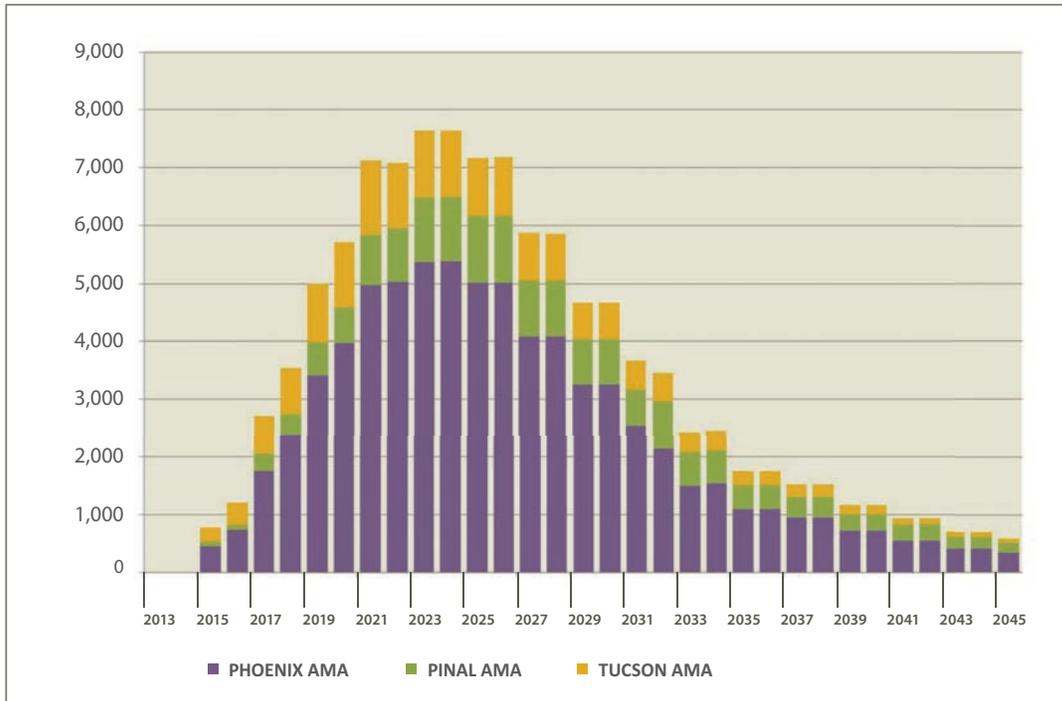
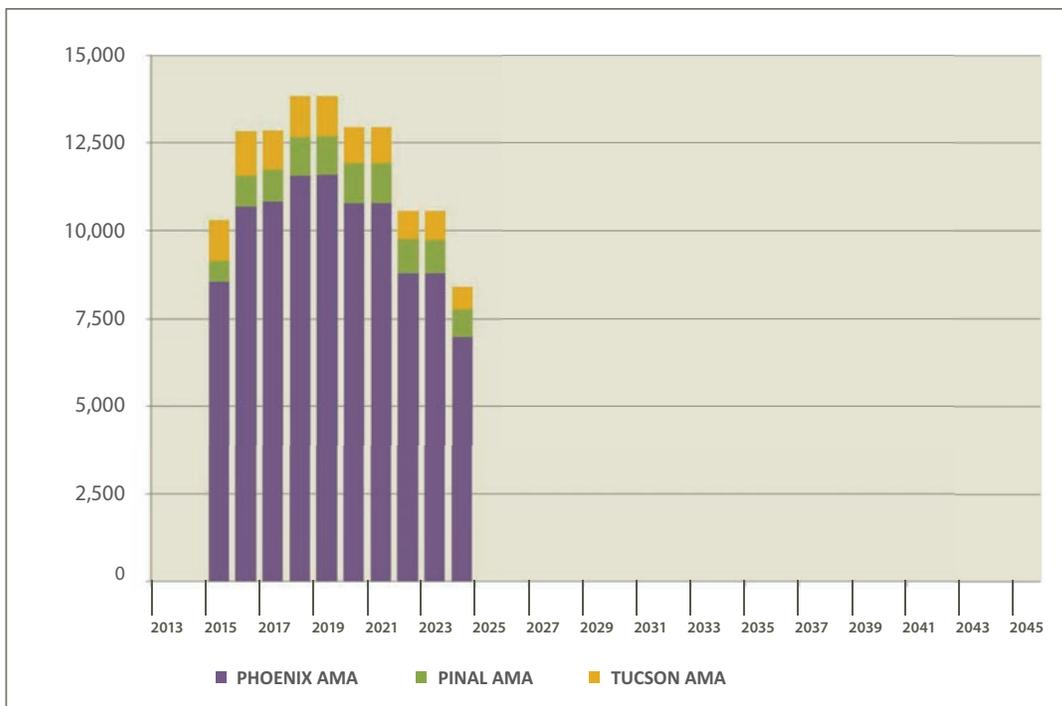


FIGURE 3.11

### 2015 PLAN MEMBER LAND ENROLLMENT (HOUSING UNITS)



## 4.0 WATER SUPPLIES

The statutory requirements related to describing CAGRD water supplies for the CAGRD Plan of Operation are identified below.

**A.R.S. § 45-576.02.C.2**

...the plan shall include the following information for each active management area in which a member land or member service area is located:

**A.R.S. § 45-576.02.C.2(c)**

A description of the water resources that the conservation district plans to use for replenishment purposes during the twenty calendar years following submission of the plan and water resources potentially available to the conservation district for groundwater replenishment purposes during the subsequent eighty calendar years.

This chapter describes CAGRD's current water supply portfolio and the CAGRD Water Supply Acquisition Program. Water supplies that CAGRD plans to use to meet its replenishment obligations during the next 20 years and supplies that are potentially available to meet replenishment obligations during the subsequent 80-year period are described in *Section 4.5* and *4.6* and identified in **Tables 4.1** and **4.2**. For purposes of this Plan, the 20-year period following submission of this Plan is 2015 through 2034, and the subsequent 80-year period is 2035 through 2114.

The volumes of these water supplies are significantly larger than CAGRD's projected replenishment obligation, either for the next 20 years or for the subsequent 80 years. The following sections will describe the future, projected replenishment obligation, as presented in *Chapter 3*, and outline how CAGRD intends to meet that obligation using its current water supply portfolio and through the implementation of the Water Supply Acquisition Program.

### 4.1 REPLENISHMENT OBLIGATION

To fully address the requirements set forth in A.R.S. § 45-576.02(c), CAGRD must first identify the projected annual replenishment obligation for three distinct time periods: (1) the present; (2) the 20-year period following submission of this Plan; and (3) the subsequent 80-year period.

**Current Replenishment Obligation (as of 2013):** CAGRD's replenishment obligation for the year 2013 was approximately 35,000 AF.

**The 20-year Period Following Submission of the Plan:** As set forth in *Chapter 3*, the estimated annual replenishment obligation in the 20th year following submission of this Plan (2034) associated with current members and projected members is 86,900 AF. For purposes of this chapter, the term "current members" means MLs and MSAs enrolled through 2014, and the term "projected members" means new members projected to enroll in the ten-year period following submission of this Plan, or 2015 through 2024.

**The Subsequent 80-year Period:** As further set forth in *Chapter 3*, the annual replenishment obligation associated with current members and projected members will continue to grow after 2034, because not all enrolled lots will be constructed by 2034. These enrolled but unconstructed lots are expected to generate an additional 26,100 AF of annual replenishment obligation at “build-out” sometime during the subsequent 80-year period. Therefore, the projected annual replenishment obligation in 2114 for current members and projected members is 113,000 AF.

## 4.2 CURRENT CAGR D WATER SUPPLY PORTFOLIO

**Summary of Current Entitlements:** To date, CAGR D has secured rights to 31,081 AF of annual, long-term water supplies. This portfolio includes: (1) a CAP Municipal & Industrial (“M&I”) subcontract entitlement of 7,996 AF/yr; (2) an allocation of 18,185 AF/yr of CAP NIA Priority water recently recommended by ADWR pursuant to the Arizona Water Settlements Act of 2004; (3) a 100-year tribal lease of 2,500 AF/yr of White Mountain Apache Tribe CAP NIA Priority water; and (4) a 100-year lease of 2,400 AF/yr of effluent from Liberty Utilities.

In addition to these long-term supplies, CAGR D has acquired and currently owns nearly 90,000 AF of LTSCs. Also, CAGR D has contracted to acquire an additional 455,300 AF of LTSCs in the future through various short-term and longer-term credit purchase agreements. The sum of all the LTSCs currently owned by CAGR D and those to be acquired in the future pursuant to executed purchase agreements is 545,300 AF. If these LTSCs were annualized as a 100-year supply, they would represent an annual entitlement of approximately 5,453 AF.

Adding the long-term entitlements of 31,081 AF/yr to the annualized LTSC volume of 5,453 AF brings the current CAGR D water supply portfolio to 36,534 AF of annual long-term water supplies. Each of these supplies is described in more detail later in this chapter and shown in **Table 4.1**.

CAGR D also has access to Excess CAP water<sup>1</sup> pursuant to CAWCD Board policy, commonly referred to as the Access to Excess Policy<sup>2</sup>. This policy grants CAGR D up to 35,000 AF of Excess CAP water annually to meet its replenishment obligations. Under the policy, the Excess CAP water pool is a secondary alternative for CAGR D replenishment obligations — that is, CAGR D will first use water resources in its water supply portfolio (except for LTSCs) to meet annual replenishment obligations; if those resources are insufficient, then CAGR D may access the Excess CAP water pool, up to the 35,000 AF limit. This policy is in place through 2019, at which time it will be revisited by the CAWCD Board. Projections by CAP staff indicate that in normal water supply years Excess CAP water will continue to be available for at least the next 20 years. However, the availability of Excess Water for CAGR D use will continue to depend on other demands for that water and future adjustments made by the CAWCD Board to the Access to Excess policy. The CAP Repayment Stipulation provides that “CAWCD shall have the exclusive right in its discretion to sell or use all Excess Water for any authorized purpose of the CAP.” CAGR D will continue to use Excess CAP water when available and needed to fill gaps between its existing water supply entitlements and annual replenishment obligation.

Lessening CAGR D’s reliance on Excess CAP water has the secondary benefit of reducing the amount of credits that must be maintained in the Replenishment Reserve account, which is based on a percentage of

<sup>1</sup> Excess CAP water is all water available for delivery through the CAP canal in excess of the quantities scheduled under long-term contracts and subcontracts.

<sup>2</sup> “CAWCD Procedure for Distributing Excess CAP water for the Period of 2015 through 2019” approved by the CAWCD Board on March 6, 2014.

the quantity of the future replenishment obligation that is projected to be met by supplies with an expected availability of 20 years or less, including year-to-year availability like that of Excess CAP water.

#### **4.2.1 CAGR D CAP Entitlements**

**CAP M&I Entitlement:** CAGR D holds an annual entitlement to 7,996 AF of CAP M&I Priority water pursuant to the “Supplemental Contract between the United States and the Central Arizona Water Conservation District for Delivery of Central Arizona Project Water, Contract No. 14-06W-245, Amendment No. 1, Supplement No. 1, as amended,” (“Supplemental Contract”). The Supplemental Contract is for permanent water service.

**Reallocation of CAP NIA Priority Water:** On January 16, 2014, the State of Arizona, through ADWR, issued its “Recommendation for Reallocation of Non-Indian Agricultural Priority Central Arizona Project Water” pursuant to Section 104(a)(2)(C)(i)(III) of the Arizona Water Settlements Act of 2004. The recommendation included a recommended volume for CAGR D of 18,185 AF/yr of CAP NIA Priority water. This water is anticipated to be available starting in 2017.

**Lease of White Mountain Apache Tribe CAP NIA Priority Water:** Pursuant to the White Mountain Apache Tribe Water Rights Quantification Agreement and the White Mountain Apache Tribe Water Rights Quantification Act of 2009 (the “Act”), the White Mountain Apache Tribe has leased 2,500 AF/yr of its CAP NIA Priority water to CAWCD for CAGR D purposes. The term of the lease begins 30 days after the enforceability date, as that term is defined in Section 12(c) of the Act, and ends 100 years thereafter. At this time, it is anticipated that the enforceability date will occur in 2016, and that the water supply will be available beginning in 2017.

#### **4.2.2 Effluent Lease**

On February 6, 2014, CAWCD and Liberty Utilities (“Liberty”) executed a lease agreement under which Liberty agreed to lease to CAWCD, for CAGR D purposes, 2,400 AF/yr of effluent. The agreement also provided for the development of an effluent recharge project to store such effluent. The term of the lease begins on the date the effluent recharge project is substantially complete and ends 100 years thereafter. The leased effluent includes treated wastewater produced from Liberty’s Palm Valley Wastewater Reclamation Facility and effluent produced at any other wastewater treatment plant that may be owned or controlled by Liberty. The agreement also grants CAGR D a 100-year right to purchase LTSCs generated by Liberty through storage at the effluent recharge project. It is anticipated that the effluent recharge project will be completed by 2017, allowing CAGR D to begin recharging its effluent entitlement in that year.

As a result of this agreement, CAGR D will be able to offset pumping by CAGR D MLs in the west Phoenix AMA through replenishment in the area of hydrologic impact. This innovative partnership provides significant benefits to Liberty Utilities, CAGR D and its members — it provides a mechanism to offset CAGR D ML pumping by providing a source of both water and credits for replenishment, it grants CAGR D and its members access to infrastructure that possibly would not have been constructed without the financial contribution of CAGR D, and it offers hydrologic benefits of groundwater recharge to Liberty and MLs located near the effluent recharge project.

### 4.2.3 Long-term Storage Credits

CAGRDR currently owns approximately 90,000 AF of LTSCs. In addition, CAGRDR holds rights to approximately 455,300 AF of LTSCs that will be transferred to CAGRDR in the future pursuant to several multi-year credit purchase agreements. (These agreements are described in *Section 4.2.3.1*.) In total, CAGRDR holds entitlements to approximately 545,300 AF of LTSCs. CAGRDR projects that it will have approximately 330,000 AF of LTSCs available for replenishment purposes over the next 20 years<sup>3</sup>. If these LTSCs were annualized over a 100-year term, the annual volume of LTSCs available to CAGRDR for the next 100 years would be approximately 5,453 AF. Some LTSCs may be consumed within a shorter time frame, depending on the availability of other supplies during the 20-year planning period of this 2015 Plan and the statutory requirements for the Replenishment Reserve, as further discussed in *Chapter 5*.

LTSCs are well-suited to meeting the CAGRDR's replenishment obligation. They provide flexibility in CAGRDR's water supply portfolio, particularly as a back-up supply to fill temporary gaps in the availability of other water supplies. The LTSCs currently in the CAGRDR accounts for the Tucson and Phoenix AMAs comprise a significant component of CAGRDR's water supply portfolio and when coupled with other supplies in CAGRDR's portfolio, could be used to fulfill much of CAGRDR's replenishment obligation for the next 20 years.

LTSCs are sometimes viewed as "paper water" and a less desirable type of supply for CAGRDR than "wet water" supplies, especially long-term, annual entitlements. Clearly, long-term entitlements provide considerable certainty for meeting CAGRDR replenishment obligations and are simple to represent within a portfolio of long-term supplies. However, since all water in the CAGRDR portfolio becomes stored water at some point, it could be argued that there is no difference between "wet water" and "paper water" when it comes to meeting CAGRDR's replenishment obligation, except that purchasing LTSCs actually eliminates an intermediary step. Further, in accounting for LTSCs in a water supply portfolio, it is necessary to represent a finite quantity of water as a multi-year entitlement. To some extent this is simplified when LTSCs are purchased as part of a multi-year commitment, but in the end all credits represent a finite supply and must be treated as such in determining how best to allocate them to meet replenishment obligation.

#### 4.2.3.1 DESCRIPTION OF LONG-TERM STORAGE CREDIT PURCHASE AGREEMENTS

**Completed Single-Year Credit Purchase Agreements:** Between 2008 and 2013 CAGRDR made one-time purchases of 54,455 LTSCs from several entities, including:

- the Cities of Goodyear and Glendale, and Gold Canyon Sewer Company, in the Phoenix AMA; and
- Fidelity National Title Trust and Rocking K Acquisitions, in the Tucson AMA.

These purchases, combined with credits purchased in 2013 and 2014 through the multi-year purchase agreements described below, have resulted in the current CAGRDR credit balance of approximately 90,000 AF of LTSCs noted above.

**LPSCO Credit Purchase Agreement:** On June 6, 2013, CAWCD and Litchfield Park Service Company<sup>4</sup> (LPSCO) executed a Purchase and Sale Agreement for Long-Term Storage Credits. Under the terms of that agreement, LPSCO agreed to sell to CAGRDR all storage credits accrued by delivering effluent to Roosevelt Irrigation District

<sup>3</sup> A large portion of the LTSCs CAGRDR expects to acquire in the future result from the 100-year agreement with Liberty Utilities, therefore many LTSCs will be acquired after 2034.

<sup>4</sup> Litchfield Park Service Company and Gold Canyon Sewer Company are currently owned by Liberty Utilities.

from 2013 to 2017. This agreement is expected to add approximately 11,500 AF of LTSCs to the CAGR D portfolio when concluded. However, if the recharge project contemplated in the agreement between CAWCD and Liberty Utilities (dba LPSCO) described in *Section 4.2.2* (the 100-year Agreement) is constructed and operational before 2017, the terms of the 100-year Agreement will supersede this credit purchase agreement; Liberty will commence transferring LTSCs to CAWCD under the 100-year Agreement. It is anticipated that CAWCD will purchase approximately 248,000 AF of LTSCs over 100 years pursuant to the 100-year Agreement.

**City of Tucson Credit Purchase Agreement:** On August 6, 2013, CAWCD and the City of Tucson (“Tucson”) executed a Purchase and Sale Agreement for Long-Term Storage Credits. Tucson agreed to sell and transfer 100,000 AF of Tucson AMA LTSCs to CAGR D. CAGR D has committed to purchasing 4,000 AF of credits each year over the term of the agreement with an option to purchase up to 1,000 AF additional credits in any given year.

**Mojave Ventures Credit Purchase Agreement:** On November 7, 2013, CAWCD and Mojave Ventures executed a Purchase and Sale Agreement for Long-Term Storage Credits. Pursuant to that agreement, Mojave Ventures agreed to sell and transfer to CAWCD (for CAGR D purposes) a total of approximately 18,355 AF of LTSCs (14,311 AF of credits accrued in the Phoenix AMA and 4,044 AF of credits accrued in the Tucson AMA) every year for seven years, commencing in 2014 and ending in 2020. The total volume of LTSCs to be acquired under this contract is 128,485 AF.

### 4.3 CURRENT CAGR D WATER SUPPLY AND PROJECTED OBLIGATION

As identified in *Section 4.1*, the estimated annual replenishment obligation in the year 2034 associated with current members and projected members is 86,900 AF; the annual replenishment obligation in the year 2114 associated with current members and projected members is approximately 113,000 AF. Further, as outlined in *Section 4.2* and illustrated in **Table 4.1**, CAGR D currently holds rights to 36,534 AF of annual long-term water supplies. Accordingly, to meet the projected 2034 replenishment obligation, CAGR D will need to acquire additional water supplies of approximately 50,370 AF of annual entitlement (maintaining a mix of 50% long-term and 50% short-term entitlements, according to the program principles described in *Section 4.4.1*) over the next 20 years. Beyond that, to meet the projected 2114 replenishment obligation, CAGR D will need to acquire an additional 26,100 AF of annual entitlement over the subsequent 80 years.

CAGR D will acquire these new water supplies through the CAGR D Water Supply Acquisition Program, which is described in *Section 4.4*.

### 4.4 CAGR D WATER SUPPLY ACQUISITION PROGRAM

In 2010, the CAWCD Board adopted a Strategic Plan that included the following strategic objectives regarding CAGR D water supply acquisitions: (1) re-evaluate the water supply acquisition activities outlined in the 2005 Plan of Operation (e.g., timing, types of supply and projected costs); (2) aggressively acquire water supplies as outlined in the 2005 Plan; and (3) develop and implement revenue generation mechanisms (e.g., bonding, rates, fees) that are sufficient to carry out a successful water supply acquisition program.

TABLE 4.1

## SUMMARY OF CAGR D WATER SUPPLIES ACQUIRED

(through 2014)

WATER SUPPLY	DESCRIPTION	QUANTITY (ACRE-FEET)		LOCATION	YEAR SUPPLY FIRST AVAILABLE	TERMS OF ACQUISITION
		TOTAL	ANNUAL <sup>1</sup>			
CAP Water (M&I Priority)	M&I Subcontract entitlements transferred from Litchfield Park Service Co. (LPSCO), New River Utility Co., Sunrise Water Co., West End Water Co., and Valley Utilities Water Co.	---	7,996	Phoenix AMA	2006	Contract is for permanent water service
CAP Water (NIA Priority)	Recommended volume for CAGR D in ADWR's NIA Reallocation recommendation	---	18,185 <sup>2</sup>	Within CAP Service Area	2017	Contract will be for permanent water service
Tribal lease of CAP NIA Priority Water	Lease of White Mountain Apache Tribe NIA Priority water	---	2,500	Within CAP Service Area	2017	100-year lease
Long-term Storage Credits	Storage credits acquired through 2014	64,879	649	Phoenix AMA	2014	One-time purchases and credit purchase agreements
Long-term Storage Credits	Storage credits to be acquired in the future	335,982	3,360	Phoenix AMA	2015	Credit purchase agreements
Long-term Storage Credits	Storage credits acquired through 2014	25,093	251	Tucson AMA	2014	One-time purchases and credit purchase agreements
Long-term Storage Credits	Storage credits to be acquired in the future	119,264	1,193	Tucson AMA	2015	Credit purchase agreements
Effluent	Long-term lease of effluent from Water Reclamation Facility operated by Liberty Utilities; includes access to infrastructure sufficient to recharge the purchased effluent at USF to be built by Liberty	---	2,400	Phoenix AMA	2017	100-year lease of 2,400 AF of effluent
<b>TOTAL ANNUALIZED SUPPLY:</b>		<b>36,534</b>				

**TABLE NOTES:**

<sup>1</sup> Long-term storage credits are presented as a 100-year supply by dividing the total by 100.

<sup>2</sup> Although NIA water likely will not be available every year because of predicted shortage reductions, the Replenishment Reserve account will be available and is intended to firm these supplies for CAGR D use.

In March of 2011, the CAWCD Board authorized staff to conduct a Water Supply Acquisition Study (“Study”) to support the re-evaluation of the water supply acquisition program described in the 2005 Plan. A consulting services contract was awarded to Montgomery & Associates and WestWater Research to provide technical assistance to CAGR D staff to complete the study. The results of the Study were presented to the CAWCD Board in April 2012. The study involved four main tasks: (1) inventory and characterize the type and quantity of water supplies available for acquisition; (2) estimate the economic value of supplies; (3) recommend an acquisition strategy; and (4) recommend an acquisition implementation plan.

One of the main deliverables of the Study was the Acquisition Strategy and Implementation Plan (“Implementation Plan”) which, combined with the Study, provided CAGR D with technical tools and a “roadmap” for a well-informed, strategic water acquisition program. The Study and Implementation Plan contained the most reliable and up-to-date information about the extent of available water supplies (type and volume), the economic value of those supplies (probable acquisition cost), and the likely time needed to acquire each supply type. Over 500 individual water supplies were inventoried and classified into priorities for acquisition based on a decision support model that considered criteria such as quantity, reliability, known availability, clear administrative processes and price.

In May of 2012, the CAWCD Board directed CAWCD management to implement a more robust CAGR D Water Supply Acquisition Program (“Program”), using the Study and Implementation Plan as the basis for the Program. The CAWCD Board authorized additional staffing to support this initiative. The primary goal of the Program is to acquire a diverse portfolio of water supplies through voluntary, market-based transactions with willing entities. To date, the Program has allowed CAGR D to meet its statutory responsibility to acquire water supplies in a timely and cost-effective manner.

#### **4.4.1 Water Supply Acquisition Program Principles**

The CAWCD Board has delineated several key principles to guide implementation of the Program. Those principles are as follows:

1. CAGR D does not have condemnation authority and will not partner with other entities to use their condemnation authority to acquire water supplies through condemnation.
2. When considering agreements involving Colorado River entitlements held by irrigation districts, CAGR D acknowledges that the districts are the local governmental body best situated to assess any impacts to landowners and farmers within the districts and therefore, will negotiate directly with the districts.
3. CAGR D will assert its fiduciary responsibility to its members by negotiating a fair and reasonable price for the acquisition of water supplies based on the best available information regarding the fair market value of said supplies.
4. CAGR D will consider potential third-party impacts to the local community associated with any proposed water acquisition/transfer.
5. CAGR D will acquire new water supplies in a manner that generally coincides with increases in CAGR D replenishment obligations as they occur over time.

**Additionally, CAGR D staff has incorporated the following considerations into the implementation of the Program:**

- Because CAGR D is not a water provider, it has additional flexibility in the types of water supplies that can be used to meet its replenishment obligation. Therefore, the Program is seeking a diverse portfolio of water supplies that can limit CAGR D’s reliance on certain types of supply that may be subject to particular risks of curtailment. This also helps to minimize the risk of adverse impacts to any particular water-using sector from which supplies may be obtained.
- The Program relies on the best available information regarding the value of supplies to ensure that the price paid for a supply is supported by the market.
- The Program initially seeks supplies where there is a high probability of success in completing the transaction and a clear administrative or regulatory process in approving the transaction.
- The Program is currently seeking to develop a portfolio of supplies with 50% of the supplies being short-term entitlements and the balance being long-term entitlements. It is assumed that short-term supplies provide approximately 30 years of supply, while long-term supplies are available for at least 100 years.
- Because of the foregoing considerations, the Program is likely to pursue a number of smaller supply acquisitions rather than a few large ones and will generally be pursuing numerous supplies simultaneously.
- The Program seeks to emphasize physical replenishment with CAGR D water supplies that is done in ways that advance the management goals of the AMA in which those supplies are used.
- The Program will seek to complete transactions within the context of agreements that can provide multiple, mutual benefits to our partners.

## 4.5 DESCRIPTION OF WATER SUPPLIES AVAILABLE 2015–2114

As discussed in *Section 4.4*, the CAGR D Water Supply Acquisition Study identified an inventory of available water supplies. These water supplies are listed by supply type and volume in **Table 4.2** (pgs 4-14 and 4-15). This section discusses each of the supply classes listed in **Table 4.2**, including the assumptions that were used in developing the estimated quantities of each class that are believed to be potentially available. *Section 4.6* describes the approach of the Water Supply Acquisition Program in identifying the supplies that CAGR D plans to use during the 2015–2034 time period prescribed by A.R.S. § 45-576.02.C.2(c). As shown in **Table 4.2**, CAGR D has identified an inventory of between 460,000 AF to 920,000 AF of available water supplies during the next 20 years and 488,000 AF to 988,000 AF in the subsequent 80 years, which far exceeds CAGR D’s projected additional 2034 demands of 50,370 AF.

The quantity ranges that are listed in **Table 4.2** for each of these supplies assume a “high” estimate of available supply, which includes all the water within that category that might be available for acquisition. The “low” estimate assumes that only 50% of that available supply might actually be acquirable, except where noted. Other assumptions that are incorporated into the estimates for individual supply categories are described within the discussion of individual supply types below and listed in the table notes to **Table 4.2**.

CAGRDR anticipates acquiring a mix of supplies from this “universe” of supplies over the course of this 2015 Plan. Many of these supplies have been identified as acquisition targets within the next 20 years but will only be acquired consistent with the Program objectives outlined in *Section 4.4*. While CAGRDR plans to use a subset of these supplies over the next 20 years, as suggested by **Table 4.2**, it is anticipated that many of these supplies will also be available to meet future replenishment obligation during the subsequent 80-year period, 2035–2114.

#### **4.5.1 Long-term Storage Credits**

CAGRDR will continue to pursue acquisition of LTSCs. There is currently a large volume of LTSCs available in the three AMAs and the market for purchasing them is well-established, with predictable prices and administrative simplicity. Additionally, these supplies are already stored in the ground so they are, in a sense, “pre-replenished”. Particularly when credits are stored near reportable Excess Groundwater pumping by CAGRDR members, LTSCs provide an excellent fit for meeting CAGRDR replenishment obligation.

As **Table 4.2** shows, CAGRDR has identified potentially available LTSCs that would represent an annualized, 100-year supply of 11,000 to 22,000 AF/yr. This represents 1.1 million to 2.2 million AF of uncommitted credits that currently exist within the Phoenix, Pinal, and Tucson AMAs, as well as within the Harquahala Irrigation Non-Expansion Area. CAGRDR anticipates acquiring some of these available credits to meet replenishment obligations during the next 20 years. In addition, it is likely that some entities that are currently using a portion of their CAP supplies to generate marketable LTSCs will continue to do so in the future, as supply availability permits, thus creating additional credits that may be available to CAGRDR beyond 2034.

#### **4.5.2 Effluent**

CAGRDR also will pursue additional effluent supplies where such acquisitions can be accomplished in ways that further the goals of developing long-term renewable supplies or directly fulfilling replenishment obligation at reasonable prices. As identified in **Table 4.2**, CAGRDR has identified between 59,600 and 119,200 AF/yr of effluent that is currently discharged from water reclamation facilities and not reused or recharged to earn LTSCs. This amount is assumed to be available during the 20-year period following adoption of this Plan. The amount of unused effluent projected to be available in the subsequent 80 years is larger, reflecting projected population growth in the three-county service area.

In many cases the municipalities or water providers who own these effluent supplies do intend to fully utilize these resources at some point in the future to assist in meeting potable or non-potable demands. However, these effluent supplies may be available for use by CAGRDR through short-term or intermediate leases or, where those supplies would eventually be used to generate LTSCs, CAGRDR could partner with the effluent owner to construct infrastructure that might accelerate the utilization of the resource in exchange for LTSCs or a share of the effluent. This is the model that was implemented in the Liberty Utilities agreement discussed in *Section 4.2.2*.

### 4.5.3 CAP Water

CAGRDR will pursue available CAP entitlements to increase the permanent water supplies in its portfolio. These entitlements include unused M&I entitlements and future allocations of NIA priority water. In addition, several existing tribal water rights settlements that include CAP entitlements have provisions to allow, at the discretion of the tribe, leasing of settlement water to other water users within Arizona. Some of this water is currently under lease and, therefore, unavailable; some is considered potentially available under the Program's planning assumptions.

As identified in **Table 4.2**, CAGRDR estimates the total volume of CAP water that may be available for acquisition over the next 20 years is between 279,700 AF/yr and 559,300 AF/yr. To arrive at this estimate, CAGRDR has assumed that any CAP water not currently utilized as part of a long-term commitment, i.e. dedicated to an Assured Water Supply or otherwise committed to a long-term direct use by the entitlement holder, may be available during the next 20 years. This includes all supplies that CAP subcontractors have not ordered for the past four years, with some adjustments in cases where CAGRDR has specific knowledge of a subcontractor's future plans for full utilization of a supply. This also includes any CAP supplies that are currently being delivered under a short-term (five years or less) lease agreement and any CAP water that is being delivered to a USF or GSF solely for the purpose of earning LTSCs.

**Table 4.2** also presents an estimate of CAP supplies available from 2034 to 2114 of between 76,100 AF/yr and 152,300 AF/yr. This reduced estimate reflects an assumption of increased on-reservation use of tribal supplies and increased use of M&I allocations, consistent with modeling assumptions incorporated into the replenishment obligation projections described in *Chapter 3*.

In a letter dated August 1, 2013, then-Executive Director of the Inter Tribal Council of Arizona, John Lewis, requested that no tribal water be shown as available to CAGRDR over the next 20 years and no tribal water be shown as potentially available to CAGRDR over the subsequent 80 years unless the tribe has an existing lease agreement with CAGRDR or has given written consent to such a listing.

CAGRDR recognizes the unique nature of tribal water rights, whether decreed rights, rights pursuant to a federally-approved settlement, or contractual rights. CAGRDR also recognizes the sovereignty of the tribes holding those water rights. CAGRDR fully acknowledges that any lease or other agreement regarding tribal water supplies must be approved by the respective tribal government. Simply put, CAGRDR cannot use tribal water supplies without the express consent of the tribe holding the rights to those supplies.

As required by statute, CAGRDR has prepared an inventory of all water supplies in Arizona that are potentially available for replenishment purposes for the 100-year period following submission of the plan. This inventory of supplies, summarized in **Table 4.2**, includes tribal water as a source that may be available during both the 20 years following submission of the Plan and the 80 years thereafter. Tribal supplies are included with the caveat that in order for CAGRDR to actually use these supplies, CAGRDR must first negotiate an agreement with the tribe holding these supplies. CAGRDR does intend to approach multiple tribal entities during the next 20 years in an effort to reach mutually acceptable agreements regarding the use of tribal water supplies.

The tribal water supplies included in **Table 4.2** are limited to CAP entitlements that are currently being used to earn LTSCs, are being leased under short-term agreements or are being actively marketed for use by non-tribal water interests in the state. For instance, the Gila River Water Storage LLC is actively marketing both CAP water and LTSCs. Representatives of other tribes also have made public statements regarding their tribes' interest in marketing of water supplies. In consideration of the stated intent of some tribes to develop additional on-reservation use to meet tribal economic development goals, the estimate of tribal CAP water that may be available to CAGRDR is reduced in volume over time.

The estimate of available CAP supplies also includes water currently being delivered as part of the Agricultural Settlement Pool<sup>5</sup>, which at present is comprised of Excess CAP water and excess diversions from the Colorado River. While this water is currently being fully utilized, the amount of water in this pool begins to decline starting in 2017 and is completely eliminated in 2030 under current agreements. Some of this water may become available to other water users such as CAGRDR as Excess CAP water.

CAGRDR is pursuing some portion of the Arizona State Land Department's ("ASLD") entitlement of approximately 32,000 AF/yr of CAP M&I Priority water. This water was allocated to ASLD in order to provide water supplies for development of State land. Current ML developments that are located on former State lands have incurred a total replenishment obligation of approximately 1,700 AF and at build-out will incur an additional annual replenishment obligation of 1,000 AF/yr. CAGRDR also has estimated future ML enrollment of ASLD lands using the ASLD Five-Year Plan. Using an estimated 1 AF per acre water demand figure, CAGRDR estimates the future Excess Groundwater demand associated with ASLD lands that could become MLs is 3,000 AF/yr. At the March 2006 Board meeting, a representative from the ASLD made a commitment to the CAWCD Board and staff to "work together" to transfer a portion of the ASLD's M&I subcontract water to CAGRDR for state trust lands relying on CAGRDR membership. In its 2010 Strategic Plan, the CAWCD Board directed CAGRDR staff to work with ASLD on the transfer of 2,906 AF of ASLD's M&I subcontract water to CAGRDR. It is hoped that future replenishment obligation associated with ASLD lands that become MLs could be met with CAP M&I water transferred from ASLD.

CAGRDR is currently seeking reallocation of a 161 acre-foot M&I allocation that was recently relinquished by the Pine Water Company, an exchange contractor in Gila County. Additionally, there may be other CAP M&I allocations that are currently unutilized by the subcontract holder and are unlikely to be fully utilized.

CAGRDR was allocated over 18,000 AF of CAP NIA Priority water by ADWR in its recent reallocation recommendation. CAGRDR also will pursue a second allocation from this supply when ADWR reallocates the remaining 41,000 AF from that pool within the next ten years, assuming CAGRDR's projected replenishment obligation justifies such an allocation at that time.

#### **4.5.4 Colorado River Supplies**

CAGRDR will pursue the acquisition or lease of Colorado River entitlements in the future. As illustrated in **Table 4.2**, CAGRDR has identified between 109,800 and 219,700 AF/yr of Colorado River water (Priority 4 or higher) that could be available for use by CAGRDR by means of transfers, leases, or fallowing agreements

<sup>5</sup> The Agricultural Settlement Pool is a category of Excess CAP water provided to CAP non-Indian agricultural users through 2030 in return for relinquishing their long-term entitlements to Non-Indian Agriculture priority water for reallocation to Indian and M&I users in accordance with the Arizona Water Settlements Act of 2004. The Agricultural Settlement Pool is initially sized at 400,000 AF/yr, declining to 300,000 AF/yr in 2017, and to 225,000 AF/yr in 2024 and finally to zero in 2030.

throughout the next 100 years. These amounts assume that it may be possible to acquire the consumptive use portion of some individual contract holder entitlements in addition to following/lease agreements with other entitlement holders.

To estimate the amount of Colorado River water potentially available through following agreements, CAGRDR assumed that a maximum of 20% of the consumptive use associated with all irrigated acreage within each county (based on data from 2010 to 2013) could be made available. The limits on following employed in developing these estimates are consistent with technical guidance developed and utilized by the United States Bureau of Reclamation (“Reclamation”) for federal irrigation projects in California. The “low” estimate in **Table 4.2** is simply 50% of the “high” estimate.

These planning-level numbers do not presume that water supplies associated with decreed tribal rights included in the county-wide irrigated acreage will be available to CAGRDR to meet future obligation. Instead, as is the case with tribal CAP water supplies, the volumes included in **Table 4.2** reflect CAGRDR’s intention to approach Colorado River entitlement holders, both tribal and non-tribal, in an effort to reach mutually acceptable agreements regarding future use of these supplies by CAGRDR.

CAGRDR has developed a pilot following program with the Yuma Mesa Irrigation & Drainage District (YMIDD) that could be used as a model for additional following agreements with on-river irrigation districts. Such agreements would result in unused Colorado River water that could be wheeled to the CAP service area.

One significant attribute of this supply is that it is non-Project water and as such, will need to be wheeled through the CAP canal. A discussion of the status of the development of a program for wheeling non-Project water, including the joint development by CAWCD and Reclamation of a standard form wheeling agreement is provided in the adjacent sidebar.

#### **4.5.5 Imported Groundwater**

Arizona law permits the importation of groundwater from three groundwater basins in the western portion of the state into the three counties that make up the CAP service area. These are the Harquahala, Butler, and McMullen Valleys. At this time, only Harquahala and Butler Valley groundwater are being considered as potential sources of imported groundwater for CAGRDR.

CAGRDR estimates that approximately 101,550 AF/yr to 203,100 AF/yr (over 100 years) could be pumped from those two basins. Imported groundwater is a potential water supply that is not considered to be available until after 2034 because of the presumed high cost of developing this supply and significant regulatory uncertainties about developing and transporting the water for use within the CAP service area. Importing groundwater from these basins would also require a wheeling agreement to move the supplies through the CAP canal and extensive infrastructure within the groundwater basins to pump and potentially treat the water before discharging it to the CAP canal.

## SIDEBAR: WHEELING OF NON-PROJECT SUPPLIES

Wheeling involves using the CAP system to transport and deliver non-Project water. "Project Water" is defined as Colorado River water available to CAP, along with certain Agua Fria inflows captured in Lake Pleasant. Therefore, non-Project water includes any other water and can include additional Colorado River water or imported groundwater. Wheeling is authorized in the 1988 Master Repayment Contract between CAWCD and the United States Bureau of Reclamation ("Master Repayment Contract"). The Master Repayment Contract includes specific provisions related to wheeling non-Project water and specifies that CAWCD and Reclamation will jointly develop a standard form of wheeling agreement. Reclamation has indicated that development and approval of that agreement requires a formal negotiation process, which includes an authorization process within Reclamation and compliance with federal public participation requirements.

In anticipation of that process, for the past several years CAWCD and Reclamation have engaged in technical discussions that have identified potential operational and contractual issues. Those discussions have helped CAP staff develop concepts that have been turned into a staff proposal for wheeling non-Project water.

In March of 2013, CAP staff developed a wheeling proposal that included a draft standard form wheeling agreement, proposed modifications to the CAP operating agreement and several white papers. That proposal was presented at a public workshop in the spring of 2013. In the fall of 2013, staff also created an interactive computer model that simulates how key provisions of the staff proposal would work, including the interplay

between Project Water deliveries and water wheeled pursuant to both federal and CAP rights (respectively, Section 8.17 and 8.18 of the Master Repayment Contract).

In anticipation of the formal negotiation phase with Reclamation, CAP staff undertook a focused stakeholder process to refine and improve the 2013 staff proposal. The goal of the stakeholder process was to have a revised set of documents that could serve as the starting point for formal negotiations with Reclamation.

CAP held four wheeling stakeholder meetings during the period from March through June 2014. As a result of those meetings, and requests from stakeholders for greater clarity and flexibility in the implementation of a wheeling program, staff developed a revised wheeling proposal, which includes modifications to the draft standard form wheeling agreement and a document titled "Supplemental Staff Position Statements on Wheeling Non-Project Water." All elements of the CAP staff wheeling proposal are posted on CAWCD's website, as well as the meeting summaries and presentations from the four wheeling stakeholder meetings.

The process for developing a wheeling program and a standard form of wheeling agreement is well underway. CAGRDR is confident that by the time it acquires a non-Project water supply and is ready to transport that supply into the three-county service area, a wheeling program will be in place and CAGRDR will be able to enter into a wheeling agreement to have that supply transported through the CAP system.

## 4.5.6 Arizona Desalination

Another potential supply that will be considered only after lower-cost supplies are no longer available is in-state desalination. The cost of removing salts, disposing of waste products from desalination, and transporting this water results in a potentially high-cost water supply that would not be targeted for acquisition until after 2034. One location of this potential supply is in the Yuma area, where saline groundwater is currently pumped from shallow aquifers to prevent crop damage. This water could be pumped and treated for local uses, then exchanged for Colorado River water transported via the CAP canal. Another area of saline groundwater is along the Gila River near Buckeye. In that case, however, the water is perhaps more likely to be used by local water providers to reduce reliance on replenishment by CAGR.

Previous studies have suggested that between 14,000 and 40,000 AF per year of saline groundwater could be pumped and treated from these two areas to provide additional water supplies in the future.

TABLE 4.2

### AVAILABLE WATER SUPPLIES

2015–2114

SUPPLY CATEGORY	SUPPLY LOCATION	TOTAL CURRENT SUPPLY (AF/YR, 100 YRS)	AVAILABLE WATER SUPPLIES 2015 – 2034		AVAILABLE WATER SUPPLIES 2035 – 2114	
			LOW (AF/YR, 100 YRS)	HIGH (AF/YR, 100 YRS)	LOW (AF/YR, 100 YRS)	HIGH (AF/YR, 100 YRS)
Long-Term Storage Credits	Phoenix AMA, Pinal AMA, Tucson AMA, Harquahala INA	88,900 <sup>1</sup>	11,000 <sup>2</sup>	22,000	11,000	22,000
Effluent	Phoenix AMA, Pinal AMA, Tucson AMA	407,600 <sup>3</sup>	59,600 <sup>4</sup>	119,200	76,100 <sup>5</sup>	152,300
Central Arizona Project	All Contracts, Subcontracts, and Unallocated Supplies	1,415,000 <sup>6</sup>	279,700 <sup>7</sup>	559,300	175,600	351,200 <sup>8</sup>
Colorado River	Arizona Entitlements Excluding CAP Supplies	1,143,700 <sup>9</sup>	109,800 <sup>10</sup>	219,700	109,800	219,700
Imported Groundwater	Harquahala and Butler Valleys	209,000 <sup>11</sup>	0	0	101,550 <sup>12</sup>	203,100
Arizona Desalination	Yuma-area, Phoenix AMA	40,000 <sup>13</sup>	0	0	14,000 <sup>14</sup>	40,000
<b>TOTAL:</b>		<b>3,364,200</b>	<b>460,100</b>	<b>920,200</b>	<b>488,050</b>	<b>988,300</b>

**TABLE NOTES:**

- <sup>1</sup> Equivalent to total existing LTSCs in Phoenix AMA, Pinal AMA, Tucson AMA, and Harquahala INA. Data source: ADWR LTSC accounting, April 8, 2014.
- <sup>2</sup> Potentially available LTSC supply (high end) includes LTSCs not currently owned (or subject to an existing purchase agreement) by CAWCD, CAGRDR or AWBA, and LTSCs not currently pledged to a Designation of Assured Water Supply. The low end of potentially available supply assumes a 50% acquisition success rate.
- <sup>3</sup> Equivalent to total current annual effluent production in Phoenix, Pinal, and Tucson AMAs. Data source: 2013 Effluent Survey by WestWater Research for CAGRDR.
- <sup>4</sup> 20-year effluent supply (high end) includes all effluent that is currently discharged and unused, i.e. not directly reused or recharged. The low end of potentially available supply assumes a 50% acquisition success rate.
- <sup>5</sup> 80-year effluent supply is equivalent to the 20-year supply escalated for 20 years at the anticipated annual rate of population change in Maricopa, Pinal, and Pima counties. Population projections published by the Arizona Department of Administration Office of Employment and Population Statistics were relied upon. This adjustment is intended to account for growth in effluent production over time.
- <sup>6</sup> Total CAP supply is the sum of all CAP contract, subcontract, and unallocated volumes. Data source: CAP Subcontracting Status Report, October 1, 2014.
- <sup>7</sup> Potentially available 20-year CAP supply (high end) includes all supplies that were not delivered from 2010 through 2013, all Indian supplies delivered under short-term (1-5 yr) lease agreements, and all Indian supplies delivered to permitted recharge facilities. Supplies currently owned or leased by CAGRDR are not included. Downward adjustments were made based on knowledge of planned uses for individual supplies that are currently unused. The low end of potentially available supply assumes a 50% acquisition success rate. The purpose of developing a range of potentially available supplies is to recognize that multiple factors including Agricultural Settlement Pool commitments could reduce the quantity of CAP water that CAGRDR is able to acquire.
- <sup>8</sup> The 80-year CAP supply assumes that available CAP Indian supplies are reduced 50% to account for additional on-reservation uses during the next 20 years and that unused CAP M&I supplies will be reduced by 64,300 AF over the same time period, consistent with projected M&I supply usage modeled as part of the replenishment projections described in *Chapter 3* of this report.
- <sup>9</sup> Total supply of Colorado River entitlements equals Arizona's consumptive use minus CAP diversions, averaged from 2010 through 2013. Data source: Colorado River Decree Accounting Reports.
- <sup>10</sup> Potentially available Colorado River supply (high end) is 20% of Arizona's average annual on-river agricultural consumptive use, 2010-2013. The 20% limit is based on Reclamation's guidelines for approving water transfers in California, "limiting cropland idling to 20 percent...should limit economic effects." The low end of potentially available supply assumes a 50% acquisition success rate. For comparison purposes, more than 60% of cropped acres on Arizona's Colorado River are planted to alfalfa, grasses, cotton, grains and/or other crops that are agronomically amenable to temporary fallowing.
- <sup>11</sup> This total includes 6.5 million AF in recoverable storage within Butler Valley (ADWR, Arizona Water Resources Assessment, 1994, Vol. II), and 14.4 million AF from Harquahala Valley (Southwest Groundwater Consultants, 2010). The sum of this total supply is divided by 100 to estimate the annual supply.
- <sup>12</sup> Potentially available imported groundwater supply (high end) includes 65,000 AF/yr from Butler Valley (total supply), and 138,149 AF/yr from Harquahala Valley (Harquahala Valley Project Physical Availability Demonstration, Southwest Groundwater Consultants, 2010). Low end assumes a 50% acquisition success rate.
- <sup>13</sup> Total Arizona Desalination supply includes 25,000 AF/yr of Yuma-area groundwater (Cherry Water Management, 2013) and 15,000 AF/yr of Buckeye waterlogged area groundwater (Carr, 2010).
- <sup>14</sup> Potentially available Arizona Desalination supply consists of 2,000 AF/yr (Carr, 2010) to 25,000 AF/yr of Yuma-area groundwater (Cherry Water Management, 2013), and 12,000 AF/yr to 15,000 AF/yr of Buckeye waterlogged area groundwater (Carr, 2010). Contaminated groundwater is not included due to lack of clear quantification and regulatory uncertainties.

## 4.6 SUPPLIES CAGRD “PLANS TO USE” TO MEET REPLENISHMENT OBLIGATION 2015–2034

Consistent with previous Plans of Operation, CAGRD interprets the term “plans to use” as including water resources that are currently available and likely to be used to meet CAGRD’s replenishment obligation during the twenty years following submittal of the Plan to ADWR, in addition to those water supplies that are within CAGRD’s current water supply portfolio. CAGRD intends to pursue the development of additional water supplies and, to the extent that willing-seller/willing-buyer agreements are negotiated with the holders of those water supplies, CAGRD plans to use these newly-acquired supplies to meet its replenishment obligation over the next 20 years.

The water resources CAGRD plans to use during the period from 2015 through 2034 include: (i) CAGRD’s existing entitlements to 36,534 acre-feet of annual, long-term water supplies (31,081 AF/yr of long-term entitlements plus 5,453 AF/yr of annualized LTSCs); (ii) Excess CAP water, to the extent that it is available; and (iii) a mix of supplies from the inventory of available water supplies identified in **Table 4.2** as being available during the next 20 years. These supply acquisitions will occur according to the principles identified for the Water Supply Program in *Section 4.4.1*, including the equal mix of long-term and short-term supplies. Long-term supplies, as noted, would be available for at least 100 years. Short-term supply needs can be fulfilled with short-term leases and purchase of LTSCs. As discussed in *Section 4.3*, the projected replenishment obligation for current and projected members by 2034 is 86,900 AF/yr. Fifty percent or 43,450 AF/yr of this obligation should be met with long-term supplies.

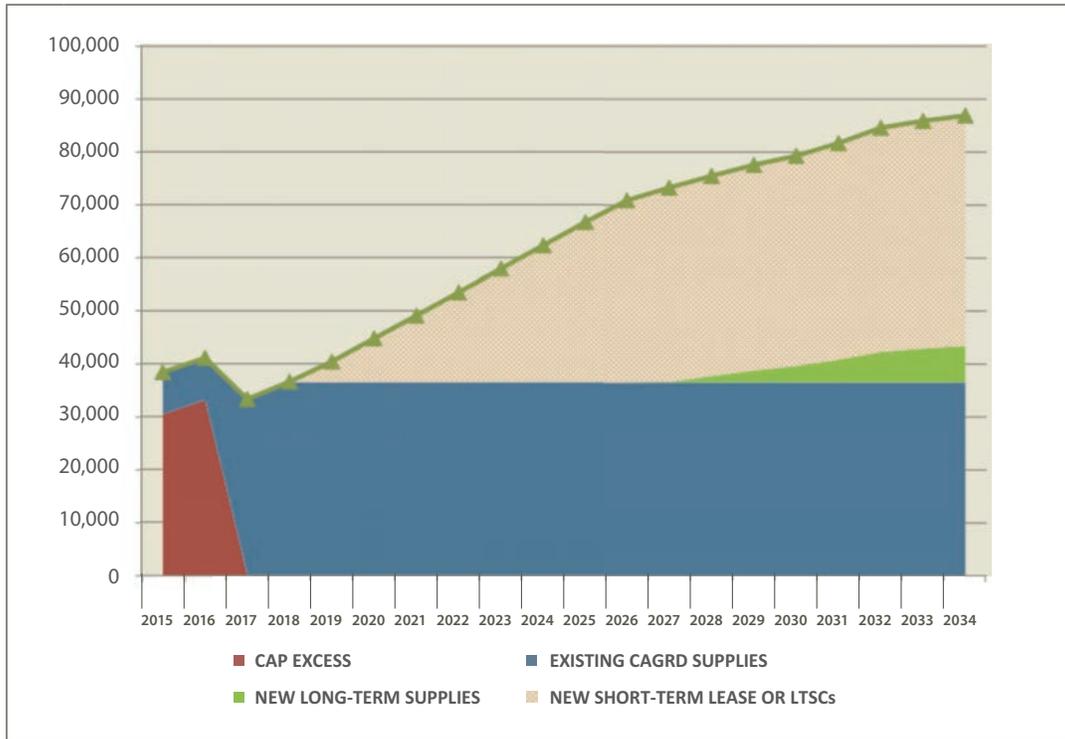
**Figure 4.1** identifies how the existing CAGRD water supply portfolio will be used to meet replenishment obligation in the 2015–2034 period, in addition to identifying the timing and extent of additional acquisitions of both long-term and short-term supplies to maintain the 50/50 mix of long-term and short-term supplies identified in *Section 4.4.1*. While **Figure 4.1** suggests that additional long-term supplies are not needed until 2027, CAGRD will be pursuing any long-term supplies that are viewed as a viable acquisition target throughout the next 20 years. The total quantity of new long-term supplies expected to be needed by 2034 is approximately 6,900 AF/yr, which leaves approximately 43,400 AF/yr of obligation to be met by either LTSCs or short-term leases.

**Table 4.2** identifies ample long-term water supplies projected to be available over the next 20 years to meet the likely need of 6,900 AF/yr. These supplies include effluent, CAP and Colorado River water. Short-term supplies would come in the form of LTSCs or short-term (up to 20-year) leases of CAP, Colorado River, or effluent supplies. Relevant characteristics of these supplies and the potential mechanisms for acquisitions are fully described in *Section 4.5*.

As a practical matter, it is impossible to identify specific supplies and volumes that CAGRD will acquire over the next 20 years. What is certain, however, is the following: CAGRD has established a robust water supply acquisition program, with clearly defined supply acquisition program principles and objectives. As a result of the CAGRD Water Supply Study, CAGRD has developed the most reliable and up-to-date information about the extent of available water supplies, the economic value of those supplies and the likely time needed to

FIGURE 4.1

## USE OF EXISTING CAGR D WATER SUPPLY PORTFOLIO AND SUPPLIES CAGR D PLANS TO USE TO MEET PROJECTED OBLIGATION



acquire those supplies. Using the data in the Water Supply Study and following the objectives and principles of the water supply program, CAGR D has been successful in acquiring a portfolio of supplies in an amount that currently exceeds its replenishment obligation. CAGR D will continue to acquire supplies pursuant to its Water Supply Acquisition Program. CAGR D anticipates acquiring a mix of supplies from the universe of supplies identified in **Table 4.2** over the next 20 years to meet the replenishment obligation as it arises, while seeking to maintain a mix of 50% long-term and 50% short-term entitlements. Finally, as previously stated, the volume of supplies identified as available over the next 20 years in **Table 4.2** far exceeds the maximum volume of supplies that CAGR D would need to acquire over this period.



## 5.0 REPLENISHMENT RESERVE

The statutory provisions relating to the Replenishment Reserve are identified below.

### **A.R.S. § 45-576.02.C.2**

...the plan shall include the following information for each active management area in which a member land or member service area is located:

### **A.R.S. § 45-576.02.C.2(e)**

A description of the district's current replenishment reserve activities in each active management area for the ten years preceding the current plan and the planned replenishment reserve activities for the ensuing ten years to be undertaken pursuant to section 48-3772, subsection E.

Additional statutory language related to establishing and funding the Replenishment Reserve is included in **Appendix C**.

The Replenishment Reserve consists of LTSCs that CAGR D accrues in a Replenishment Reserve subaccount established for each AMA within which CAGR D operates. The purpose of the Replenishment Reserve is to help ensure that CAGR D will be able to meet its replenishment obligation and to enhance rate stability. During periods of water supply shortage or infrastructure failure, CAGR D will use LTSCs from the Replenishment Reserve to offset its replenishment obligation, rather than purchasing spot-market water, which may be more costly during shortage or outage conditions.

## 5.1 RESERVE TARGET

The volume of LTSCs to be accrued in the Replenishment Reserve is known as the "Reserve Target." A Reserve Target must be identified for each AMA based on that AMA's projected obligation and the water supplies planned to be used to meet that obligation as described in the Plan of Operation. The Reserve Target is re-calculated for each new Plan of Operation based upon the specifics of each Plan. The Reserve Target volume also must be maintained over time. If Replenishment Reserve credits are used to offset obligation, CAGR D must accrue replacement credits in order to maintain the full Reserve Target volume.

The Reserve Target for each AMA is equivalent to 20% of the difference between the total 100-year replenishment obligation for that AMA and the total volume of long- and intermediate-term water supplies planned to be used to meet the obligation. The projected obligation for Category 2 MLs (golf courses) and the obligation associated with WAS membership (i.e., the City of Scottsdale) are excluded from the total 100-year replenishment obligation. Water supplies with less than 20 years of availability also are excluded from the total volume of water supplies when determining the Reserve Target volume.

Expressed as a formula, the Reserve Target calculation can be summarized as follows:

$$\text{Reserve Target} = (\text{Obligations} - \text{Supplies}) * 20\%$$

Where:

- Obligations = CAGRD’s total projected groundwater replenishment obligation<sup>1</sup> over the next 100 years;
- Supplies = The sum of those water supplies identified in the CAGRD Plan of Operation as water that CAGRD plans to use to meet its replenishment obligation in the AMA (adjusted for availability).

CAGRD’s projected 100-year groundwater replenishment obligation for each AMA is detailed in *Chapter 3*; *Chapter 4* describes the water supplies that CAGRD plans to use to meet its replenishment obligation. Of the supplies identified in *Chapter 4*, some supplies can be attributed to a specific AMA; others are available to meet the obligation in any AMA. One AMA-specific supply is the CAP M&I subcontract water that CAGRD has acquired from certain water providers in the Phoenix AMA. As a condition of that acquisition, those supplies are to be used, to the extent needed, to offset obligation within the Phoenix AMA and are to be replenished as close as feasible to the service areas associated with the original allocations. In addition, effluent purchases and storage, as well as LTSC accruals and purchases, are specific to the AMA within which they occur, unless these credits are later recovered and moved to another AMA. At this time, due to the higher cost of recovering and moving the credits to another location, it is assumed that these credits remain within the AMA within which they are accrued. The remaining sources are assumed to be distributed among all three AMAs, as needed, in order to meet the AMAs’ replenishment obligations.

**Table 5.1** shows the projected 100-year replenishment obligation volume per AMA.

TABLE 5.1

## PROJECTED 100-YEAR REPLENISHMENT OBLIGATION

By AMA

	PHOENIX AMA (AF)	PINAL AMA (AF)	TUCSON AMA (AF)	TOTAL (AF)
Projected 100-Year Replenishment Obligation Volume	6,061,731	480,356	1,133,802	7,675,889
Category 2 ML and WAS Membership Obligation Volume <sup>1</sup>	23,070	0	7,800	30,870
Final Projected 100-Year Replenishment Obligation (minus Category 2 MLs and WAS Membership)	6,038,661	480,356	1,126,002	7,645,019

**TABLE NOTE:**

<sup>1</sup> Assumes 600 AF/yr obligation for Scottsdale in 2015 and 2016, with no further obligation; assumes Category 2 ML volume equal to 30 years of 2013 obligations. Pursuant to terms of membership agreement, beginning in 2017, Scottsdale will be providing a water supply to meet its WAS replenishment obligation.

<sup>1</sup> Excluding the projected obligation for Category 2 MLs (golf courses) and obligation associated with the City of Scottsdale’s WAS membership.

**Table 5.2** shows the Replenishment Reserve Target per AMA based upon the projected 100-year replenishment obligation and water supplies planned to meet this obligation. Existing supplies that are AMA-specific are listed as such. Other existing supplies that are available for use throughout the CAGR D service area will be used over time to meet replenishment obligations in the most cost-effective and efficient manner possible. In addition, future acquisitions of long-term water supplies (consistent with CAGR D’s goal of meeting at least 50% of its replenishment obligation with long-term water supplies) will be distributed throughout the CAGR D service area in the same manner.

TABLE 5.2

## REPLENISHMENT RESERVE TARGET

By AMA

PLANNED WATER SUPPLIES	PHOENIX AMA (AF)	PINAL AMA (AF)	TUCSON AMA (AF)	TOTAL (AF)
CAP M&I Entitlement (100 years)	799,600	0	0	799,600
WMAT Lease (100 years)	TBD	TBD	TBD	164,150 <sup>1</sup>
CAP NIA Entitlement (100 years)	TBD	TBD	TBD	1,194,000 <sup>2</sup>
Liberty Effluent Lease (100 years)	235,200	0	0	235,200 <sup>3</sup>
LTSC Purchases (100 years)	400,900	0	144,400	545,300 <sup>4</sup>
Other 100-year water supplies	TBD	TBD	TBD	884,260 <sup>5</sup>
<b>Total Water Supplies</b>	<b>3,019,331</b>	<b>240,178</b>	<b>563,001</b>	<b>3,822,510<sup>6</sup></b>
Total 100-year Obligation	6,038,661	480,356	1,126,002	7,645,019
Obligations minus Supplies	3,019,330	240,178	563,001	3,822,509
<b>Target (20%)</b>	<b>603,866</b>	<b>48,036</b>	<b>112,600</b>	<b>764,502</b>

**TABLE NOTES:**

<sup>1</sup> Assumes 2,500 AF/yr available beginning in 2017; assumes 67% reliability over 100 years.

<sup>2</sup> Assumes 18,185 AF/yr available beginning in 2017; assumes 67% reliability over 100 years.

<sup>3</sup> Assumes 2,400 AF/yr available beginning in 2017; assumes 100% reliability over 100 years.

<sup>4</sup> Assumes 5,453 AF/yr available beginning in 2015; assumes 100% reliability over 100 years.

<sup>5</sup> Assumes 50% of 7,645,019 AF total 100-year replenishment obligation is long-term (3,822,510 AF).

<sup>6</sup> Assumes all other CAGR D water supplies are of 20-year or less term.

The Reserve Targets identified in **Table 5.2** will remain in effect until CAGR D prepares its next Plan of Operation, unless there is a significant change in (1) the projected replenishment obligation identified in *Chapter 3* or (2) the water supply acquisition plan identified in *Chapter 4*. Per A.R.S. § 48-3772 E.2, if CAGR D experiences or anticipates significant change in either or both of these conditions prior to preparation of the next Plan of Operation, the Reserve Targets may be adjusted with approval from the Director of ADWR.

## 5.2 TEN-YEAR REPLENISHMENT RESERVE ACTIVITIES

CAGRDR has accrued a significant number of LTSCs in its Replenishment Reserve subaccounts. **Table 5.3** shows the number of credits accrued in each AMA over the past ten years. These credits have been accrued through a combination of storage in constructed USFs, storage at GSFs and the purchase of pre-existing LTSCs from CAWCD.

TABLE 5.3

### REPLENISHMENT RESERVE ACTIVITY

By AMA (Volume in AF)

AMA	BALANCE through 2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014 <sup>1</sup>	TOTAL
Phoenix	4,145	2,000	6,060	4,748	20,384	23,129	21,036	11,431	14,583	5,614	17,784 <sup>2</sup>	18,708	149,622
Pinal	0	0	270	0	0	2,329	171	0	230	0	243	286	3,529
Tucson	2,873	3,428	3,672	3,882	2,297	4,019	1,158	4,077	1,500	7	2,577	3,001	32,491
<b>TOTAL</b>	<b>7,018</b>	<b>5,428</b>	<b>10,002</b>	<b>8,630</b>	<b>22,681</b>	<b>29,477</b>	<b>22,365</b>	<b>15,508</b>	<b>16,313</b>	<b>5,621</b>	<b>20,604</b>	<b>21,995</b>	<b>185,642</b>

**TABLE NOTES:**

<sup>1</sup> Estimated based on 2014 water order and projected purchase of CAWCD credits.

<sup>2</sup> Excludes 5 AF not credited to CAGRDR due to over-flex at Queen Creek Irrigation District.

## 5.3 PLANNED REPLENISHMENT RESERVE ACTIVITIES

The following sections describe water supplies that CAGRDR plans to use to meet the Replenishment Reserve Target for each AMA. In addition to LTSCs CAGRDR already has accrued in its Replenishment Reserve accounts, as summarized in **Table 5.3**, a significant number of existing LTSCs held by CAWCD have been dedicated for the Replenishment Reserve. These existing credits and additional water supplies will be used as needed and in a manner to facilitate the most cost-effective establishment and maintenance of AMA-specific Replenishment Reserve Targets.

### 5.3.1 Existing CAWCD Long-term Storage Credits

On October 6, 2005, the CAWCD Board approved a policy (see **Appendix C**) dedicating all unencumbered LTSCs currently held by CAWCD to CAGRDR for purposes of establishing the Replenishment Reserve. In addition to advancing the goals of ensuring CAGRDR's ability to meet its replenishment obligation and avoiding rate shock, the CAWCD Board policy specifically is intended to help reduce competition for water supplies among CAGRDR and other water users within CAWCD's service area. These dedicated LTSCs are located in all three AMAs served by CAGRDR and CAWCD. They include those accrued by CAWCD in the early to mid-1990s using its own reserve funds, as well as those accrued by CAWCD in the mid-1990s using money from the State Water Storage Fund (also known as State Demonstration funds). **Table 5.4** provides a summary of the dedicated CAWCD LTSCs.

The CAWCD Board policy requires CAGRDR to pay CAWCD for the LTSCs when they are actually transferred at a rate equal to the then-current rate for Excess CAP water that could otherwise be used by CAGRDR to accrue LTSCs. If Excess CAP water is not available to CAGRDR to accrue LTSCs when a transfer takes place, CAGRDR is to pay CAWCD the same rate paid by CAP M&I subcontractors for water delivered, plus the then-current M&I capital charge.

TABLE 5.4

## EXISTING CAWCD LONG-TERM STORAGE CREDITS

Dedicated to CAGR D Replenishment Reserve

DESCRIPTION	PHOENIX AMA VOLUME (AF)	PINAL AMA VOLUME (AF)	TUCSON AMA VOLUME (AF)	TOTAL (AF)
CAWCD LTSCs dedicated to CAGR D Replenishment Reserve	302,832	318,695	2,327	623,854

**Table 5.5** summarizes the total LTSCs available for the CAGR D Replenishment Reserve in each AMA, including existing CAGR D Replenishment Reserve credits and dedicated CAWCD credits.

TABLE 5.5

## AVAILABLE REPLENISHMENT RESERVE CREDITS

By AMA

AMA	ACCRUED LTSCS (AF)	DEDICATED LTSCS (AF)	TOTAL AVAILABLE LTSCS (AF)
Phoenix	149,622	302,832	452,454
Pinal	3,529	318,695	322,224
Tucson	32,491	2,327	34,818
TOTAL	185,642	623,854	809,496

**Table 5.6** presents a summary of the AMA Replenishment Reserve Targets, dedicated CAWCD credits and existing CAGR D Replenishment Reserve credits, and the balance of available credits per AMA.

TABLE 5.6

## REPLENISHMENT RESERVE TARGETS AND AVAILABLE LONG-TERM STORAGE CREDITS

By AMA

AMA	TARGET (AF)	AVAILABLE LTSCs (AF)	BALANCE (AF)
Phoenix	603,866	452,454	(151,412)
Pinal	48,036	322,224	274,188
Tucson	112,600	34,818	(77,782)
TOTAL	764,502	809,496	44,994

It is apparent that sufficient water supplies are available to CAGR D to meet the total Replenishment Reserve Target through a combination of CAGR D's existing Replenishment Reserve subaccount balance and the dedicated CAWCD LTSCs. It also is apparent that a significant volume of dedicated CAWCD LTSCs in the Pinal AMA are available, if needed and appropriate, to be re-positioned to help meet the targets for the Phoenix and Tucson AMAs.

While the volume of potentially available LTSCs slightly exceeds the total Replenishment Reserve Target, it is important to remember that CAGRDR not only must achieve the Replenishment Reserve Target but also must maintain the Target amount within each AMA. Therefore, CAGRDR will not seek to re-position all of the “excess” LTSCs in the Pinal AMA but will plan to rely on a significant volume of these “excess” LTSCs to maintain the Pinal AMA target amount in the future.

Moving LTSCs from the Pinal AMA to the Tucson or Phoenix AMAs could be more expensive than other options available to CAGRDR. If deemed appropriate to move some of these LTSCs in the future, however, re-positioning may be accomplished either by direct or indirect recovery of the LTSCs from Pinal AMA and replenishment in the other AMAs or by implementation of one or more exchange agreements. CAWCD and AWBA have developed a conceptual joint recovery plan that includes recovery of AWBA LTSCs in the Pinal AMA. CAGRDR will work cooperatively with CAWCD and AWBA to evaluate opportunities to participate in future recovery plans in the Pinal AMA and elsewhere, if appropriate.

Exchange agreements could involve other Pinal AMA entities that have entitlements to CAP water. Under such agreements, existing LTSCs in Pinal AMA could be recovered and delivered to the CAP entitlement holder and the “exchanged” CAP water could be stored in the Phoenix or Tucson AMAs to accrue LTSCs in the Replenishment Reserve. Another possibility is that CAGRDR could enter into an “exchange” with itself. Under this scenario, CAGRDR could use existing Pinal AMA LTSCs to offset its Pinal AMA replenishment obligation in a given year, and the surface water that CAGRDR would have otherwise transported to and replenished in the Pinal AMA could be replenished in the Phoenix or Tucson AMAs to accrue LTSCs in the Replenishment Reserve. However, both of these exchange mechanisms implicate certain policy issues that will need to be fully addressed with the CAWCD Board prior to being implemented. CAGRDR will further evaluate these opportunities and, if appropriate, will address these policy issues with the CAWCD Board.

The CAWCD dedicated LTSCs effectively provide a secure “insurance policy” that will ensure that CAGRDR will be able to fully meet its Replenishment Reserve Targets regardless of future water supply conditions within the service area.

### **5.3.2 Use of “Excess” Water in CAGRDR’s Planned Water Supply Portfolio**

The water supplies that CAGRDR plans to use to meet its replenishment obligation are described in *Chapter 4*. Some volume of these planned water supplies could be used to help meet the Replenishment Reserves Targets in the Phoenix and Tucson AMAs. CAGRDR will make future decisions on if, how and when to use excess water supplies based on the most beneficial and efficient use of all its available water resources.

### **5.3.3 Use of Excess CAP Water**

Per A.R.S. § 48-3772.E.8, CAGRDR has been granted access to Excess CAP water for purposes of establishing and maintaining the Replenishment Reserve. Although there is a significant possibility of a Colorado River shortage declaration in 2017 that could eliminate Excess CAP water as an available water supply, it is anticipated that CAGRDR will have intermittent access to Excess CAP water in future years. Therefore, CAGRDR will plan to make appropriate use of Excess CAP water, when it is available, to most cost-effectively achieve and maintain its required Replenishment Reserve subaccounts in all three AMAs.

## 6.0 STORAGE FACILITIES PLANNED FOR USE

The statutory obligations relating to storage facilities and projects for the CAGR D Plan of Operation are identified below.

### **A.R.S. § 45-576.02.C.2**

...the plan shall include the following information for each active management area in which a member land or member service area is located:

### **A.R.S. § 45-576.02.C.2(e)**

A description of any facilities and projects to be used for replenishment and the replenishment capacity available to the conservation district during the twenty calendar years following submission of the plan.

### **A.R.S. § 45-576.02.C.2(f)**

An analysis of potential storage facilities that may be used by the conservation district for replenishment purposes.

### **A.R.S. § 45-576.03.N.3**

The Director shall make a determination that the conservation district's plan is consistent with achieving the management goal for each active management area if all of the following have been demonstrated: . . . The conservation district has identified sufficient capacity at storage facilities and projects to be used for replenishment purposes during the twenty calendar years following the submission of the plan.

This chapter addresses these required elements with a description of existing storage facilities and a comparison of the operational capacity of storage facilities to the replenishment capacity available to CAGR D. Tables are provided summarizing available AMA storage capacity (**Table 6.1**) and identifying details of the storage facility inventory (**Appendix D; Table D-1**).

## 6.1 DESCRIPTION OF STORAGE FACILITIES AVAILABLE TO CAGR D

CAGR D is required to demonstrate in its Plan of Operation that sufficient capacity is available at storage facilities to meet CAGR D's projected replenishment obligation. Existing statutes require CAGR D to replenish within the AMA in which obligations are incurred. Consistent with current CAWCD policy, CAGR D attempts to replenish within the same sub-basin in which obligations are incurred whenever possible<sup>1</sup>. CAGR D has access to significant underground storage capacity existing at USFs constructed by CAWCD and a number of GSFs, as described in this chapter.

<sup>1</sup> In addition to CAWCD policy, in the Phoenix AMA, CAGR D is required by law, "to the extent reasonably feasible" to "replenish groundwater in the east portion of the AMA and in the west portion of the AMA in the approximate proportion that the groundwater replenishment obligation attributable in a particular year to member lands and member service areas located in the east portion of the AMA bears to the groundwater replenishment obligation attributable in that year to member lands and member service areas located in the west portion of the AMA. . . ." A.R.S. § 48-3772.1.

## 6.1.1 Underground Storage Facilities Constructed by CAWCD

CAWCD currently owns and operates six USFs in the three AMAs, with a combined annual total permitted capacity<sup>2</sup> of 421,500 AF. Four of these USFs are located in the Phoenix AMA: the Tonopah Desert Recharge Project, the Hieroglyphic Mountains Recharge Project, the Agua Fria Recharge Project, and the Superstition Mountains Recharge Project. The total annual operational storage capacity<sup>3</sup> of the four Phoenix AMA USFs is 235,000 AF. However, the City of Peoria owns 15% of the storage capacity at the Agua Fria Recharge Project and the Hieroglyphic Mountains Recharge Project, and pursuant to a partnership agreement between CAWCD and Salt River Project (“SRP”), SRP has a first right of refusal to 15,000 AF of storage capacity at the Superstition Mountains Recharge Project until 2023. Subtracting these third-party rights, CAWCD has exclusive access to a total of 211,000 AF of annual underground storage capacity in the Phoenix AMA. By 2020, an additional 31,500 AF of storage capacity is expected to be available when CAWCD completes Phase 2 of the Superstition Mountains Recharge Project.

The remaining two USFs owned and operated by CAWCD are located in the Tucson AMA: the Lower Santa Cruz Recharge Project and the Pima Mine Road Recharge Project. The total annual operational storage capacity of the two Tucson AMA USFs owned and operated by CAWCD is 72,000 AF. However, approximately 2,300 AF of annual storage capacity at the Lower Santa Cruz Recharge Project is reserved as system reliability for the Northwest Providers.<sup>4</sup> Further, the City of Tucson owns 50% of the annual storage capacity at the Pima Mine Road Recharge Project, and 6,000 AF of the remaining annual storage capacity at Pima Mine Road is reserved for system reliability for Tucson. Subtracting these third-party rights, CAWCD has exclusive access to a total of 48,700 AF of annual underground storage capacity in the Tucson AMA. Additionally, CAWCD may have access to a modest portion of the annual storage capacity at the Avra Valley Recharge Project, owned by Metropolitan Domestic Water Improvement District (MDWID).

**Table D-1** lists the storage capacity potentially available to CAGR for each USF owned and operated by CAWCD and the Avra Valley Recharge Project (**Appendix D**). The volume of storage capacity potentially available to CAGR identified in **Table D-1** assumes that all storage capacity remaining after the satisfaction of the contractual obligations outlined above will be available, if needed, for CAGR replenishment purposes.

### 6.1.1.1 CAWCD POLICY REGARDING PRIORITY ACCESS TO CAWCD USF CAPACITY

The CAWCD Board approved a new policy regarding capacity priority for CAWCD USFs on May, 2, 2013 (**Appendix D**). Numerous water users currently store their CAP water at CAWCD’s six USFs pursuant to water storage agreements issued by CAWCD. Requests for new water storage agreements continue to be submitted to the CAWCD Board for consideration of approval. The development of the USF Capacity Priority Policy (“Policy”) arose from concerns about the lack of formal guidelines for scheduling and prioritization of storage at these facilities in the event that requests for storage capacity exceed available capacity. Although nearly all customer requests for storage capacity at CAWCD’s USFs have been met to date, the Policy establishes a priority for storage capacity when there are competing demands.

<sup>2</sup> Permitted capacity represents the maximum annual volume allowable by ADWR.

<sup>3</sup> Operational capacity represents the maximum volume the facility operator has determined can be stored in a given year. Differences between permitted and operational capacity for USFs may vary depending on factors such as infrastructure and infiltration rates.

<sup>4</sup> The Northwest Providers are the parties identified in the January 4, 2011 Agreement for Tucson Reliability. They are: the City of Tucson, the Town of Marana, the Town of Oro Valley, the Metropolitan Domestic Water Improvement District and the Flowing Wells Irrigation District.

The Policy describes a methodology for scheduling storage capacity that initially follows CAWCD's existing water scheduling policy. Specifically, if insufficient storage capacity exists, CAWCD will contact requesters to determine their willingness to reduce or relocate their storage. If voluntary reductions/relocations are insufficient, a meeting will be held to provide a forum for all requesters to come to agreement on sharing storage capacity. If an agreement cannot be reached, CAWCD will use the following priorities to establish the final storage schedules:

- Entities with contractual rights to CAP storage facilities
- CAGRDR replenishment obligations
- Entities with statutory firming obligations, co-equal priority for AWBA, CAGRDR, and U.S. (Indian Firming)
- Individual CAP long-term contract entitlements
- Individuals storing water under a CAP excess contract

The Policy allocates the highest priority for USF capacity to CAGRDR after contractual commitments are met and, therefore, preserves significant storage capacity within CAWCD's USFs for use by CAGRDR for replenishment purposes.

### 6.1.2 Groundwater Savings Facilities

In addition to the USFs directly owned and operated by CAWCD, CAGRDR has existing agreements with numerous operators of GSFs in each of the AMA's. CAGRDR's access to capacity within these GSFs is subject to greater uncertainty and variability than for USF's owned by CAWCD. However, in the past CAGRDR's GSF partners have provided significant replenishment capacity. Capacity at GSFs is expected to be available as the volume of Excess CAP water and the Agricultural Settlement Pool reduce over time. GSF operators are likely to have strong interest in continued partnership with CAGRDR. The GSFs available to CAGRDR are detailed in **Table D-1** and illustrated in **Figure D-1 (Appendix D)**.

In the Phoenix AMA, there are four GSF's listed in **Table D-1**: Tonopah Irrigation District, Queen Creek Irrigation District, New Magma Irrigation and Drainage District, and Maricopa County Municipal Water Conservation District No. 1. These districts have a total of approximately 58,600 AF of annual storage capacity potentially available to CAGRDR.

In the Pinal AMA, two GSFs are identified: Maricopa Stanfield Irrigation and Drainage District and the Central Arizona Irrigation and Drainage District. These Districts have a total of approximately 97,700 AF of annual storage capacity potentially available to CAGRDR.

Finally, in the Tucson AMA the Kai Farms (Red Rock) GSF has slightly more than 11,000 AF of annual storage capacity available, with only a small portion of that capacity available to CAGRDR.

The volume of GSF capacity identified in **Table D-1** as potentially available to CAGRDR was determined by subtracting the average storage over the last six years by non-CAGRDR GSF partners from the operational capacity of the GSF. The analysis of available capacity is limited to the facilities that have a current CAGRDR storage permit. The operational storage capacity is assumed to be the permitted capacity of the GSF.

A summary of the total combined USF and GSF storage capacity available to CAGR D is provided in **Table 6.1**. This summary compares the inventory of all USF and GSF storage facilities available for use by CAGR D as provided in **Table D-1 (Appendix D)** with the replenishment obligation forecasted to be incurred by CAGR D. It is clear that sufficient storage capacity is available to CAGR D to meet its estimated replenishment obligation for the next 20 years.

TABLE 6.1

## AVAILABLE STORAGE CAPACITY<sup>1</sup>

Storage Capacity Available to CAGR D (AF) Combined USF and GSF

		2015	2020	2025	2030	2034
PHOENIX AMA	Capacity Available	269,600	301,100	316,100	316,100	316,100
	CAGR D Obligation	34,300	37,700	53,300	62,500	68,600
	Excess Capacity	235,300	263,400	262,800	253,600	247,500
PINAL AMA	Capacity Available	97,700	97,700	97,700	97,700	97,700
	CAGR D Obligation	800	1,500	3,500	4,900	5,600
	Excess Capacity	96,900	96,200	94,200	92,800	92,100
TUCSON AMA	Capacity Available	50,222	50,222	50,222	50,222	50,222
	CAGR D Obligation	3,300	5,600	9,900	12,000	12,700
	Excess Capacity	46,922	44,622	40,322	38,222	37,522

**TABLE NOTE:**

<sup>1</sup> Volumes do not include capacity at projects dedicated to effluent supplies.

### 6.1.3 Effluent Storage Facilities Available to CAGR D

Currently, CAWCD's USFs are permitted exclusively for the storage of CAP water and do not include effluent as a permissible water source for storage, although CAWCD has entered into agreements that provide for effluent recharge at other, non-CAWCD facilities<sup>5</sup>. The future storage of effluent at a CAWCD recharge facility would require modification of the USF Permit issued by ADWR and approval of a commensurate Aquifer Protection Permit issued by the Arizona Department of Environmental Quality.

<sup>5</sup> On February 6, 2014, the CAWCD Board approved an agreement with Liberty Utilities that included a 100-year effluent lease for recharge at a facility to be constructed and operated by Liberty.

If CAGRDR needs additional effluent storage resources in the future, existing effluent USFs and unused storage capacity will be identified and CAGRDR will pursue storage agreements with the facility owners. If existing storage capacity is unavailable, then CAGRDR could pursue modification of a CAWCD recharge facility permit to allow the storage of effluent or undertake development of a new USF.

## 6.2 POTENTIAL STORAGE FACILITIES

The above analysis of storage capacity available to CAGRDR identifies significant USF and GSF storage to fully meet CAGRDR's replenishment obligation. However, there may be circumstances where facilities not identified above may be used to meet CAGRDR replenishment objectives. These circumstances would include facilities or partnerships that reduce the cost of replenishment to CAGRDR. In addition, CAGRDR may construct facilities or pursue partnerships that facilitate replenishment nearer the area of hydrologic impact of groundwater withdrawals. CAGRDR will continuously evaluate additional facilities that may reduce costs to its members and meet the broader water resource goals of its groundwater management mission. Regardless, CAGRDR will take any necessary actions to ensure that sufficient replenishment capacity exists in all AMAs to meet its obligation.



## 7.0 FINANCIAL CAPABILITY

The statutory requirements relating to CAGR D's capability to meet current and projected replenishment obligation are identified below.

### **A.R.S. § 45-576.02.C.2**

...the plan shall include the following information for each active management area in which a member land or member service area is located:

### **A.R.S. § 45-576.02.C.2(g)**

A description of the conservation district's capability to meet the current and projected groundwater replenishment obligations for the twenty years following the calendar year in which the conservation district submits the plan.

Statutes require that all operations of CAGR D be funded completely by its members. Statutes also provide CAGR D with the authority and responsibility to establish fees, rates and dues, and collect revenues through assessments and taxes necessary to meet its statutory obligations. The CAWCD Board has adopted policies for establishing its fees, rates and dues on a basis no less frequently than every two years, providing CAGR D with flexibility as economic and operational conditions change.

## 7.1 SOURCES OF REVENUE

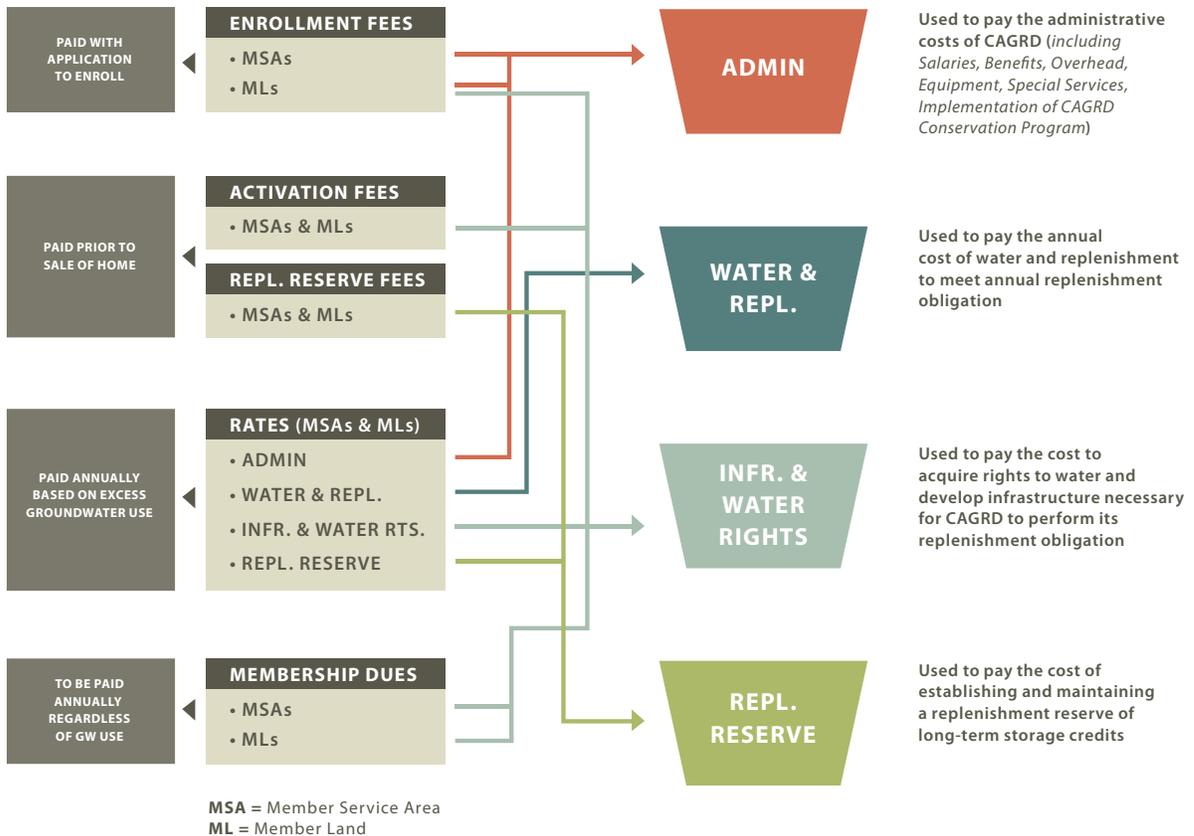
CAGR D collects a number of fees and rates and also membership dues from its membership, as described further below. There are several different means of collection. Generally, fees, rates and dues are collected from MSAs as part of an annual replenishment tax, and fees, rates and dues are collected from MLs as part of an annual replenishment assessment. Some fees are collected from members for specific services as provided.

Each type of fee and rate component and the membership dues are dedicated to specific purposes, including CAGR D's administrative costs, the annual replenishment obligation, the Replenishment Reserve and infrastructure and water rights. A chart illustrating the various sources of revenues and their dedicated uses is shown in **Figure 7.1**. While certain arithmetic relationships among various rates and fees and the membership dues have been established in statute and in policy, there is no aggregate limit on the amount of revenue CAGR D may collect to meet its statutory responsibilities.

Some sources of revenue may be used primarily as a "pay as you go" funding mechanism for ongoing operating costs. Examples of these revenues are the Water and Replenishment Rate Component (described in *Section 7.4.2.1*) and the Administrative Rate Component (*Section 7.4.2.2*). Other revenue sources may be reserved for expenditures that occur from time to time, such as the Replenishment Reserve Fees (*Section 7.2.3*) and the Replenishment Reserve Charge (*Section 7.4.2.4*) and the revenues reserved for infrastructure and water rights: the Enrollment Fee (*Section 7.2.1*), the Activation Fee (*Section 7.2.2*), the Membership Dues (*Section 7.3*) and the Infrastructure and Water Rights Rate Component (*Section 7.4.2.3*). In addition, the revenue sources dedicated to Infrastructure and Water Rights may also be pledged towards revenue bonds (*Section 7.5*).

FIGURE 7.1

## CAGR D REVENUE STREAMS



## 7.2 FEES

CAGR D collects three different fees from its members: an Enrollment Fee, an Activation Fee and a Replenishment Reserve Fee. Each of these fees is described below.

### 7.2.1 Enrollment Fee

The Enrollment Fee must be paid when an applicant submits an application to enroll an ML subdivision or an MSA into CAGR D. The fee is paid directly to CAGR D.

#### 7.2.1.1 ENROLLMENT FEE FOR MEMBER LANDS

The Enrollment Fee is based on the number of housing units in each ML. On May 1, 2008, the CAWCD Board adopted a policy entitled “CAGR D Enrollment Fee and Activation Fee Policy.” The policy describes how the ML Enrollment Fee is established. A copy of this policy is included in **Appendix E** of this Plan. Except for a small allocation for CAGR D’s conservation program (\$2/lot), all revenues generated by the ML Enrollment Fee are to be used to acquire water rights and develop infrastructure necessary for CAGR D to meet its replenishment obligation.

#### *7.2.1.2 ENROLLMENT FEE FOR MEMBER SERVICE AREAS*

The MSA Enrollment Fee currently is set at a minimum of \$5,000 and is to be used to cover the administrative costs of processing the specific enrollment application.

### **7.2.2 Activation Fee**

The Activation Fee must be paid for all subdivisions within CAGRDLs and MSAs before the Arizona Department of Real Estate will issue a public report allowing the sale of parcels within the subdivision. The CAGRDL Enrollment Fee and Activation Fee Policy (see **Appendix E**) describes how the Activation Fee is established. Revenues generated by the Activation Fee are to be used for purchasing water rights and developing infrastructure necessary for CAGRDL to meet its replenishment obligation.

On November 7, 2013, the CAWCD Board approved an Infrastructure and Water Rights Funding Proposal that increased the amount of the Activation Fee in order to collect a more significant portion of the funding for infrastructure and water rights prior to homes being built and replenishment obligation being incurred (see **Appendix E**). In April 2014, SB 1487 was passed by the Arizona Legislature and signed into law allowing homebuilders to pay 50% of the Activation Fee at the time of the public report and 50% one year later.

### **7.2.3 Replenishment Reserve Fee**

The district must levy a Replenishment Reserve Fee against Category 1 (non-golf-course) MLs and against MSAs (A.R.S. § 48-3772.E). Revenues generated from the Replenishment Reserve Fee are to be used to accrue LTSCs for use in establishing and maintaining the Replenishment Reserve in the AMA where the fee was levied.

#### *7.2.3.1 REPLENISHMENT RESERVE FEE FOR MEMBER LANDS*

For Category 1 MLs that enroll in CAGRDL on or after January 1, 2004, a Replenishment Reserve Fee must be paid to CAGRDL before the Arizona Department of Real Estate will issue a public report for each final plat within the ML (A.R.S. § 45-576.C). The fee is equal to twice the applicable Replenishment Reserve Rate Component (described in *Section 7.4.3.1*) multiplied by the total projected average annual replenishment obligation for the subdivision. For MLs that enrolled in CAGRDL prior to January 1, 2004, there is no requirement to pay the Replenishment Reserve Fee.

#### *7.2.3.2 REPLENISHMENT RESERVE FEE FOR MEMBER SERVICE AREAS*

For MSAs that enroll in CAGRDL on or after January 1, 2004, the municipal water provider serving the MSA must pay an annual Replenishment Reserve fee to CAGRDL. In addition, an annual Replenishment Reserve Fee must also be paid to CAGRDL if any municipal water provider with an MSA, regardless of its enrollment date, modifies its DAWS in a manner that increases CAGRDL's projected annual replenishment obligation. The fee is equal to twice the applicable Replenishment Reserve Rate Component (described in *Section 7.4.2.4*) multiplied by the Excess Groundwater increment reported by the MSA's municipal water provider each year. CAGRDL cannot levy a Replenishment Reserve Fee for replenishment activities performed under a Water Availability Status resolution.

## 7.3 ANNUAL MEMBERSHIP DUES

In 2010, legislation was passed that granted CAGR D the authority to collect Annual Membership Dues (A.R.S. § 48-3779). The dues are to be collected from all enrolled members, regardless of the existence of a replenishment obligation. The use of the Membership Dues is dedicated exclusively to infrastructure and water rights. The statute specifies a complex arithmetic relationship among the amounts collected as Membership Dues and the other amounts collected that are dedicated to infrastructure and water rights (Enrollment Fees, Activation Fees and the Infrastructure and Water Rights Rate Component), and how the total amount collected as Membership Dues in any year is to be allocated between MLs and MSAs. However, there is no overall limitation on the amount of aggregate revenues that may be collected for these purposes. In addition, the CAWCD Board approved a relevant policy on April 7, 2011, "Policy on Collection of CAGR D Annual Membership Dues" (**Appendix E**).

## 7.4 RATES, ASSESSMENTS AND TAXES

### 7.4.1 Annual Rate Setting Process

The CAWCD Board is required by law to establish and levy an annual replenishment assessment against MLs and an annual replenishment tax against MSAs. This replenishment assessment/tax must be levied on or before the third Monday in August of each year and must be levied separately for each AMA in an amount sufficient to cover the costs and expenses of replenishing groundwater for CAGR D members. The assessment must be levied at a per-acre-foot rate. On May 6, 2010, the CAWCD Board adopted the current "CAGR D Assessment Rate Setting Policy," which describes the methods and schedule to be used in establishing annual rates. A copy of this policy is included in **Appendix E**.

### 7.4.2 Rate Components

Under the CAGR D Assessment Rate Setting Policy, CAGR D establishes four separate rate components, which are briefly described below. Each component is more fully described in the policy included in **Appendix E**.

#### 7.4.2.1 WATER AND REPLENISHMENT RATE COMPONENT

This component is computed separately for each AMA and is based on the cost to purchase and replenish adequate water supplies to meet CAGR D replenishment obligation in the particular AMA.

#### 7.4.2.2 ADMINISTRATIVE RATE COMPONENT

CAGR D establishes a single administrative component that is in effect for all three AMAs. This component covers the costs of administering CAGR D.

#### **7.4.2.3 INFRASTRUCTURE AND WATER RIGHTS RATE COMPONENT**

This component is computed separately for each AMA and is based on the costs of development of infrastructure and securing rights to water supplies needed by CAGRDR to meet its replenishment obligation in the particular AMA. In practice, certain costs, such as the costs for most water supplies, will be pooled, and the rate components for the AMAs may be similar or even identical unless there are separate costs associated with specific AMAs (e.g., infrastructure).

#### **7.4.2.4 REPLENISHMENT RESERVE RATE COMPONENT**

This component is computed separately for each AMA based on CAGRDR's statutory requirement to establish and maintain a Replenishment Reserve of LTSCs for each AMA. By law, this component cannot be levied against Category 2 MLs (golf courses) or WAS Members. In addition, statutes limit the length of time that this component may be collected from each member based on that member's date of enrollment, (A.R.S. §§ 48-3774.01 and 48-3780.01). For those members that enrolled in CAGRDR on or after January 1, 2004, CAGRDR may only levy this charge for a total of 23 years. For members that enrolled prior to January 1, 2004, and did not pay a Replenishment Reserve Fee as described in *Section 7.1.3*, this charge may be assessed for 25 years. In the event that LTSCs in the Replenishment Reserve are used to satisfy replenishment obligations for any AMA, CAGRDR is required to collect a Replenishment Reserve Replacement rate component from the members of the AMA for which the credits were used. (A.R.S. § 48-3772.E.7).

### **7.4.3 Collection of Replenishment Assessments and Taxes**

Collection of CAGRDR's annual assessments and taxes is a fairly long and complex process. By March 31st of each year, municipal water providers that serve MLs and MSAs must submit annual reports to CAGRDR that indicate the volume of Excess Groundwater delivered to each ML parcel and each MSA during the previous calendar year. When all municipal provider reports for the entire AMA have been filed, CAGRDR determines its total replenishment obligation for that AMA. CAGRDR then computes the total projected cost to satisfy this replenishment obligation. This total cost is prorated among all of the members of CAGRDR in the AMA based on the volume of Excess Groundwater used by each member and is the basis for establishing the Water and Replenishment Rate Component described in *Section 7.4.2.1* above.

Once the CAWCD Board establishes rates each year as described above, reports are prepared and sent to each county in which MLs are located (Maricopa, Pinal and Pima). The reports identify the amount to be levied against each ML parcel located in the respective county. The counties add the assessments to each parcel's property tax bill and collect them along with the property taxes. The county transfers the collected assessments to CAGRDR for use in meeting its replenishment obligation.

Collection of replenishment taxes from MSAs occurs through direct invoicing. Once CAGRDR rates are established, an invoice is sent to each municipal provider that serves a CAGRDR MSA. The municipal provider is required by law to pay the replenishment tax directly to CAGRDR by October 15 of each year.

#### **7.4.4 Contract Replenishment Taxes**

The process for assessing and collecting Contract Replenishment Taxes differs from other CAGR D taxes. Contract replenishment is performed for a specific MSA under a special contract. The terms of the contract can provide for the use of specific water supplies and/or replenishment facilities in satisfying contract replenishment obligations. Therefore, all costs associated with contract replenishment are borne by the MSA water provider that executes the contract. Collection of contract replenishment taxes occurs through direct invoicing by CAGR D.

### **7.5 CAGR D REVENUE BONDING**

In 2010, legislation was passed that granted CAGR D authority to issue revenue bonds to develop infrastructure and acquire water rights necessary to perform its replenishment obligation (A.R.S. § 48-3772.B.13). Only revenues that are dedicated to infrastructure and water rights purposes (Membership Dues, Enrollment Fees, Activation Fees and the Infrastructure and Water Rights Rate Component) may be pledged to the repayment of such bonds.

### **7.6 CAGR D'S FINANCIAL CAPABILITY**

As described above, CAGR D has a number of revenue sources available to fulfill its obligations. CAGR D's Board has adopted policies for establishing its fees, rates and dues less frequently than every two years. CAGR D maintains reserve funds for each revenue source. Various revenue sources may be used for "pay as you go" purposes, reserved for periodic expenditures or, in the case of Infrastructure and Water Rights revenues, pledged towards revenue bonding. Accordingly, CAGR D has a great deal of financial flexibility as economic and operational conditions change. The variety of mechanisms in place will ensure that CAGR D will always be able to meet its statutory obligations using funds collected exclusively from its members.

# APPENDIX A

## LIST OF ABBREVIATIONS

<i>ABBREVIATION</i>	<i>DESCRIPTION</i>
<b>AAWS</b>	Assured and Adequate Water Supply
<b>ADWR</b>	Arizona Department of Water Resources
<b>AF</b>	acre-feet
<b>AF/Yr</b>	acre-feet per year
<b>AMA</b>	Active Management Area
<b>A.R.S.</b>	Arizona Revised Statutes
<b>AWBA</b>	Arizona Water Banking Authority
<b>AWS</b>	Assured Water Supply
<b>ASLD</b>	Arizona State Land Department
<b>CAG</b>	Central Arizona Governments
<b>CAP</b>	Central Arizona Project
<b>CAGR</b>	Central Arizona Groundwater Replenishment District
<b>CAWCD</b>	Central Arizona Water Conservation District
<b>CAWS</b>	Certificate of Assured Water Supply
<b>cfs</b>	cubic feet per second
<b>DAWS</b>	Designation of Assured Water Supply
<b>GIS</b>	Geographical Information System
<b>GMA</b>	Groundwater Management Act
<b>GPHUD</b>	Gallons per Housing Unit per Day
<b>GSF</b>	Groundwater Savings Facility
<b>LTSC</b>	Long-term Storage Credit
<b>MAG</b>	Maricopa Association of Governments
<b>M&amp;I</b>	Municipal and Industrial
<b>ML</b>	Member Land
<b>MSA</b>	Member Service Area
<b>NIA</b>	Non-Indian Agricultural
<b>PAG</b>	Pima Association of Governments
<b>SCVWD</b>	Santa Cruz Valley Water District
<b>TAZ</b>	Transportation Analysis Zone
<b>USF</b>	Underground Storage Facility
<b>WAS</b>	Water Availability Status
<b>WSA Act</b>	Water Sufficiency and Availability Act of 1999
<b>WUCFD</b>	Water Utilities Community Facilities District



# APPENDIX B

## [CHAPTER 2 – HISTORIC OPERATIONS]

1. **Table B-1:** Water Delivered to Scottsdale by CAWCD under WAS Contract
2. **Figure B-1:** Scottsdale WAS Replenishment Area
3. Conservation District Annual Reports – 2004 through 2013

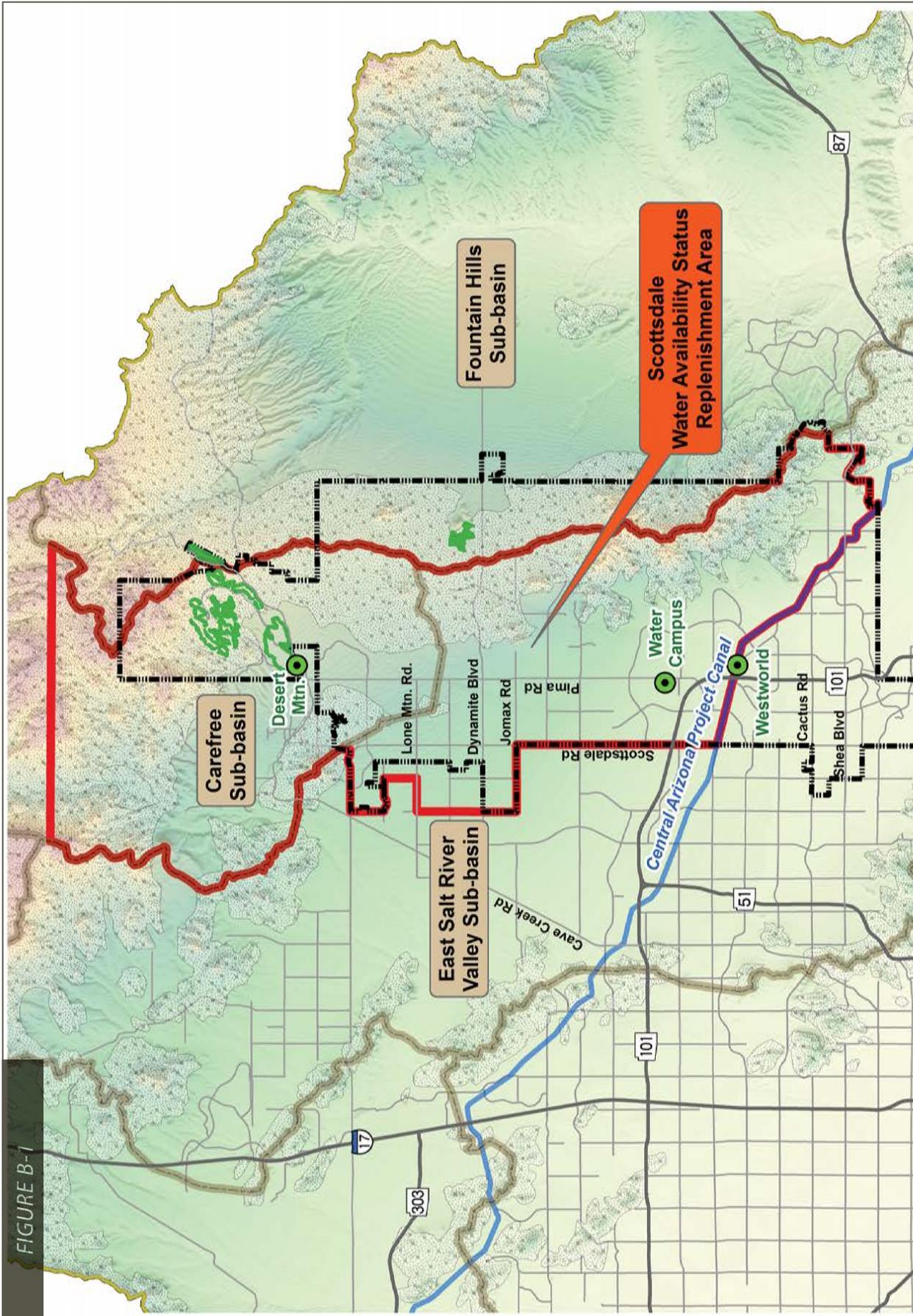
TABLE B-1

## WATER DELIVERED TO CITY OF SCOTTSDALE

Under Water Availability Status Contract

REPORT YEAR	ANNUAL VOLUME (AF)
2001	0
2002	0
2003	759
2004	981
2005	722
2006	827
2007	892
2008	884
2009	542
2010	610
2011	509
2012	512
2013	477

FIGURE B-1



**SCOTTSDALE**  
Water Availability Status Replenishment Area

- Recharge Sites
- Irrigation Water District System
- Golf Course
- City of Scottsdale
- Groundwater Sub-basins
- Phoenix Active Management Area

**SCALE**  
0 1 2  
MILES

**NORTH**

**Legend:**  
  Scottsdale Water Availability Status Replenishment Area  
  City of Scottsdale  
  Groundwater Sub-basins  
  Phoenix Active Management Area

**Metadata:**  
 Date: July 2014  
 Location: 10800 McDowell Ave., Scottsdale, AZ 85258  
 Projection: UTM Zone 18N  
 Source: Water Availability Status Replenishment Area  
 Scale: 1:50,000  
 Author: Scottsdale Water Department  
 Contact: Scottsdale Water Department, 10800 McDowell Ave., Scottsdale, AZ 85258, (480) 342-2200  
 Copyright: © 2014 Scottsdale Water Department

**ARIZONA DEPARTMENT OF WATER RESOURCES  
2004 CONSERVATION DISTRICT ANNUAL REPORT - PHOENIX AMA (Part 1 of 3)**

**CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT**  
P.O. Box 43020, Phoenix, Arizona 85080-3020

**A. WATER STORED AND ACCOUNTS CREDITED – Units: AF**

Total Amount Stored in Phoenix AMA in 2004	Storage Project Where Credits Were Earned	Total Credits Accrued in 2004	Amount Credited to CAWCD Long-Term Storage Account (70-441120)	Amount Credited to CAGRD Long-Term Storage Sub-Account (70-441120.0001)	Amount Credited to CAGRD Replenishment Reserve Sub-Account (70-441120.0002)	Amount Credited to CAGRD Conservation District Account (75-441120)	Year of Obligation Covered	Notes
4,068	73-534550 (QCID-GSF)	4,068	0	0	2,000	2,068	2002	

**B. CREDIT TRANSFERS AMONG ACCOUNTS – Units: AF**

Long-Term Storage Account Number	Description of Account from Which Credits were Transferred in 2004	Storage Permit Where Transferred Credits Were Accrued	Amount Transferred to CAWCD Long-Term Storage Account (70-441120)	Amount Transferred to CAGRD Long-Term Storage Sub-Account (70-441120.0001)	Amount Transferred to CAGRD Replenishment Reserve Sub-Account (70-441120.0002)	Amount transferred to CAGRD Conservation District Account (75-441120)	Year of Obligation Covered
70-441152	WUCFD – Apache Junction	73-534888.04	0	0	0	472.42	2003

**C. ACCOUNT BALANCES – Units: AF**

Account Number	Description	Beginning Balance	Credits Accrued by Storage in 2004	Credits Transferred In During 2004	Credits Transferred Out During 2004	Ending Balance
70-441120	CAWCD Long-Term Storage Account	339,801.97	0	0	0	339,801.97
70-441120.0001	CAGRD Long-Term Storage Sub-Account	0	0	0	0	0
70-441120.0002	CAGRD Replenishment Reserve Sub-Account	4,144.52	2,000	0	0	6,144.52

**D. GROUNDWATER REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Total Amount (AF)	Amount Fulfilled to Date (AF)	Year Fulfilled	Amount Remaining to be Fulfilled (AF)	Final Year to Fulfill
Groundwater Replenishment Obligation	2004	17,938.35	0	--	17,938.35	2007
	2003	11,352.75	472.42	2004 – 472.42	10,880.33	2006
	2002	8,805.36	7,731.72	2003 – 5,663.72 2004 – 2,068	1,073.64	2005
	2001	6,660.79	6,660.79	2002 – 1,631.41 2003 – 5,029.38	0	2004

**E. CONTRACT REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Member for Which Obligation was Incurred	Total Amount	Amount Fulfilled to Date	Year Fulfilled	Amount Remaining to be Fulfilled	Notes
Contract Replenishment Obligation	2004	Scottsdale	956	0	--	956	See attached Annual Schedule. Deliveries are being made during 2005.
	2003	Scottsdale	981	981	2004	0	Reflects revised attached Annual Schedule (last year's report showed 1,075 AF). This obligation was met through direct deliveries to Scottsdale in-lieu of replenishment (per ARS 48-3772.B.11) in 2004.

**ARIZONA DEPARTMENT OF WATER RESOURCES  
2004 CONSERVATION DISTRICT ANNUAL REPORT - TUCSON AMA (Part 2 of 3)**

**CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT**  
P.O. Box 43020, Phoenix, Arizona 85080-3020

**2004  
TUCSON AMA**

**A. WATER STORED AND ACCOUNTS CREDITED – Units: AF**

Total Amount Stored in Tucson AMA in 2004	Storage Project Where Credits Were Earned	Total Credits Accrued in 2004	Amount Credited to CAWCD Long-Term Storage Account (70-411120)	Amount Credited to CAWCD Long-Term Storage Sub-Account (70-411120.0001)	Amount Credited to CAGRD Replenishment Reserve Sub-Account (70-411120.0002)	Amount Credited to CAGRD Conservation District Account (75-411120)	Year of Obligation Covered	Notes
500	73-538133.05 (BKW Farms)	500	0	0	500	0	--	
982	73-538092.02 (KAI Farms)	982	0	0	658	324	2004	

**B. CREDIT TRANSFERS AMONG ACCOUNTS – Units: AF**

Long-Term Storage Account Number	Description of Account from Which Credits were Transferred in 2004	Storage Permit Where Transferred Credits Were Accrued	Amount Transferred to CAWCD Long-Term Storage Account (70-411120)	Amount Transferred to CAGRD Long-Term Storage Sub-Account (70-411120.0001)	Amount Transferred to CAGRD Replenishment Reserve Sub-Account (70-411120.0002)	Amount Transferred to CAGRD Conservation District Account (75-411120)	Year of Obligation Covered
70-411111	City of Tucson	73-547710	0	0	0	5000	2003
70-411111	City of Tucson	73-545928	0	0	2208	0	--
70-411220	Town of Marana	73-538100.0400	0	0	62.1	0	--
70-411220	Town of Marana	73-538100.0400	0	0	0	140.36	2003
70-411130	MDWID	73-552745	0	0	0	116.6	2003

**C. ACCOUNT BALANCES – Units: AF**

Account Number	Description	Beginning Balance	Credits Accrued by Storage in 2004	Credits Transferred In During 2004	Credits Transferred Out During 2004	Ending Balance
70-411120	CAWCD Long-Term Storage Account	1,804.97	--	--	--	1,804.97
70-411120.0001	CAGRD Long-Term Storage Sub-Account	0	--	--	--	0
70-411120.0002	CAGRD Replenishment Reserve Sub-Account	2,872.52	1,158	2,270.10		6,300.62

**D. GROUNDWATER AND CONTRACT REPLENISHMENT OBLIGATIONS**

Category	Year	Total Amount (AF)	Amount Fulfilled to Date (AF)	Year Fulfilled	Amount Remaining to be Fulfilled (AF)	Final Year to Fulfill
Groundwater Replenishment Obligation	2004	8,077.33	324	2004	7,753.33	2007
	2003	7,326.04	5,256.96	2004 – 5,256.96	2,069.08	2006
	2002	7,041.04	7,039.73	2003 – 7,039.73	1.31	2005
	2001	6,373.07	6,373.07	2001 – 4.93 2002 – 6,361.43 2003 – 6.71	0	2004
Contract Replenishment Obligation	No Contract Replenishment in Tucson AMA during 2004					

**ARIZONA DEPARTMENT OF WATER RESOURCES  
2004 CONSERVATION DISTRICT ANNUAL REPORT - PINAL AMA (Part 3 of 3)**

**CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT**  
P.O. Box 43020, Phoenix, Arizona 85080-3020

**A. WATER STORED AND ACCOUNTS CREDITED – Units: AF**

Total Amount Stored in Pinal AMA in 2004	Storage Project Where Credits Were Earned	Total Credits Accrued in 2004	Amount Credited to CAWCD Long-Term Storage Account (70-431120)	Amount Credited to CAGRD Long-Term Storage Sub-Account (70-431120.0001)	Amount Credited to CAGRD Replenishment Reserve Sub-Account (70-431120.0002)	Amount Credited to CAGRD Conservation District Account (75-431120)	Year of Obligation Covered	Notes
--	73-	0	0	0	0	0	--	
--	73-	0	0	0	0	0	--	

**B. CREDIT TRANSFERS AMONG ACCOUNTS – Units: AF**

Long-Term Storage Account Number	Description of Account from Which Credits were Transferred in 2004	Storage Permit Where Transferred Credits Were Accrued	Amount Transferred to CAWCD Long-Term Storage Account (70-431120)	Amount Transferred to CAGRD Long-Term Storage Sub-Account (70-431120.0001)	Amount Transferred to CAGRD Replenishment Reserve Sub-Account (70-431120.0002)	Amount transferred to CAGRD Conservation District Account (75-431120)	Year of Obligation Covered
70-431120	CAWCD Long-Term Storage Account	--	--	0	0	0	--
70-431120.0001	CAGRD Long-Term Storage Sub-Account	--	0	--	0	0	--
70-431120.0002	CAGRD Repl. Reserve Sub-Account	--	0	0	--	0	--

**C. ACCOUNT BALANCES – Units: AF**

Account Number	Description	Beginning Balance	Credits Accrued by Storage in 2004	Credits Transferred In During 2004	Credits Transferred Out During 2004	Ending Balance
70-431120	CAWCD Long-Term Storage Account	449,330.99	0	0	0	449,330.99
70-431120.0001	CAGRD Long-Term Storage Sub-Account	0	0	0	0	0
70-431120.0002	CAGRD Replenishment Reserve Sub-Account	0	0	0	0	0

**D. GROUNDWATER AND CONTRACT REPLENISHMENT OBLIGATIONS**

Category	Year	Total Amount (AF)	Amount Fulfilled to Date (AF)	Year Fulfilled	Amount Remaining to be Fulfilled (AF)	Final Year to Fulfill
Groundwater Replenishment Obligation	2004	100.26	0	--	100.26	2007
	2003	52.59	0	--	52.59	2006
	2002	65.84	65.84	2003	0	2005
	2001	61.14	61.14	2002	0	2004
Contract Replenishment Obligation	No Contract Replenishment in Pinal AMA during 2004					

**ARIZONA DEPARTMENT OF WATER RESOURCES  
2005 CONSERVATION DISTRICT ANNUAL REPORT - PHOENIX AMA (Part 1 of 3)**

CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT  
P.O. Box 43020, Phoenix, Arizona 85080-3020

**A. WATER STORED AND ACCOUNTS CREDITED – Units: AF**

Total Amount Stored in Phoenix AMA in 2005	Storage Project Where Credits Were Earned	Total Credits Accrued in 2005	Amount Credited to CAWCD Long-Term Storage Account (70-441120)	Amount Credited to CAGRD Long-Term Storage Sub-Account (70-441120.0001)	Amount Credited to CAGRD Replenishment Reserve Sub-Account (70-441120.0002)	Amount Credited to CAGRD Conservation District Account (75-441120)	Year of Obligation Covered	Notes
4,967	73-569775 (AFRP-Managed)	4,930.02	0	0	1,089.83	3,840.19	2003	
3,005	73-569776 (AFRP-Const.)	2,978.80	0	0	0	2,978.80	2003	
5,484	73-584466 (HMRP)	5,432.62	0	0	4,970	462.62	2003	
4,115	73-534550 (QCID-GSF)	4,115	0	0	0	4,115	2002 2003	

**B. CREDIT TRANSFERS AMONG ACCOUNTS – Units: AF**

Account Number	Description of Account from Which Credits were Transferred in 2005	Storage Permit Where Transferred Credits Were Accrued	Amount Transferred to CAWCD Long-Term Storage Account (70-441120)	Amount Transferred to CAGRD Long-Term Storage Sub-Account (70-441120.0001)	Amount Transferred to CAGRD Replenishment Reserve Sub-Account (70-441120.0002)	Amount transferred to CAGRD Conservation District Account (75-441120)	Year of Obligation Covered
70-441152	WUCFD – Apache Junction	73-534888.04	0	0	0	544.83	2004

**C. ACCOUNT BALANCES – Units: AF**

Account Number	Description	Beginning Balance	Credits Accrued by Storage in 2005	Credits Transferred In During 2005	Credits Transferred Out During 2005	Ending Balance
70-441120.0001	CAGRD Long-Term Storage Sub-Account	0	0	0	0	1,087.49
70-441120.0002	CAGRD Replenishment Reserve Sub-Account	6,144.52	6,059.83	0	0	12,204.35

**D. GROUNDWATER REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Total Amount (AF)	Amount Fulfilled to Date (AF)	Year Fulfilled	Amount Remaining to be Fulfilled (AF)	Final Year to Fulfill
Groundwater Replenishment Obligation	2005	23,023.35	0	--	23,023.35	2008
	2004	*17,867.56	544.83	2005 – 544.83	17,322.73	2007
	2003	11,352.75	10,795.39	2004 – 472.42 2005 – 10,322.97	557.36	2006
	2002	8,805.36	8805.36	2003 – 5,663.72 2004 – 2,068 2005 – 1,073.64	0	2005

\* Reflects a change in the obligation from that reported in 2004 resulting from (1) a decrease of 71 AF from the City of Surprise's Revised 2004 Annual Report dated February 2, 2006, (see attached) and, (2) discovery of a rounding error that caused an increase of .21 acre-feet.

**E. CONTRACT REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Member for Which Obligation was Incurred	Total Amount	Amount Fulfilled to Date	Year Fulfilled	Amount Remaining to be Fulfilled	Notes
Contract Replenishment Obligation	2005	Scottsdale	500	0	--	500	See attached Annual Schedule. Deliveries are being made during 2006.
	2004	Scottsdale	722	722	2005	0	Reflects revised attached Annual Schedule (last year's report showed 956AF). This obligation was met through direct deliveries to Scottsdale in-lieu of replenishment (per ARS 48-3772.B.11) in 2005.

**ARIZONA DEPARTMENT OF WATER RESOURCES  
2005 CONSERVATION DISTRICT ANNUAL REPORT - TUCSON AMA (Part 2 of 3)**

CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT  
P.O. Box 43020, Phoenix, Arizona 85080-3020

**A. WATER STORED AND ACCOUNTS CREDITED – Units: AF**

Total Amount Stored in Tucson AMA in 2005	Storage Project Where Credits Were Earned	Total Credits Accrued in 2005	Amount Credited to CAWCD Long-Term Storage Account (70-411120)	Amount Credited to CAGRD Long-Term Storage Account (70-41120.0001)	Amount Credited to CAGRD Replenishment Reserve Sub-Account (70-41120.0002)	Amount Credited to CAGRD Conservation District Account (75-411120)	Year of Obligation Covered	Notes
1,872	73-564896 (AVRP)	1854.7	0	0	0	1854.7	2002 2003 2004	
961	73-577501 (PMR-Fullscale)	953.40	0	0	595.30	358.10	2002 2003	
500	73-538133.05 (BKW Farms)	500	0	0	500	0	--	
500	73-558092.02 (KAI Farms)	500	0	0	500	0	--	

**B. CREDIT TRANSFERS AMONG ACCOUNTS – Units: AF**

Account Number	Description of Account from Which Credits were Transferred in 2005	Storage Permit Where Transferred Credits Were Accrued	Amount Transferred to CAWCD Long-Term Storage Account (70-411120)	Amount Transferred to CAGRD Long-Term Storage Account (70-41120.0001)	Amount Transferred to CAGRD Replenishment Reserve Sub-Account (70-41120.0002)	Amount transferred to CAGRD Conservation District Account (75-411120)	Year of Obligation Covered
70-411111	City of Tucson	73-547710.0000	0	0	0	5000	2004
70-411111	City of Tucson	73-545928.0000	0	0	2077	0	--
70-411130.0000	MDWID	73-555750.01	0	586	0	0	--
70-411130.0000	MDWID	73-555750.01	0	0	0	62.90	2004
70-411120.0001	CAGRD Long-Term Storage Sub Account	73-555750.01	0	0	0	586	2005 Contract Replenishment

**C. ACCOUNT BALANCES – Units: AF**

Account Number	Description	Beginning Balance	Credits Accrued by Storage in 2005	Credits Transferred In During 2005	Credits Transferred Out During 2005	Ending Balance
70-411120.0001	CAGRD Long-Term Storage Sub-Account	0	0	586	586	0
70-411120.0002	CAGRD Replenishment Reserve Sub-Account	6,300.62	1,595.30	2077	--	9,972.92

**D. GROUNDWATER REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Total Amount (AF)	Amount Fulfilled to Date (AF)	Year Fulfilled	Amount Remaining to be Fulfilled (AF)	Final Year to Fulfill
Groundwater Replenishment Obligation	2005	8,743.09	0	--	8,743.09	2008
	2004	8,077.33	5,529.31	2004 – 324 2005 – 5,205.31	2,548.02	2007
	2003	7,326.04	7,326.04	2004 – 5,256.96 2005 – 2,069.08	0	2006
	2002	7,041.04	7,041.04	2003 – 7,039.73 2005 – 1.31	0	2005

**E. CONTRACT REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Member for Which Obligation was Incurred	Total Amount	Amount Fulfilled to Date	Year Fulfilled	Amount Remaining to be Fulfilled	Notes
Contract Replenishment Obligation	2005	MDWID	586	586	2005	0	Scheduled and paid for by Metro Water in 2005 pursuant to the Agreement for Contract Replenishment.
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**ARIZONA DEPARTMENT OF WATER RESOURCES  
2005 CONSERVATION DISTRICT ANNUAL REPORT - PINAL AMA (Part 3 of 3)**

CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT  
P.O. Box 43020, Phoenix, Arizona 85080-3020

**A. WATER STORED AND ACCOUNTS CREDITED – Units: AF**

Total Amount Stored in Pinal AMA in 2005	Storage Project Where Credits Were Earned	Total Credits Accrued in 2005	Amount Credited to CAWCD Long-Term Storage Account (70-431120)	Amount Credited to CAGRD Long-Term Storage Sub-Account (70-431120.0001)	Amount Credited to CAGRD Replenishment Reserve Sub-Account (70-431120.0002)	Amount Credited to CAGRD Conservation District Account (75-431120)	Year of Obligation Covered	Notes
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**B. CREDIT TRANSFERS AMONG ACCOUNTS – Units: AF**

Account Number	Description of Account from Which Credits were Transferred in 2005	Storage Permit Where Transferred Credits Were Accrued	Amount Transferred to CAWCD Long-Term Storage Account (70-431120)	Amount Transferred to CAGRD Long-Term Storage Sub-Account (70-431120.0001)	Amount Transferred to CAGRD Replenishment Reserve Sub-Account (70-431120.0002)	Amount transferred to CAGRD Conservation District Account (75-431120)	Year of Obligation Covered
70-431120	CAWCD	73-531381.03 (MSIDD)	0	0	270	0	--

**C. ACCOUNT BALANCES – Units: AF**

Account Number	Description	Beginning Balance	Credits Accrued by Storage in 2005	Credits Transferred In During 2005	Credits Transferred Out During 2005	Ending Balance
70-431120.0001	CAGRD Long-Term Storage Sub-Account	0	0	0	0	--
70-431120.0002	CAGRD Replenishment Reserve Sub-Account	0	0	270	0	270

**D. GROUNDWATER AND CONTRACT REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Total Amount (AF)	Amount Fulfilled to Date (AF)	Year Fulfilled	Amount Remaining to be Fulfilled (AF)	Final Year to Fulfill
Groundwater Replenishment Obligation	2005	79.28	0	--	79.28	2008
	2004	100.26	0	--	100.26	2007
	2003	52.59	0	--	52.59	2006
	2002	65.84	65.84	2003	0	2005
Contract Replenishment Obligation	No Contract Replenishment to Date in Pinal AMA					

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CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT  
P.O. Box 43020, Phoenix, Arizona 85080-3020

**A. WATER STORED AND ACCOUNTS CREDITED – Units: AF**

Total Amount Stored in Phoenix AMA in 2006	Storage Project Where Credits Were Earned	Total Credits Accrued in 2006	Amount Credited to CAWCD Long-Term Storage Account (70-441120)	Amount Credited to CAGRD Long-Term Storage Sub-Account (70-441120.0001)	Amount Credited to CAGRD Replenishment Reserve Sub-Account (70-441120.0002)	Amount Credited to CAGRD Conservation District Account (75-441120)	Year of Obligation Covered	Notes
4802	73-569775 (AFRP-Managed)	4773.15	0	0	0	4773.15	2003 2004	
2944	73-569776 (AFRP-Const.)	2927.61	0	0	0	2927.61	2004	
7746	73-584466 (HMRP)	7686.82	0	0	4748.44	2938.38	2004	
2845	73-534550 (QCID-GSF)	*2577.30	0	0	0	2577.30	2003 2004	Anticipate accruing the remaining 267.70 AF of credits
956	73-593305 (TDRP)	951.00	0	0	0	951.00	2004	
3309	73-534439 (Tonopah ID)	3305.00	0	0	0	3305.00	2004	

**B. CREDIT TRANSFERS AMONG ACCOUNTS – Units: AF**

Account Number	Description of Account from Which Credits were Transferred in 2006	Storage Permit Where Transferred Credits Were Accrued	Amount Transferred to CAWCD Long-Term Storage Account (70-441120)	Amount Transferred to CAGRD Long-Term Storage Sub-Account (70-441120.0001)	Amount Transferred to CAGRD Replenishment Reserve Sub-Account (70-441120.0002)	Amount transferred to CAGRD Conservation District Account (75-441120)	Year of Obligation Covered
70-441131	Scottsdale	73-583022.03	--	1087.49	--	--	--

**C. ACCOUNT BALANCES – Units: AF**

Account Number	Description	Beginning Balance	Credits Accrued by Storage in 2006	Credits Transferred In During 2006	Credits Transferred Out During 2006	Ending Balance
70-441120.0001	CAGRD Long-Term Storage Sub-Account	0	0	1087.49	0	1087.49
70-441120.0002	CAGRD Replenishment Reserve Sub-Account	12,204.35	4748.44	0	0	16,952.79

**D. GROUNDWATER REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Total Amount (AF)	Amount Fulfilled to Date (AF)	Year Fulfilled	Amount Remaining to be Fulfilled (AF)	Final Year to Fulfill
Groundwater Replenishment Obligation	2006	28,466.89	0	--	28,466.89	2009
	2005	*23,014.55	0	--	23,014.55	2008
	2004	17,867.56	17,459.91	2005 – 544.83 2006 – 16,915.08	407.65	2007
	2003	11,352.75	11,352.75	2004 – 472.42 2005 – 10,322.97 2006 – 557.36	0	2006

\*Reflects a decrease in the obligation from that reported in 2005 by New River Utility Company for Fletcher Heights, Phase IA, IB, IIA, IIB, IIIA, IIIB and Park, Parcel #200-17-131. The attached 2005 Annual Report was corrected on January 22, 2007, to reflect this change.

**E. CONTRACT REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Member for Which Obligation was Incurred	Total Amount	Amount Fulfilled to Date	Year Fulfilled	Amount Remaining to be Fulfilled	Notes
Contract Replenishment Obligation	2006	Scottsdale	759	0	--	759	See attached Annual Schedule. Deliveries are being made during 2007.
	2005	Scottsdale	827	827	2006	0	Reflects revised attached Annual Schedule (last year's report showed 500AF). This obligation was met through direct deliveries to Scottsdale in-lieu of replenishment (per ARS 48-3772.B.11) in 2006.

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CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT  
P.O. Box 43020, Phoenix, Arizona 85080-3020

**A. WATER STORED AND ACCOUNTS CREDITED – Units: AF**

Total Amount Stored in Tucson AMA in 2006	Storage Project Where Credits Were Earned	Total Credits Accrued in 2006	Amount Credited to CAWCD Long-Term Storage Account (70-411120)	Amount Credited to CAGRD Long-Term Storage Sub-Account (70-411120.0001)	Amount Credited to CAGRD Replenishment Reserve Sub-Account (70-411120.0002)	Amount Credited to CAGRD Conservation District Account (75-411120)	Year of Obligation Covered	Notes
2003	73-561366 (L-SCRIP)	1996.10	0	0	0	1996.10	2004	
1048	73-577501 (PMR-Fullscale)	1041.40	0	0	675.70	365.70	2004	

**B. CREDIT TRANSFERS AMONG ACCOUNTS – Units: AF**

Account Number	Description of Account from Which Credits were Transferred in 2006	Storage Permit Where Transferred Credits Were Accrued	Amount Transferred to CAWCD Long-Term Storage Account (70-411120)	Amount Transferred to CAGRD Long-Term Storage Sub-Account (70-411120.0001)	Amount Transferred to CAGRD Replenishment Reserve Sub-Account (70-411120.0002)	Amount Transferred to CAGRD Conservation District Account (75-411120)	Year of Obligation Covered
70-411111	City of Tucson	73-545928.0000	0	0	0	832.4	2005
70-411111	City of Tucson	73-547710.0000	0	0	0	4167.6	2005
70-411111	City of Tucson	73-545928.0000	0	0	2108.5	0	--
70-411130.0000	MDWID	73-73-591928.02	0	0	0	54.15	2005
70-411130.0000	MDWID	73-591928.0000	0	0	0	264.72	2005
70-411130.0000	MDWID	73-538100.0400	0	0	134.5	0	--
70-411160.0000	Oro Valley	73-591928.0300	0	0	0	796	2005
70-411160.0000	Oro Valley	73-558092.0400	0	0	963.6	0	--

**C. ACCOUNT BALANCES – Units: AF**

Account Number	Description	Beginning Balance	Credits Accrued by Storage in 2006	Credits Transferred In During 2006	Credits Transferred Out During 2006	Ending Balance
70-41120.0001	CAGRD Long-Term Storage Sub-Account	0	0	0	0	0
70-41120.0002	CAGRD Replenishment Reserve Sub-Account	9,972.92	675.70	3206.60	0	13,855.22

**D. GROUNDWATER REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Total Amount (AF)	Amount Fulfilled to Date (AF)	Year Fulfilled	Amount Remaining to be Fulfilled (AF)	Final Year to Fulfill
Groundwater Replenishment Obligation	2006	10,495.55	0	--	10,495.55	2009
	2005	8,743.09	6114.87	2006 – 6114.87	2628.22	2008
	2004	8,077.33	7891.11	2004 – 324 2005 – 5,205.31 2006 – 2361.80	186.22	2007
	2003	7,326.04	7,326.04	2004 – 5,256.96 2005 – 2,069.08	0	2006

**E. CONTRACT REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Member for Which Obligation was Incurred	Total Amount	Amount Fulfilled to Date	Year Fulfilled	Amount Remaining to be Fulfilled	Notes
Contract Replenishment Obligation	--	--	--	--	--	--	
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**F. CONTRACT REPLENISHMENT CREDIT ACCOUNTING – Units AF**

Member Service Area	Beginning Contract Replenishment Account Balance	Contract Replenishment Credits Applied to Reduce the 2006 Service Area Replenishment Obligation	Ending Contract Replenishment Account Balance
Metropolitan Domestic Water Improvement District	586	2.64	583.36
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2006 CONSERVATION DISTRICT ANNUAL REPORT - PINAL AMA (Part 3 of 3)**

**CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT**  
P.O. Box 43020, Phoenix, Arizona 85080-3020

**A. WATER STORED AND ACCOUNTS CREDITED – Units: AF**

Total Amount Stored in Pinal AMA in 2006	Storage Project Where Credits Were Earned	Total Credits Accrued in 2006	Amount Credited to CAWCD Long-Term Storage Account (70-431120)	Amount Credited to CAGRD Long-Term Storage Sub-Account (70-431120.0001)	Amount Credited to CAGRD Replenishment Reserve Sub-Account (70-431120.0002)	Amount Credited to CAGRD Conservation District Account (75-431120)	Year of Obligation Covered	Notes
154	73-531381.0300	149.76	0	0	0	149.76	2003 2004	
--	--	--	--	--	--	--	--	

**B. CREDIT TRANSFERS AMONG ACCOUNTS – Units: AF**

Account Number	Description of Account from Which Credits were Transferred in 2006	Storage Permit Where Transferred Credits Were Accrued	Amount Transferred to CAWCD Long-Term Storage Account (70-431120)	Amount Transferred to CAGRD Long-Term Storage Sub-Account (70-431120.0001)	Amount Transferred to CAGRD Replenishment Reserve Sub-Account (70-431120.0002)	Amount transferred to CAGRD Conservation District Account (75-431120)	Year of Obligation Covered
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**C. ACCOUNT BALANCES – Units: AF**

Account Number	Description	Beginning Balance	Credits Accrued by Storage in 2005	Credits Transferred In During 2006	Credits Transferred Out During 2006	Ending Balance
70-431120.0001	CAGRD Long-Term Storage Sub-Account	0	0	0	0	--
70-431120.0002	CAGRD Replenishment Reserve Sub-Account	270	0	0	0	270

**D. GROUNDWATER AND CONTRACT REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Total Amount (AF)	Amount Fulfilled to Date (AF)	Year Fulfilled	Amount Remaining to be Fulfilled (AF)	Final Year to Fulfill
Groundwater Replenishment Obligation	2006	133.93	0	--	133.93	2009
	2005	79.28	0	--	79.28	2008
	2004	100.26	97.17	2006 – 97.17	3.09	2007
	2003	52.59	52.59	2006 – 52.59	0	2006
Contract Replenishment Obligation	No Contract Replenishment to Date in Pinal AMA					

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CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT  
P.O. Box 43020, Phoenix, Arizona 85080-3020

**A. WATER STORED AND ACCOUNTS CREDITED – Units: AF**

Total Amount Stored in Phoenix AMA in 2007	Storage Project Where Credits Were Earned	Total Credits Accrued in 2007	Amount Credited to CAWCD Long-Term Storage Account (70-441120)	Amount Credited to CAGRD Long-Term Storage Sub-Account (70-441120.0001)	Amount Credited to CAGRD Replenishment Reserve Sub-Account (70-441120.0002)	Amount Credited to CAGRD Conservation District Account (75-441120)	Year of Obligation Covered	Notes
7476	73-569775 (AFRP-Managed)	7432.01	--	--	5700.26	1731.75	2005	
7524	73-569776 (AFRP-Const.)	7489.81	--	--	--	7489.81	2005	
10,112	73-584466 (HMRP)	10,039.79	--	--	4403.33	5636.46	2005	
4000	73-534550 (QCID-GSF)	4000	--	--	2000	2267.70	2005	Includes the 267.70 AF stored in 2006 but not credited until 2007 (per letter from John Bodenchuk dated November 6, 2007)
985	73-593305 (TDRP)	979.11	--	--	--	979.11	2004 2005	
4404	73-534439 (Tonopah ID)	4398.21	--	--	2400.84	1997.37	2005	

**B. CREDIT TRANSFERS AMONG ACCOUNTS – Units: AF**

Account Number	Description of Account from Which Credits were Transferred in 2007	Storage Permit Where Transferred Credits Were Accrued	Amount Transferred to CAWCD Long-Term Storage Account (70-441120)	Amount Transferred to CAGRD Long-Term Storage Sub-Account (70-441120.0001)	Amount Transferred to CAGRD Replenishment Reserve Sub-Account (70-441120.0002)	Amount Transferred to CAGRD Conservation District Account (75-441120)	Year of Obligation Covered
70-441131	Scottsdale	73-583022.03	--	2280.85	--	--	--

**C. ACCOUNT BALANCES – Units: AF**

Account Number	Description	Beginning Balance	Credits Accrued by Storage in 2007	Credits Transferred In During 2007	Credits Transferred Out During 2007	Ending Balance
70-441120.0001	CAGRD Long-Term Storage Sub-Account	1087.49	0	2280.85	0	3368.34
70-441120.0002	CAGRD Replenishment Reserve Sub-Account	16,952.79	14,504.43	0	0	31,457.22

**D. GROUNDWATER REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Total Amount (AF)	Amount Fulfilled to Date (AF)	Year Fulfilled	Amount Remaining to be Fulfilled (AF)	Final Year to Fulfill
Groundwater Replenishment Obligation	2007	33,568.05	0	--	33,568.05	2010
	2006	*28,461.31	0	--	28,461.31	2009
	2005	23,014.55	19,694.55	*2007 – 19,694.55	3320.00	2008
	2004	17,867.56	17,867.56	2005 – 544.83 2006 – 16,915.08 2007 – 407.65	0	2007

\*Reflects a decrease in the obligation from that reported in 2006 by Litchfield Park Service Company for Sunrise at Palm Valley, Parcel #508-01-326. The attached 2006 Annual Report Summary was corrected on August 13, 2007, to reflect this change.

**E. CONTRACT REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Member for Which Obligation was Incurred	Total Amount	Amount Fulfilled to Date	Year Fulfilled	Amount Remaining to be Fulfilled	Notes
Contract Replenishment Obligation	2007	Scottsdale	910	0	--	910	See attached Annual Schedule. Deliveries are being made during 2008.
	2006	Scottsdale	892	892	2007	0	Reflects revised attached Annual Schedule (last year's report showed 827AF). This obligation was met through direct deliveries to Scottsdale in-lieu of replenishment (per ARS 48-3772.B.11) in 2007.

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CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT  
P.O. Box 43020, Phoenix, Arizona 85080-3020

**A. WATER STORED AND ACCOUNTS CREDITED – Units: AF**

Total Amount Stored in Tucson AMA in 2007	Storage Project Where Credits Were Earned	Total Credits Accrued in 2007	Amount Credited to CAWCD Long-Term Storage Account (70-411120)	Amount Credited to CAGRD Long-Term Storage Sub-Account (70-411120.0001)	Amount Credited to CAGRD Replenishment Reserve Sub-Account (70-411120.0002)	Amount Credited to CAGRD Conservation District Account (75-411120)	Year of Obligation Covered	Notes
1971	73-561366 (L-SCRIP)	1964.50	--	--	--	1964.50	2004 2005	
883	73-577501 (PMR-Fullscale)	875	--	--	--	875	2005 2006	

**B. CREDIT TRANSFERS AMONG ACCOUNTS – Units: AF**

Account Number	Description of Account from Which Credits were Transferred in 2007	Storage Permit Where Transferred Credits Were Accrued	Amount Transferred to CAWCD Long-Term Storage Account (70-411120)	Amount Transferred to CAGRD Long-Term Storage Sub-Account (70-411120.0001)	Amount Transferred to CAGRD Replenishment Reserve Sub-Account (70-411120.0002)	Amount transferred to CAGRD Conservation District Account (75-411120)	Year of Obligation Covered
70-411111	City of Tucson	73-545928.0000	--	--	2108.5	--	--
70-411111	City of Tucson	73-538133.0300	--	--	--	5000	2006
70-411130.0000	MDWID	73-552745.0000	--	--	--	.12	2006
70-411160.0000	Oro Valley	73-558092.0400	--	--	--	3793.42	2006
70-411220.0000	Town of Marana	73-591928.0200	--	--	--	446	2006
70-411220.0000	Town of Marana	73-538100.0400	--	--	188	--	--

**C. ACCOUNT BALANCES – Units: AF**

Account Number	Description	Beginning Balance	Credits Accrued by Storage in 2007	Credits Transferred In During 2007	Credits Transferred Out During 2007	Ending Balance
70-411120.0001	CAGRD Long-Term Storage Sub-Account	0	0	0	0	0
70-411120.0002	CAGRD Replenishment Reserve Sub-Account	13,855.22	0	2296.50	0	16,151.72

**D. GROUNDWATER REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Total Amount (AF)	Amount Fulfilled to Date (AF)	Year Fulfilled	Amount Remaining to be Fulfilled (AF)	Final Year to Fulfill
Groundwater Replenishment Obligation	2007	6,560.75	0	--	6,560.75	2010
	2006	10,495.55	9264.60	2007 – 9,264.60	1,230.95	2009
	2005	8,743.09	8,743.09	2006 – 6,114.87 2007 – 2,628.22	0	2008
	2004	8,077.33	8,077.33	2004 – 324 2005 – 5,205.31 2006 – 2,361.80 2007 – 186.22	0	2007

**E. CONTRACT REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Member for Which Obligation was Incurred	Total Amount	Amount Fulfilled to Date	Year Fulfilled	Amount Remaining to be Fulfilled	Notes
Contract Replenishment Obligation	2007	--	--	--	--	--	
	2006	--	--	--	--	--	

**F. CONTRACT REPLENISHMENT CREDIT ACCOUNTING – Units AF**

Member Service Area	Beginning Contract Replenishment Account Balance	Contract Replenishment Credits Applied to Reduce the 2007 Service Area Replenishment Obligation	Ending Contract Replenishment Account Balance
Metropolitan Domestic Water Improvement District	583.36	0	583.36
--	--	--	--

**ARIZONA DEPARTMENT OF WATER RESOURCES  
2007 CONSERVATION DISTRICT ANNUAL REPORT - PINAL AMA (Part 3 of 3)**

**CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT**  
P.O. Box 43020, Phoenix, Arizona 85080-3020

**A. WATER STORED AND ACCOUNTS CREDITED – Units: AF**

Total Amount Stored in Pinal AMA in 2007	Storage Project Where Credits Were Earned	Total Credits Accrued in 2007	Amount Credited to CAWCD Long-Term Storage Account (70-431120)	Amount Credited to CAGRD Long-Term Storage Sub-Account (70-431120.0001)	Amount Credited to CAGRD Replenishment Reserve Sub-Account (70-431120.0002)	Amount Credited to CAGRD Conservation District Account (75-431120)	Year of Obligation Covered	Notes
81	73-531381.0300	79	0	0	0	79	2004 2005	
--	--	--	--	--	--	--	--	

**B. CREDIT TRANSFERS AMONG ACCOUNTS – Units: AF**

Account Number	Description of Account from Which Credits were Transferred in 2007	Storage Permit Where Transferred Credits Were Accrued	Amount Transferred to CAWCD Long-Term Storage Account (70-431120)	Amount Transferred to CAGRD Long-Term Storage Sub-Account (70-431120.0001)	Amount Transferred to CAGRD Replenishment Reserve Sub-Account (70-431120.0002)	Amount transferred to CAGRD Conservation District Account (75-431120)	Year of Obligation Covered
70-431120	CAWCD	73-531381.03	--	5,883	--	--	--

**C. ACCOUNT BALANCES – Units: AF**

Account Number	Description	Beginning Balance	Credits Accrued by Storage in 2007	Credits Transferred In During 2007	Credits Transferred Out During 2007	Ending Balance
70.431120.0001	CAGRD Long-Term Storage Sub-Account	0	0	5883	0	5883
70.431120.0002	CAGRD Replenishment Reserve Sub-Account	270	0	0	0	270

**D. GROUNDWATER AND CONTRACT REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Total Amount (AF)	Amount Fulfilled to Date (AF)	Year Fulfilled	Amount Remaining to be Fulfilled (AF)	Final Year to Fulfill
Groundwater Replenishment Obligation	2007	380.13	0	--	308.13	2010
	2006	133.93	0	--	133.93	2009
	2005	79.28	75.91	2007 – 75.91	3.37	2008
	2004	100.26	100.26	2006 – 97.17 2007 – 3.09	0	2007
Contract Replenishment Obligation	No Contract Replenishment to Date in Pinal AMA					

REVISED 9/1/09

**ARIZONA DEPARTMENT OF WATER RESOURCES  
2008 CONSERVATION DISTRICT ANNUAL REPORT - PHOENIX AMA (Part 1 of 3)**

**CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT**  
P.O. Box 43020, Phoenix, Arizona 85080-3020

**A. WATER STORED AND ACCOUNTS CREDITED – Units: AF**

Total Amount Stored in Phoenix AMA in 2008	Storage Project Where Credits Were Earned	Total Credits Accrued in 2008	Amount Credited to CAWCD Long-Term Storage Account (70-441120)	Amount Credited to CAGRD Long-Term Storage Sub-Account (70-441120.0001)	Amount Credited to CAGRD Replenishment Reserve Sub-Account (70-441120.0002)	Amount Credited to CAGRD Conservation District Account (75-441120)	Year of Obligation Covered	Notes
13,284	73-569775 (AFRP-Managed)	13,210	--	--	4763	8447	2006	
7608	73-569776 (AFRP-Const.)	7574	--	--	--	7574	2006	
9336	73-584466 (HMRP)	9267.50	--	--	2520.50	6747	2006	
4000	73-534550 (QCID-GSF)	4000	--	--	1000	3000	2006	
2795	73-593305 (TDRP)	2778.77	--	--	2778.77	--		
11,154	73-534439 (Tonopah ID)	11,088	--	--	7310	3778	2005 2006	

**B. CREDIT TRANSFERS AMONG ACCOUNTS – Units: AF**

Account Number	Description of Account from Which Credits were Transferred in 2008	Storage Permit Where Transferred Credits Were Accrued	Amount Transferred to CAWCD Long-Term Storage Account (70-441120)	Amount Transferred to CAGRD Long-Term Storage Sub-Account (70-441120.0001)	Amount Transferred to CAGRD Replenishment Reserve Sub-Account (70-441120.0002)	Amount transferred to CAGRD Conservation District Account (75-441120)	Year of Obligation Covered
70-441131	Scottsdale	73-583022.03	--	985.34	--	--	--
70-441152	WUCFD	73-534888.04	--	--	--	426.04	2007
70-431120	CAWCD	73-534550.04	--	--	4757	--	--
70-431120	CAWCD	73-534888.01	--	--	5883	--	--

**C. ACCOUNT BALANCES – Units: AF**

Account Number	Description	Beginning Balance	Credits Accrued by Storage in 2008	Credits Transferred In During 2008	Credits Transferred Out During 2008	Ending Balance
70-441120.0001	CAGRD Long-Term Storage Sub-Account	3368.34	--	985.34	--	4353.68
70-441120.0002	CAGRD Replenishment Reserve Sub-Account	*31,453.38	18,372.27	10,640	--	60,465.65

\* Adjusted to reflect an additional 3.84 acre-feet of physical losses at Tonopah Irrigation District in report year 2007.

**D. GROUNDWATER REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Total Amount (AF)	Amount Fulfilled to Date (AF)	Year Fulfilled	Amount Remaining to be Fulfilled (AF)	Final Year to Fulfill
Groundwater Replenishment Obligation	2008	**33,208.19	0	--	33,208.19	2011
	2007	*33,488.70	426.04	2008 – 426.04	33,062.66	2010
	2006	28,461.31	26,226.00	2008 – 26,226.00	2235.31	2009
	2005	23,014.55	23,014.55	2007 – 19,694.55 2008 – 3320.00	0	2008

\*Reflects a decrease in obligation from that reported in 2007 by Arizona-American Water Company, New River Utility Company and Chandler Heights Citrus Irrigation District.

\*\*The original Conservation District Annual Report submitted on August 31, 2009 had the incorrect amount.

**E. CONTRACT REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Member for Which Obligation was Incurred	Total Amount	Amount Fulfilled to Date	Year Fulfilled	Amount Remaining to be Fulfilled	Notes
Contract Replenishment Obligation	2008	Scottsdale	850	0	--	850	See attached Annual Schedule. Deliveries are being made during 2009.
	2007	Scottsdale	884	884	2008	0	Reflects attached Revised Annual Schedule. This obligation was met through direct deliveries to Scottsdale in-lieu of replenishment (per ARS 48-3772.B.1) in 2008.

**ARIZONA DEPARTMENT OF WATER RESOURCES  
2008 CONSERVATION DISTRICT ANNUAL REPORT - TUCSON AMA (Part 2 of 3)**

CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT  
P.O. Box 43020, Phoenix, Arizona 85080-3020

**A. WATER STORED AND ACCOUNTS CREDITED – Units: AF**

Total Amount Stored in Tucson AMA in 2008	Storage Project Where Credits Were Earned	Total Credits Accrued in 2008	Amount Credited to CAWCD Long-Term Storage Account (70-411120)	Amount Credited to CAGRD Long-Term Storage Sub-Account (70-411120.0001)	Amount Credited to CAGRD Replenishment Reserve Sub-Account (70-411120.0002)	Amount Credited to CAGRD Conservation District Account (75-411120)	Year of Obligation Covered	Notes
1253	73-561366 (L-SCRIP)	1248.85	--	--	827.25	421.60	2006	
2475	73-577501 (PMR-Fullscale)	2453.41	--	--	1614.79	838.62	2006 2007	

**B. CREDIT TRANSFERS AMONG ACCOUNTS – Units: AF**

Account Number	Description of Account from Which Credits were Transferred in 2008	Storage Permit Where Transferred Credits Were Accrued	Amount Transferred to CAWCD Long-Term Storage Account (70-411120)	Amount Transferred to CAGRD Long-Term Storage Sub-Account (70-411120.0001)	Amount Transferred to CAGRD Replenishment Reserve Sub-Account (70-411120.0002)	Amount transferred to CAGRD Conservation District Account (75-411120)	Year of Obligation Covered
70-411120.0000	CAWCD	73-538133.0500	--	--	1187.50	--	--
70-411120.0000	CAWCD	73-538100.0000	--	--	191.50	--	--
70-411160.0000	Oro Valley	73-558092.0400	--	--	--	3600	2007
70-411220.0000	Town of Marana	73-591928.0200	--	--	--	323.13	2007
70-411220.0000	Town of Marana	73-538100.0400	--	--	197.47	176.03	2007

**C. ACCOUNT BALANCES – Units: AF**

Account Number	Description	Beginning Balance	Credits Accrued by Storage in 2008	Credits Transferred In During 2008	Credits Transferred Out During 2008	Ending Balance
70-411120.0001	CAGRD Long-Term Storage Sub-Account	0	--	--	--	0
70-411120.0002	CAGRD Replenishment Reserve Sub-Account	16,151.72	2,442.04	1,576.47	--	20,170.23

**D. GROUNDWATER REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Total Amount (AF)	Amount Fulfilled to Date (AF)	Year Fulfilled	Amount Remaining to be Fulfilled (AF)	Final Year to Fulfill
Groundwater Replenishment Obligation	2008	4416.19	0	--	4416.19	2011
	2007	6560.75	4128.43	2008 – 4128.43	2432.32	2010
	2006	10,495.55	10,495.55	2007 – 9264.60 2008 – 1230.95	0	2009
	2005	8743.09	8743.09	2006 – 6114.87 2007 – 2628.22	0	2008

**E. CONTRACT REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Member for Which Obligation was Incurred	Total Amount	Amount Fulfilled to Date	Year Fulfilled	Amount Remaining to be Fulfilled	Notes
Contract Replenishment Obligation	2008	--	--	--	--	--	
	2007	--	--	--	--	--	

**F. CONTRACT REPLENISHMENT CREDIT ACCOUNTING – Units AF**

Member Service Area	Beginning Contract Replenishment Account Balance	Contract Replenishment Credits Applied to Reduce the 2008 Service Area Replenishment Obligation	Ending Contract Replenishment Account Balance
Metropolitan Domestic Water Improvement District	583.36	0	583.36
--	--	--	--

**ARIZONA DEPARTMENT OF WATER RESOURCES  
2008 CONSERVATION DISTRICT ANNUAL REPORT - PINAL AMA (Part 3 of 3)**

**CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT**  
P.O. Box 43020, Phoenix, Arizona 85080-3020

**A. WATER STORED AND ACCOUNTS CREDITED – Units: AF**

Total Amount Stored in Pinal AMA in 2008	Storage Project Where Credits Were Earned	Total Credits Accrued in 2008	Amount Credited to CAWCD Long-Term Storage Account (70-431120)	Amount Credited to CAGRD Long-Term Storage Sub-Account (70-431120.0001)	Amount Credited to CAGRD Replenishment Reserve Sub-Account (70-431120.0002)	Amount Credited to CAGRD Conservation District Account (75-431120)	Year of Obligation Covered	Notes
140	73-531381.0300	136.25	--	--	--	136.25	2005 2006	

**B. CREDIT TRANSFERS AMONG ACCOUNTS – Units: AF**

Account Number	Description of Account from Which Credits were Transferred in 2008	Storage Permit Where Transferred Credits Were Accrued	Amount Transferred to CAWCD Long-Term Storage Account (70-431120)	Amount Transferred to CAGRD Long-Term Storage Sub-Account (70-431120.0001)	Amount Transferred to CAGRD Replenishment Reserve Sub-Account (70-431120.0002)	Amount transferred to CAGRD Conservation District Account (75-431120)	Year of Obligation Covered
70-431120	CAWCD	73-531381.0300	--	1000	2329.00	--	--
70-431120.0001	CAGRD	73-531381.0300	5883	--	--	--	--

**C. ACCOUNT BALANCES – Units: AF**

Account Number	Description	Beginning Balance	Credits Accrued by Storage in 2008	Credits Transferred In During 2008	Credits Transferred Out During 2008	Ending Balance
70.431120.0001	CAGRD Long-Term Storage Sub-Account	5883	--	1000	5883	1000
70.431120.0002	CAGRD Replenishment Reserve Sub-Account	270	--	2329	--	2599

**D. GROUNDWATER AND CONTRACT REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Total Amount (AF)	Amount Fulfilled to Date (AF)	Year Fulfilled	Amount Remaining to be Fulfilled (AF)	Final Year to Fulfill
Groundwater Replenishment Obligation	2008	141.20	0	--	141.20	2011
	2007	380.13	0	--	308.13	2010
	2006	133.93	132.88	2008 – 132.88	1.05	2009
	2005	79.28	79.28	2007 – 75.91 2008 – 3.37	0	2008
Contract Replenishment Obligation	No Contract Replenishment to Date in Pinal AMA					

**ARIZONA DEPARTMENT OF WATER RESOURCES  
2009 CONSERVATION DISTRICT ANNUAL REPORT - PHOENIX AMA (Part 1 of 3)**

CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT  
P.O. Box 43020, Phoenix, Arizona 85080-3020

**A. WATER STORED AND ACCOUNTS CREDITED – Units: AF**

Total Amount Stored in Phoenix AMA in 2009	Storage Project Where Credits Were Earned	Total Credits Accrued in 2009	Amount Credited to CAWCD Long-Term Storage Account (70-441120)	Amount Credited to CAGRD Long-Term Storage Sub-Account (70-441120.0001)	Amount Credited to CAGRD Replenishment Reserve Sub-Account (70-441120.0002)	Amount Credited to CAGRD Conservation District Account (75-441120)	Year of Obligation Covered	Notes
8940	73-569775 (AFRP-Managed)	8892.51	--	--	--	8892.51	2007 2008	
6103	73-569776 (AFRP-Const.)	6077.01	--	--	--	6077.01	2007	
5195	73-584466 (HMRP)	5158.44	--	--	--	5158.44	2007	
4000	73-534550 (QCID-GSF)	3331.00	--	--	832.75	2498.25	2007	There is an additional 669af stored but not credited to these accts due to incorrect reporting by QCID right holders.
8134	73-593305 (TDRP)	8089.07	--	--	242.65	7846.42	2007	
11707	73-534439 (Tonopah ID)	11682	--	--	6942.14	4739.86	2006 2007	

**B. CREDIT TRANSFERS AMONG ACCOUNTS – Units: AF**

Account Number	Description of Account from Which Credits were Transferred in 2009	Storage Permit Where Transferred Credits Were Accrued	Amount Transferred to CAWCD Long-Term Storage Account (70-441120)	Amount Transferred to CAGRD Long-Term Storage Sub-Account (70-441120.0001)	Amount Transferred to CAGRD Replenishment Reserve Sub-Account (70-441120.0002)	Amount transferred to CAGRD Conservation District Account (75-441120)	Year of Obligation Covered
70-441131	Scottsdale	73-583022.03	--	874.95	--	--	--
70-441131	Scottsdale	73-560649.00	--	62.01	--	--	--
70-441144	City of Goodyear	73-534439.03	--	--	1551.31	3821.00	2008
70-441120	CAWCD	73-534550.04	--	--	11,300.00	--	--
70-441187	Gold Canyon Sewer Company	73-591929.00	--	--	--	1376	2006

**C. ACCOUNT BALANCES – Units: AF**

Account Number	Description	Beginning Balance	Credits Accrued by Storage in 2009	Credits Transferred In During 2009	Credits Transferred Out During 2009	Ending Balance
70-441120.0001	CAGRD Long-Term Storage Sub-Account	4411.98	--	936.96	--	5348.94
70-441120.0002	CAGRD Replenishment Reserve Sub-Account	60,465.65	8017.54	12851.31	--	81334.50

**D. GROUNDWATER REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Total Amount (AF)	Amount Fulfilled to Date (AF)	Year Fulfilled	Amount Remaining to be Fulfilled (AF)	Final Year to Fulfill
Groundwater Replenishment Obligation	2009	25,975.98	0	--	25,975.98	2012
	2008	*33,192.52	5112.05	2009 – 5112.05	28,080.47	2011
	2007	**33,488.17	33,488.17	2008 – 426.04 2009 – 33,062.13	0	2010
	2006	28,461.31	28,461.31	2008 – 26,226.00 2009 – 2235.31	0	2009

\*Reflects decrease in obligation from that reported in 2008 by Arizona-American Water Company and New River Utility Company

\*\*To correct a typo in the amount reported in the 2008 Conservation District Annual Report

**E. CONTRACT REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Member for Which Obligation was Incurred	Total Amount	Amount Fulfilled to Date	Year Fulfilled	Amount Remaining to be Fulfilled	Notes
Contract Replenishment Obligation	2009	Scottsdale	859	0	--	859	See attached Annual Schedule. Deliveries are being made during 2010.
	2008	Scottsdale	542	542	2009	0	Reflects attached Revised Annual Schedule. This obligation was met through direct deliveries to Scottsdale in-lieu of replenishment (per ARS 48-3772.B.1) in 2009.

**ARIZONA DEPARTMENT OF WATER RESOURCES  
2009 CONSERVATION DISTRICT ANNUAL REPORT - TUCSON AMA (Part 2 of 3)**

CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT  
P.O. Box 43020, Phoenix, Arizona 85080-3020

**A. WATER STORED AND ACCOUNTS CREDITED – Units: AF**

Total Amount Stored in Tucson AMA in 2009	Storage Project Where Credits Were Earned	Total Credits Accrued in 2009	Amount Credited to CAWCD Long-Term Storage Account (70-411120)	Amount Credited to CAGRD Long-Term Storage Sub-Account (70-411120.0001)	Amount Credited to CAGRD Replenishment Reserve Sub-Account (70-411120.0002)	Amount Credited to Conservation District Account (75-411120)	Year of Obligation Covered	Notes
	73-561366 (L-SCRFP)	0	--	--				
500	73-558092.02 (Kai Farms)	500	--	--	500			

**B. CREDIT TRANSFERS AMONG ACCOUNTS – Units: AF**

Account Number	Description of Account from Which Credits were Transferred in 2009	Storage Permit Where Transferred Credits Were Accrued	Amount Transferred to CAWCD Long-Term Storage Account (70-411120)	Amount Transferred to CAGRD Long-Term Storage Sub-Account (70-411120.0001)	Amount Transferred to CAGRD Replenishment Reserve Sub-Account (70-411120.0002)	Amount transferred to Conservation District Account (75-411120)	Year of Obligation Covered
70-411120.0000	CAWCD	73-538100.0000	--	--	426.00	--	--
70-411220.0000	Town of Marana	73-538100.0400	--	--	209.15	528.67	2008
70-411170.0000	Spanish Trail	73-558092.0300	--	--	23.24	57.25	2008
70-411190.0000	Fidelity	73-538100.0100	--	949.41	--	2450.59	2007/2008
70-411190.0000	Fidelity	73-538100.0100	--	2500.00	--	--	--
70-411410.0000	Rocking K	73-538100.0100	--	4000.00	--	--	--

**C. ACCOUNT BALANCES – Units: AF**

Account Number	Description	Beginning Balance	Credits Accrued by Storage in 2009	Credits Transferred In During 2009	Credits Transferred Out During 2009	Ending Balance
70-411120.0001	CAGRD Long-Term Storage Sub-Account	0	--	7449.41	--	7449.41
70-411120.0002	CAGRD Replenishment Reserve Sub-Account	20,170.23	500	658.39	--	21,328.62

**D. GROUNDWATER REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Total Amount (AF)	Amount Fulfilled to Date (AF)	Year Fulfilled	Amount Remaining to be Fulfilled (AF)	Final Year to Fulfill
Groundwater Replenishment Obligation	2009	5359.25	0	--	5359.25	2012
	2008	*4401.88	604.19	2009 – 604.19	3797.69	2011
	2007	6560.75	6560.75	2008 – 4128.43 2009 – 2432.32	0	2010
	2006	10,495.55	10,495.55	2007 – 9264.60 2008 – 1230.95	0	2009

\*Reflect decrease in obligation from that reported in 2008 by Goodman Water Company.

**E. CONTRACT REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Member for Which Obligation was Incurred	Total Amount	Amount Fulfilled to Date	Year Fulfilled	Amount Remaining to be Fulfilled	Notes
Contract Replenishment Obligation	2009	--	--	--	--	--	
	2008	--	--	--	--	--	

**F. CONTRACT REPLENISHMENT CREDIT ACCOUNTING – Units AF**

Member Service Area	Beginning Contract Replenishment Account Balance	Contract Replenishment Credits Applied to Reduce the 2009 Service Area Replenishment Obligation	Ending Contract Replenishment Account Balance
Metropolitan Domestic Water Improvement District	583.36	6.43	576.93
--	--	--	--

**ARIZONA DEPARTMENT OF WATER RESOURCES  
2009 CONSERVATION DISTRICT ANNUAL REPORT - PINAL AMA (Part 3 of 3)**

**CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT**  
P.O. Box 43020, Phoenix, Arizona 85080-3020

**A. WATER STORED AND ACCOUNTS CREDITED – Units: AF**

Total Amount Stored in Pinal AMA in 2009	Storage Project Where Credits Were Earned	Total Credits Accrued in 2009	Amount Credited to CAWCD Long-Term Storage Account (70-431120)	Amount Credited to CAGRD Long-Term Storage Sub-Account (70-431120.0001)	Amount Credited to CAGRD Replenishment Reserve Sub-Account (70-431120.0002)	Amount Credited to CAGRD Conservation District Account (75-431120)	Year of Obligation Covered	Notes
391	73-531381.0300 (MSIDD)	365.53	--	--	--	365.53	2006 2007	There is an additional 14.89af stored but not credited to this acct due to incomplete/inaccurate reporting

**B. CREDIT TRANSFERS AMONG ACCOUNTS – Units: AF**

Account Number	Description of Account from Which Credits were Transferred in 2009	Storage Permit Where Transferred Credits Were Accrued	Amount Transferred to CAWCD Long-Term Storage Account (70-431120)	Amount Transferred to CAGRD Long-Term Storage Sub-Account (70-431120.0001)	Amount Transferred to CAGRD Replenishment Reserve Sub-Account (70-431120.0002)	Amount transferred to CAGRD Conservation District Account (75-431120)	Year of Obligation Covered
70-431120	CAWCD	73-531381.0300	--	--	171.00	--	--
--	--	--	--	--	--	--	--

**C. ACCOUNT BALANCES – Units: AF**

Account Number	Description	Beginning Balance	Credits Accrued by Storage in 2009	Credits Transferred In During 2009	Credits Transferred Out During 2009	Ending Balance
70.431120.0001	CAGRD Long-Term Storage Sub-Account	1000	--	--	--	1000
70.431120.0002	CAGRD Replenishment Reserve Sub-Account	2599	--	171	--	2770

**D. GROUNDWATER AND CONTRACT REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Total Amount (AF)	Amount Fulfilled to Date (AF)	Year Fulfilled	Amount Remaining to be Fulfilled (AF)	Final Year to Fulfill
Groundwater Replenishment Obligation	2009	282.29	0	--	282.29	2012
	2008	141.20	0	--	141.20	2011
	2007	380.13	364.48	2009 – 364.48	15.65	2010
	2006	133.93	133.93	2008 – 132.88 2009 – 1.05	0	2009
Contract Replenishment Obligation	No Contract Replenishment to Date in Pinal AMA					

**ARIZONA DEPARTMENT OF WATER RESOURCES  
2010 CONSERVATION DISTRICT ANNUAL REPORT - PHOENIX AMA (Part 1 of 3)**

**CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT**  
P.O. Box 43020, Phoenix, Arizona 85080-3020

**A. WATER STORED AND ACCOUNTS CREDITED – Units: AF**

Total Amount Stored in Phoenix AMA in 2010	Storage Project Where Credits Were Earned	Total Credits Accrued in 2010	Amount Credited to CAWCD Long-Term Storage Account (70-441120)	Amount Credited to CAGRD Long-Term Storage Sub-Account (70-441120.0001)	Amount Credited to CAGRD Replenishment Reserve Sub-Account (70-441120.0002)	Amount Credited to CAGRD Conservation District Account (75-441120)	Year of Obligation Covered	Notes
3976	73-569775 (AFRP-Managed)	3,953.97	--	--	--	3,953.97	2009 2008	
2132	73-569776 (AFRP-Const.)	2,122.36	--	--	--	2,122.36	2008	
5803	73-584466 (HMRP)	5,765.16	--	--	2,980.44	2,784.72	2008	
0	73-534550 (QCID-GSF)	0	--	--	167.25*	501.75*	2008	*This is the additional 669af that was stored in 2009 but not credited to these accts until 2010 due to incorrect reporting by QCID right holders.
4000	73-534550 (QCID-GSF)	3,745.00	--	--	936.25	2,808.75	2008	There is an additional 255af stored but not credited to these accts due to incorrect reporting by QCID right holders.
1307	73-593305 (TDRP)	1,299.23	--	--	--	1,299.23	2008	
10423	73-534439 (Tonopah ID)	10,335.00	--	--	6,567.08	3,767.92	2008	
9000	73-534888 (NMIDD)	8,981.16	--	--	860.19	8,120.97	2008	There is an additional 15.95af stored but not credited to these accts due to incorrect reporting by NMIDD right holders.

**B. CREDIT TRANSFERS AMONG ACCOUNTS – Units: AF**

Account Number	Description of Account from Which Credits were Transferred in 2010	Storage Permit Where Transferred Credits Were Accrued	Amount Transferred to CAWCD Long-Term Storage Account (70-441120)	Amount Transferred to CAGRD Long-Term Storage Sub-Account (70-441120.0001)	Amount Transferred to CAGRD Replenishment Reserve Sub-Account (70-441120.0002)	Amount transferred to CAGRD Conservation District Account (75-441120)	Year of Obligation Covered
70-441131	Scottsdale	73-583022.03	--	1,264.05	--	--	--
70-441144	City of Goodyear	73-558246.06	--	34,000.00	--	0	--
70-441149	City of Glendale	73-555520.00	--	9,950.00	--	0	--
70-441152	WUCFD	73-534888.04	--	--	21.22	54.87	2009
70-441120.0001	CAGRD LTS Sub-account	73-558246-06 73-555520-00	--	--	--	2,912.00	2008

**C. ACCOUNT BALANCES – Units: AF**

Account Number	Description	Beginning Balance	Credits Accrued by Storage in 2010	Credits Transferred In During 2010	Credits Transferred Out During 2010	Ending Balance
70-441120.0001	CAGRD Long-Term Storage Sub-Account	5,348.94	--	45,214.05	2,912.00	47,650.99
70-441120.0002	CAGRD Replenishment Reserve Sub-Account	81,334.50	11,511.21	21.22	--	92,866.93

**D. GROUNDWATER REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Total Amount (AF)	Amount Fulfilled to Date (AF)	Year Fulfilled	Amount Remaining to be Fulfilled (AF)	Final Year to Fulfill
Groundwater Replenishment Obligation	2010	28,223.53	0	--	28,223.53	2013
	2009	*25,886.19	246.07	2010 – 246.07	25,640.12	2012
	2008	33,192.52	33,192.52	2009 – 5,112.05 2010 – 28,080.47	0	2011
	2007	33,488.17	33,488.17	2008 – 426.04 2009 – 33,062.13	0	2010

\*Reflects decrease in obligation from that reported in 2009 by Arizona-American Water Company, Town of Queen Creek and Chandler Heights Citrus Irrigation District.

**E. CONTRACT REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Member for Which Obligation was Incurred	Total Amount	Amount Fulfilled to Date	Year Fulfilled	Amount Remaining to be Fulfilled	Notes
Contract Replenishment Obligation	2010	Scottsdale	600	0	--	600	See attached Annual Schedule. Deliveries are being made during 2011.
	2009	Scottsdale	610	610	2010	0	Reflects attached Revised Annual Schedule. This obligation was met through direct deliveries to Scottsdale in-lieu of replenishment (per ARS 48-3772.B.1) in 2010.

**ARIZONA DEPARTMENT OF WATER RESOURCES  
2010 CONSERVATION DISTRICT ANNUAL REPORT - TUCSON AMA (Part 2 of 3)**

CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT  
P.O. Box 43020, Phoenix, Arizona 85080-3020

**A. WATER STORED AND ACCOUNTS CREDITED – Units: AF**

Total Amount Stored in Tucson AMA in 2010	Storage Project Where Credits Were Earned	Total Credits Accrued in 2010	Amount Credited to CAWCD Long-Term Storage Account (70-411120)	Amount Credited to CAGRD Long-Term Storage Account (70-411120.0001)	Amount Credited to CAGRD Replenishment Reserve Sub-Account (70-411120.0002)	Amount Credited to CAGRD Conservation District Account (75-411120)	Year of Obligation Covered	Notes
500	73-561366 (L-SCRIP)	498.17	--	--	498.17	--	--	
0	73-558092.02 (Kai Farms)	--	--	--	--	--	--	
3571	73-577501 (PMR – Fullscale)	3,541.60	--	--	2,181.89	1,359.71	2008 2009	

**B. CREDIT TRANSFERS AMONG ACCOUNTS – Units: AF**

Account Number	Description of Account from Which Credits were Transferred in 2010	Storage Permit Where Credits Were Accrued	Amount Transferred to CAWCD Long-Term Storage Account (70-411120)	Amount Transferred to CAGRD Long-Term Storage Sub-Account (70-411120.0001)	Amount Transferred to CAGRD Replenishment Reserve Sub-Account (70-411120.0002)	Amount transferred to CAGRD Conservation District Account (75-411120)	Year of Obligation Covered
70-411120.0001	CAGRD LTSC Account	73-538100.01	--	--	993.41	2,456.00	2008
70-411220.0000	Town of Marana	73-538100.0400	--	--	366.72	672.35	2009
70-411160.0000	Town of Oro Valley	73-558092.0400	--	--	--	2,139.35	2009
70-411170.0000	Spanish Trail	73-558092.0300	--	--	36.54	66.99	2009
70-411130.0000	MDWID	Various	--	12,815.00	--	--	--

**C. ACCOUNT BALANCES – Units: AF**

Account Number	Description	Beginning Balance	Credits Accrued by Storage in 2010	Credits Transferred In During 2010	Credits Transferred Out During 2010	Ending Balance
70-411120.0001	CAGRD Long-Term Storage Sub-Account	7,449.41	--	12,815.00	3,449.41	16,815.00
70-411120.0002	CAGRD Replenishment Reserve Sub-Account	21,328.62	2,680.06	1,396.67	--	25,405.35

**D. GROUNDWATER REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Total Amount (AF)	Amount Fulfilled to Date (AF)	Year Fulfilled	Amount Remaining to be Fulfilled (AF)	Final Year to Fulfill
Groundwater Replenishment Obligation	2010	3,589.33	0	--	3,589.33	2013
	2009	*5,334.09	2,896.71	2010 – 2,896.71	2,437.38	2012
	2008	4,401.88	4,401.88	2009 – 604.19 2010 – 3,797.69	0	2011
	2007	6,560.75	6,560.75	2008 – 4,128.43 2009 – 2,432.32	0	2010

\*Reflect decrease in obligation from that reported in 2009 by Goodman Water Company and Community Water Company of Green Valley.

**E. CONTRACT REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Member for Which Obligation was Incurred	Total Amount	Amount Fulfilled to Date	Year Fulfilled	Amount Remaining to be Fulfilled	Notes
Contract Replenishment Obligation	2010	--	--	--	--	--	
	2009	--	--	--	--	--	

**F. CONTRACT REPLENISHMENT CREDIT ACCOUNTING – Units AF**

Member Service Area	Beginning Contract Replenishment Account Balance	Contract Replenishment Credits Applied to Reduce the 2010 Service Area Replenishment Obligation	Ending Contract Replenishment Account Balance
Metropolitan Domestic Water Improvement District	576.93	25.20	551.73
--	--	--	--

**ARIZONA DEPARTMENT OF WATER RESOURCES  
2010 CONSERVATION DISTRICT ANNUAL REPORT - PINAL AMA (Part 3 of 3)**

**CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT**  
P.O. Box 43020, Phoenix, Arizona 85080-3020

**A. WATER STORED AND ACCOUNTS CREDITED – Units: AF**

Total Amount Stored in Pinal AMA in 2010	Storage Project Where Credits Were Earned	Total Credits Accrued in 2010	Amount Credited to CAWCD Long-Term Storage Account (70-431120)	Amount Credited to CAGRD Long-Term Storage Sub-Account (70-431120.0001)	Amount Credited to CAGRD Replenishment Reserve Sub-Account (70-431120.0002)	Amount Credited to CAGRD Conservation District Account (75-431120)	Year of Obligation Covered	Notes
145	73-531381.0300 (MSIDD)	135.00	--	--	--	135.00	2007 2008	There is an additional 7.00 af stored but not credited to this acct due to flex acct issues by an IGR at MSIDD

**B. CREDIT TRANSFERS AMONG ACCOUNTS – Units: AF**

Account Number	Description of Account from Which Credits were Transferred in 2010	Storage Permit Where Transferred Credits Were Accrued	Amount Transferred to CAWCD Long-Term Storage Account (70-431120)	Amount Transferred to CAGRD Long-Term Storage Sub-Account (70-431120.0001)	Amount Transferred to CAGRD Replenishment Reserve Sub-Account (70-431120.0002)	Amount transferred to CAGRD Conservation District Account (75-431120)	Year of Obligation Covered
70-431120	CAWCD	73-531381.0300	--	--	--	--	--
--	--	--	--	--	--	--	--

**C. ACCOUNT BALANCES – Units: AF**

Account Number	Description	Beginning Balance	Credits Accrued by Storage in 2010	Credits Transferred In During 2010	Credits Transferred Out During 2010	Ending Balance
70-431120.0001	CAGRD Long-Term Storage Sub-Account	1,000	--	--	--	1,000
70-431120.0002	CAGRD Replenishment Reserve Sub-Account	2,770	--	--	--	2,770

**D. GROUNDWATER AND CONTRACT REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Total Amount (AF)	Amount Fulfilled to Date (AF)	Year Fulfilled	Amount Remaining to be Fulfilled (AF)	Final Year to Fulfill
Groundwater Replenishment Obligation	2010	212.68	0	--	212.68	2013
	2009	282.29	0	--	282.29	2012
	2008	141.20	119.35	2010 – 119.35	21.85	2011
	2007	380.13	380.13	2009 – 364.48 2010 – 15.65	0	2010
Contract Replenishment Obligation	No Contract Replenishment to Date in Pinal AMA					

**ARIZONA DEPARTMENT OF WATER RESOURCES  
2011 CONSERVATION DISTRICT ANNUAL REPORT - PHOENIX AMA (Part 1 of 3)**

CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT  
P.O. Box 43020, Phoenix, Arizona 85080-3020

**A. WATER STORED AND ACCOUNTS CREDITED – Units: AF**

Total Amount Stored in Phoenix AMA in 2011	Storage Project Where Credits Were Earned	Total Credits Accrued in 2011	Amount Credited to CAWCD Long-Term Storage Account (70-441120)	Amount Credited to CAGRD Long-Term Storage Sub-Account (70-441120.0001)	Amount Credited to CAGRD Replenishment Reserve Sub-Account (70-441120.0002)	Amount Credited to CAGRD Conservation District Account (75-441120)	Year of Obligation Covered	Notes
3,337	73-569775 (AFRP-Managed)	3,318.21	--	--	543.92	2,774.29	2010 2009	
2,206	73-569776 (AFRP-Const.)	2,198.00	--	--	--	2,198.00	2009	
412	73-584466 (HMRP)	408.65	--	--	--	408.65	2009	
4,000	73-534550 (QCID-GSF)	4,000.00	--	--	*1,063.75	**3,191.25	2009	Includes the *63.75 AF and the ***191.25 AF stored in 2010 but not credited until 2011.
3,866	73-207702 (SMRP)	3,853.12	--	--	3,853.12	--		
13,041	73-534439 (Tonopah ID)	12,898.00	--	--	7,272.37	5,625.63	2009	
11,500	73-534888 (NMIDD)	11,500.00	--	--	*1.81	**11,517.03	2009	*1.81 AF stored in 2010 but not credited until 2011. **Includes the 17.03 AF stored in 2010 but not credited until 2011.
0	73-593305 (TDRP)	0				***.06	2009	.06 AF was inadvertently left off the 2006 CDAR.
0	73-534439 (Tonopah ID)	0				****-3.37		Physical losses increased by 3.37 AF resulting in a change of available credits.

\*\*\*On the 2006 CDAR, we incorrectly reported 951.00 AF at TDRP (73-593305). We should have reported 951.06 AF. This .06 AF was not reflected on a CDAR. Reflecting the correction this year.  
\*\*\*\*On the 2007 CDAR, we reported 1997.37 AF at TID (73-534439). In 2009, we received an amended 2007 Conservation District Account Summary that reduced the TID credits to 1994.00 AF. This revision of -3.37 AF was not reflected on a CDAR. We are making the correction this year.

**B. CREDIT TRANSFERS AMONG ACCOUNTS – Units: AF**

Account Number	Description of Account from Which Credits were Transferred in 2011	Storage Permit Where Transferred Credits Were Accrued	Amount Transferred to CAWCD Long-Term Storage Account (70-441120)	Amount Transferred to CAGRD Long-Term Storage Sub-Account (70-441120.0001)	Amount Transferred to CAGRD Replenishment Reserve Sub-Account (70-441120.0002)	Amount transferred to CAGRD Conservation District Account (75-441120)	Year of Obligation Covered
70-441131	Scottsdale	73-583022.03	--	1,390.29	--	--	--
70-441139	Litchfield Park Service Company	73-572386.02	--	2,323.00	--	--	--
70-441144	City of Goodyear	73-534439.1	--	--	912.49	2,359.37	2010
70-441187	Gold Canyon Sewer Company	73-591929.00	--	315.00	--	--	--
70-441152	WUCFD	73-534888.04	--	--	1.37	3.54	2010
70-441120	CAWCD	73-534888.0101	--	--	1,000.00	--	--

**C. ACCOUNT BALANCES – Units: AF**

Account Number	Description	Beginning Balance	Credits Accrued by Storage in 2011	Credits Transferred In During 2011	Credits Transferred Out During 2011	Ending Balance
70-441120.0001	CAGRD Long-Term Storage Sub-Account	47,650.99	--	4,028.29	--	51,679.28
70-441120.0002	CAGRD Replenishment Reserve Sub-Account	92,866.93	12,734.97	1,913.86	--	107,515.76

**D. GROUNDWATER REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Total Amount (AF)	Amount Fulfilled to Date (AF)	Year Fulfilled	Amount Remaining to be Fulfilled (AF)	Final Year to Fulfill
Groundwater Replenishment Obligation	2011	30,524.47	0	--	30,524.47	2014
	2010	*28,188.57	2,434.33	2011 – 2,434.33	25,754.24	2013
	2009	25,886.19	25,886.19	2010 – 246.07 2011 – 25,640.12	0	2012
	2008	33,192.52	33,192.52	2009 – 5,112.05 2010 – 28,080.47	0	2011

\*Reflects decrease in obligation from that reported in 2010 by Arizona-American Water Company, Arizona Water Company, Litchfield Park Service Company and Town of Queen Creek.

**E. CONTRACT REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Member for Which Obligation was Incurred	Total Amount	Amount Fulfilled to Date	Year Fulfilled	Amount Remaining to be Fulfilled	Notes
Contract Replenishment Obligation	2011	Scottsdale	600	0	--	600	See attached Annual Schedule. Deliveries are being made during 2012.
	2010	Scottsdale	509	509	2011	0	Reflects attached Revised Annual Schedule. This obligation was met through direct deliveries to Scottsdale in-lieu of replenishment (per ARS 48-3772.B.1) in 2011.

**ARIZONA DEPARTMENT OF WATER RESOURCES  
2011 CONSERVATION DISTRICT ANNUAL REPORT - TUCSON AMA (Part 2 of 3)**

CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT  
P.O. Box 43020, Phoenix, Arizona 85080-3020

**A. WATER STORED AND ACCOUNTS CREDITED – Units: AF**

Total Amount Stored in Tucson AMA in 2011	Storage Project Where Credits Were Earned	Total Credits Accrued in 2011	Amount Credited to CAWCD Long-Term Storage Account (70-411120)	Amount Credited to CAGRD Long-Term Storage Sub-Account (70-411120.0001)	Amount Credited to CAGRD Replenishment Reserve Sub-Account (70-411120.0002)	Amount Credited to Conservation District Account (75-411120)	Year of Obligation Covered	Notes
0	73-561366 (L-SCRIP)	--	--	--	--	--	--	
500	73-558092.02 (Kai Farms)	500	--	--	500	--	--	
2715	73-577501 (PMR – Fullscale)	2,704.71	--	--	1,000.20	1,704.51	2009	

**B. CREDIT TRANSFERS AMONG ACCOUNTS – Units: AF**

Account Number	Description of Account from Which Credits were Transferred in 2011	Storage Permit Where Transferred Credits Were Accrued	Amount Transferred to CAWCD Long-Term Storage Account (70-411120)	Amount Transferred to CAGRD Long-Term Storage Sub-Account (70-411120.0001)	Amount Transferred to CAGRD Replenishment Reserve Sub-Account (70-411120.0002)	Amount transferred to CAGRD Conservation District Account (75-411120)	Year of Obligation Covered
70-411120.0001	CAGRD LTSC Account (Rocking K)	73-538100.01	--	--	--	766.00	2009
70-411220.0000	Town of Marana	73-538100.0400	--	--	--	--	--
70-411160.0000	Town of Oro Valley	73-558092.0400	--	--	--	905.46	2010
70-411170.0000	Spanish Trail	73-558092.0300	--	--	--	--	--
70-411130.0000	MDWID	Various	--	--	--	--	--

**C. ACCOUNT BALANCES – Units: AF**

Account Number	Description	Beginning Balance	Credits Accrued by Storage in 2011	Credits Transferred In During 2011	Credits Transferred Out During 2011	Ending Balance
70-411120.0001	CAGRD Long-Term Storage Sub-Account	16,815.00	--	0	766.00	16,049.00
70-411120.0002	CAGRD Replenishment Reserve Sub-Account	25,405.35	1,500.20	0	--	26,905.55

**D. GROUNDWATER REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Total Amount (AF)	Amount Fulfilled to Date (AF)	Year Fulfilled	Amount Remaining to be Fulfilled (AF)	Final Year to Fulfill
Groundwater Replenishment Obligation	2011	3,514.69	0	--	3,514.69	2014
	2010	*3,523.18	905.46	2011 – 905.46	2,617.72	2013
	2009	5,334.09	5,367.22	2010 – 2,896.71 **2011 – 2,470.51	43.41	2012
	2008	4,401.88	4,401.88	2009 – 604.19 2010 – 3,797.69	0	2011

\*Reflects a decrease in obligation from that reported in 2010 by Farmer's Water Company.  
 \*\*Includes 76.54 AF unreported from 2003. In 2003, we reported 7,326.04 AF of total obligation. After the CDAR was filed Marana (73-538100.0400) amended their 2003 annual report, resulting in a 76.54 AF increase in obligation. This increase in obligation was inadvertently never reported on a CDAR. The correct total obligation for 2003 should have been 7,402.58 AF.

**E. CONTRACT REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Member for Which Obligation was Incurred	Total Amount	Amount Fulfilled to Date	Year Fulfilled	Amount Remaining to be Fulfilled	Notes
Contract Replenishment Obligation	2011	--	--	--	--	--	
	2010	--	--	--	--	--	

**F. CONTRACT REPLENISHMENT CREDIT ACCOUNTING – Units AF**

Member Service Area	Beginning Contract Replenishment Account Balance	Contract Replenishment Credits Applied to Reduce the 2011 Service Area Replenishment Obligation	Ending Contract Replenishment Account Balance
Metropolitan Domestic Water Improvement District	551.73	0	551.73
--	--	--	--

**ARIZONA DEPARTMENT OF WATER RESOURCES  
2011 CONSERVATION DISTRICT ANNUAL REPORT - PINAL AMA (Part 3 of 3)**

**CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT**  
P.O. Box 43020, Phoenix, Arizona 85080-3020

**A. WATER STORED AND ACCOUNTS CREDITED – Units: AF**

Total Amount Stored in Pinal AMA in 2011	Storage Project Where Credits Were Earned	Total Credits Accrued in 2011	Amount Credited to CAWCD Long-Term Storage Account (70-431120)	Amount Credited to CAGRD Long-Term Storage Sub-Account (70-431120.0001)	Amount Credited to CAGRD Replenishment Reserve Sub-Account (70-431120.0002)	Amount Credited to CAGRD Conservation District Account (75-431120)	Year of Obligation Covered	Notes
290	73-531381.0300 (MSIDD)	283.59	--	--	--	283.59	2008/2009/2010	
0	73-531381.0300 (MSIDD)	0				*14.89	2008	This is the additional 14.89 AF that was stored in 2009 but not credited to this acct until 2010 due to incorrect reporting by MSIDD right holders.
0	73-531381.0300 (MSIDD)	0				7.00	2008	This is the additional 7.00 AF that was stored in 2010 but not credited to this account until 2011 due to incorrect reporting by MSIDD right holders.
0	73-531381.0300 (MSIDD)	0				**-.25		Physical losses increased by .25 AF resulting in a change of available credits.

\*This 14.89 AF should have been added to the 2010 CDAR Report but we didn't catch it on the revised copy dated 7/30/2010 so we are adding it to the 2011 CDAR  
 \*\*On the 2007 CDAR we reported 79.00 AF at MSIDD (73-531381.03). In 2009 we received an amended 2007 Conservation District Account Summary that reduced the MSIDD credits to 78.75 AF. This revision of .25 AF was not reflected on a CDAR. We are making the correction this year.

**B. CREDIT TRANSFERS AMONG ACCOUNTS – Units: AF**

Account Number	Description of Account from Which Credits were Transferred in 2011	Storage Permit Where Transferred Credits Were Accrued	Amount Transferred to CAWCD Long-Term Storage Account (70-431120)	Amount Transferred to CAGRD Long-Term Storage Sub-Account (70-431120.0001)	Amount Transferred to CAGRD Replenishment Reserve Sub-Account (70-431120.0002)	Amount transferred to CAGRD Conservation District Account (75-431120)	Year of Obligation Covered
70-431120	CAWCD	73-531381.0300	--	--	230	--	--
70-431120.0001	CAGRD	73-531381.0300	1,000				

**C. ACCOUNT BALANCES – Units: AF**

Account Number	Description	Beginning Balance	Credits Accrued by Storage in 2011	Credits Transferred In During 2011	Credits Transferred Out During 2011	Ending Balance
70-431120.0001	CAGRD Long-Term Storage Sub-Account	1,000	--	--	1,000	0
70-431120.0002	CAGRD Replenishment Reserve Sub-Account	2,770	--	230	--	3,000

**D. GROUNDWATER AND CONTRACT REPLENISHMENT OBLIGATIONS – Units AF**

Category	Year	Total Amount (AF)	Amount Fulfilled to Date (AF)	Year Fulfilled	Amount Remaining to be Fulfilled (AF)	Final Year to Fulfill
Groundwater Replenishment Obligation	2011	245.78	0	--	245.78	2014
	2010	212.68	1.09	2011 – 1.09	211.59	2013
	2009	282.29	282.29	2011 – 282.29	0	2012
	2008	141.20	141.20	2010 – 119.35 2011 – 21.85	0	2011
Contract Replenishment Obligation	No Contract Replenishment to Date in Pinal AMA					

**ARIZONA DEPARTMENT OF WATER RESOURCES  
2012 CONSERVATION DISTRICT ANNUAL REPORT - PHOENIX AMA (Part 1 of 3)**

CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT  
P.O. Box 43020, Phoenix, Arizona 85080-3020

**A. WATER STORED AND ACCOUNTS CREDITED – Units: AF**

Total Amount Stored in Phoenix AMA in 2012	Storage Project Where Credits Were Earned	Total Credits Accrued in 2012	Amount Credited to CAWCD Long-Term Storage Account (70-441120)	Amount Credited to CAGRD Long-Term Storage Sub-Account (70-441120.0001)	Amount Credited to CAGRD Replenishment Reserve Sub-Account (70-441120.0002)	Amount Credited to CAGRD Conservation District Account (75-441120)	Year of Obligation Covered	Notes
1,433	73-569775 (AFRP-Managed)	1,424.41	--	--	--	1,424.41	2010	
563	73-569776 (AFRP-Const.)	561.18	--	--	--	561.18	2010	
3,001	73-584466 (HMRP)	2,983.03	--	--	1.00	2,982.03	2010	
3,825	73-534550 (QCID-GSF)	3,825.00	--	--	825.00	3,000.00	2010	
1,838	73-207702 (SMRP)	1,829.94	--	--	122.46	1,707.48	2010	
11,284	73-534439 (Tonopah ID)	11,204.00	--	--	4,665.69	6,538.31	2010	
9,000	73-534888 (NMIDD)	9,000	--	--	--	9,000.00	2010	
0	73-593305 (TDRP)	0	--	--	--	--		

**B. CREDIT TRANSFERS AMONG ACCOUNTS – Units: AF**

Account Number	Description of Account from Which Credits were Transferred in 2012	Storage Permit Where Transferred Credits Were Accrued	Amount Transferred to CAWCD Long-Term Storage Account (70-441120)	Amount Transferred to CAGRD Long-Term Storage Sub-Account (70-441120.0001)	Amount Transferred to CAGRD Replenishment Reserve Sub-Account (70-441120.0002)	Amount transferred to CAGRD Conservation District Account (75-441120)	Year of Obligation Covered
70-441131	Scottsdale	73-583022.03	--	1,521.00	--	--	--
70-441139	Litchfield Park Service Company	73-572386.02	--	2,300.00	--	--	--
70-441144	City of Goodyear	73-534439.1	--	--	--	--	--
70-441187	Gold Canyon Sewer Company	73-591929.00	--	--	--	--	--
70-441152	WUCFD	73-534888.04	--	--	--	--	--
70-441120	CAWCD	73-534888.0101	--	--	--	--	--

**C. ACCOUNT BALANCES – Units: AF**

Account Number	Description	Beginning Balance	Credits Accrued by Storage in 2012	Credits Transferred In During 2012	Credits Transferred Out During 2012	Ending Balance
70-441120.0001	CAGRD Long-Term Storage Sub-Account	51,679.28	0	3,821.00	--	55,500.28
70-441120.0002	CAGRD Replenishment Reserve Sub-Account	107,515.76	5,614.15	--	--	113,129.91

**D. GROUNDWATER REPLENISHMENT OBLIGATIONS – Units: AF**

Category	Year	Total Amount (AF)	Amount Fulfilled to Date (AF)	Year Fulfilled	Amount Remaining to be Fulfilled (AF)	Final Year to Fulfill
Groundwater Replenishment Obligation	2012	31,372.91	0	--	31,372.91	2015
	2011	**30,406.89	0	--	30,406.89	2014
	2010	*28,257.21	27,647.74	2011 – 2,434.33 2012 – 25,213.41	609.47	2013
	2009	25,886.19	25,886.19	2010 – 246.07 2011 – 25,640.12	0	2012

\*Reflects an increase in obligation of 68.64 af from that reported in 2010 by Goodyear.

\*\*Reflects a decrease in obligation of 117.58 af from that reported in 2011, due to changes in obligation reported by LPSCo, (-36.49), Town of Queen Creek (-216.81), and the City of Goodyear (+135.72).

**E. CONTRACT REPLENISHMENT OBLIGATIONS – Units: AF**

Category	Year	Member for Which Obligation was Incurred	Total Amount	Amount Fulfilled to Date	Year Fulfilled	Amount Remaining to be Fulfilled	Notes
Contract Replenishment Obligation	2012	Scottsdale	600	0	--	600	See attached Annual Schedule. Deliveries are being made during 2013.
	2011	Scottsdale	512	512	2012	0	Reflects attached Revised Annual Schedule. This obligation was met through direct deliveries to Scottsdale in-lieu of replenishment (per ARS 48-3772.B.11) in 2012.

**ARIZONA DEPARTMENT OF WATER RESOURCES  
2012 CONSERVATION DISTRICT ANNUAL REPORT - TUCSON AMA (Part 2 of 3)**

CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT  
P.O. Box 43020, Phoenix, Arizona 85080-3020

**A. WATER STORED AND ACCOUNTS CREDITED – Units: AF**

Total Amount Stored in Tucson AMA in 2012	Storage Project Where Credits Were Earned	Total Credits Accrued in 2012	Amount Credited to CAWCD Long-Term Storage Account (70-411120)	Amount Credited to CAGRD Long-Term Storage Sub-Account (70-41120.0001)	Amount Credited to CAGRD Replenishment Reserve Sub-Account (70-41120.0002)	Amount Credited to Conservation District Account (75-41120)	Year of Obligation Covered	Notes
0	73-561366 (L-SCRIP)	--	--	--	--	--	--	
0	73-558092.02 (Kai Farms)	--	--	--	--	--	--	
1,793	73-577501 (PMR – Fullscale)	1,781.34	--	--	--	1,781.34	2009/2010	

**B. CREDIT TRANSFERS AMONG ACCOUNTS – Units: AF**

Account Number	Description of Account from Which Credits were Transferred in 2012	Storage Permit Where Transferred Credits Were Accrued	Amount Transferred to CAWCD Long-Term Storage Account (70-411120)	Amount Transferred to CAGRD Long-Term Storage Sub-Account (70-41120.0001)	Amount Transferred to CAGRD Replenishment Reserve Sub-Account (70-41120.0002)	Amount transferred to CAGRD Conservation District Account (75-411120)	Year of Obligation Covered
70-41120.0001	CAGRD LTSC Account (Rocking K)	73-538100.01	--	--	--	--	--
70-41160.0000	Town of Oro Valley	73-558092.0401	--	--	--	923.85	2011
70-41170.0000	Spanish Trail	73-538100.0101	--	--	3.28	--	--
70-41170.0000	Spanish Trail	73-558092.0301	--	--	3.52	12.46	2011
70-41130.0000	MDWID	Various	--	--	--	--	--

**C. ACCOUNT BALANCES – Units: AF**

Account Number	Description	Beginning Balance	Credits Accrued by Storage in 2012	Credits Transferred In During 2012	Credits Transferred Out During 2012	Ending Balance
70-41120.0001	CAGRD Long-Term Storage Sub-Account	16,049.00	--	0	0	16,049.00
70-41120.0002	CAGRD Replenishment Reserve Sub-Account	26,905.55	--	6.80	0	26,912.35

**D. GROUNDWATER REPLENISHMENT OBLIGATIONS – Units: AF**

Category	Year	Total Amount (AF)	Amount Fulfilled to Date (AF)	Year Fulfilled	Amount Remaining to be Fulfilled (AF)	Final Year to Fulfill
Groundwater Replenishment Obligation	2012	3,022.37	0	--	3,022.37	2015
	2011	3,514.69	936.31	2012 – 936.31	2,578.38	2014
	2010	3,523.18	2,643.39	2011 – 905.46 2012 – 1,737.93	879.79	2013
	2009	5,334.09	*5,410.63	2010 – 2,896.71 2011 – 2,470.51 2012 – 43.41	0	2012

\*Includes the 76.54 AF unreported from 2003. In 2003, we reported 7,326.04 AF of total obligation. After the CDAR was filed Marana (73-538100.0400) amended their 2003 annual report, resulting in a 76.54 AF increase in obligation.

**E. CONTRACT REPLENISHMENT OBLIGATIONS – Units: AF**

Category	Year	Member for Which Obligation was Incurred	Total Amount	Amount Fulfilled to Date	Year Fulfilled	Amount Remaining to be Fulfilled	Notes
Contract Replenishment Obligation	2012	--	--	--	--	--	
	2011	--	--	--	--	--	

**F. CONTRACT REPLENISHMENT CREDIT ACCOUNTING – Units: AF**

Member Service Area	Beginning Contract Replenishment Account Balance	Contract Replenishment Credits Applied to Reduce the 2012 Service Area Replenishment Obligation	Ending Contract Replenishment Account Balance
Metropolitan Domestic Water Improvement District	551.73	0	551.73
--	--	--	--

**ARIZONA DEPARTMENT OF WATER RESOURCES  
2012 CONSERVATION DISTRICT ANNUAL REPORT - PINAL AMA (Part 3 of 3)**

**CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT**  
P.O. Box 43020, Phoenix, Arizona 85080-3020

**A. WATER STORED AND ACCOUNTS CREDITED – Units: AF**

Total Amount Stored in Pinal AMA in 2012	Storage Project Where Credits Were Earned	Total Credits Accrued in 2012	Amount Credited to CAWCD Long-Term Storage Account (70-431120)	Amount Credited to CAGRD Long-Term Storage Sub-Account (70-431120.0001)	Amount Credited to CAGRD Replenishment Reserve Sub-Account (70-431120.0002)	Amount Credited to CAGRD Conservation District Account (75-431120)	Year of Obligation Covered	Notes
240	<sup>73-</sup> 531381.0300 (MSIDD)	233.64	--	--	--	233.64	2010/2011	

**B. CREDIT TRANSFERS AMONG ACCOUNTS – Units: AF**

Account Number	Description of Account from Which Credits were Transferred in 2012	Storage Permit Where Transferred Credits Were Accrued	Amount Transferred to CAWCD Long-Term Storage Account (70-431120)	Amount Transferred to CAGRD Long-Term Storage Sub-Account (70-431120.0001)	Amount Transferred to CAGRD Replenishment Reserve Sub-Account (70-431120.0002)	Amount transferred to CAGRD Conservation District Account (75-431120)	Year of Obligation Covered
70-431120	CAWCD	73-531381.0300	--	--	--	--	--
<sup>70-</sup> 431120.0001	CAGRD	73-531381.0300	--	--	--	--	--

**C. ACCOUNT BALANCES – Units: AF**

Account Number	Description	Beginning Balance	Credits Accrued by Storage in 2012	Credits Transferred In During 2012	Credits Transferred Out During 2012	Ending Balance
70-431120.0001	CAGRD Long-Term Storage Sub-Account	0	--	--	--	0
70-431120.0002	CAGRD Replenishment Reserve Sub-Account	3,000	--	--	--	3,000

**D. GROUNDWATER AND CONTRACT REPLENISHMENT OBLIGATIONS – Units: AF**

Category	Year	Total Amount (AF)	Amount Fulfilled to Date (AF)	Year Fulfilled	Amount Remaining to be Fulfilled (AF)	Final Year to Fulfill
Groundwater Replenishment Obligation	2012	317.70	--	--	317.70	2015
	2011	245.78	22.05	2012 – 22.05	223.73	2014
	2010	212.68	212.68	2011 – 1.09 2012 – 211.59	0	2013
	2009	282.29	282.29	2011 – 282.29	0	2012
Contract Replenishment Obligation	No Contract Replenishment to Date in Pinal AMA					

**ARIZONA DEPARTMENT OF WATER RESOURCES  
2013 CONSERVATION DISTRICT ANNUAL REPORT - PHOENIX AMA (Part 1 of 3)**

**CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT**  
P.O. Box 43020, Phoenix, Arizona 85080-3020

**2013**  
**PHOENIX AMA**

**A. WATER STORED AND ACCOUNTS CREDITED – Units: AF**

Total Amount Stored in Phoenix AMA in 2013	Storage Project Where Credits Were Earned	Total Credits Accrued in 2013	Amount Credited to CAWCD Long-Term Storage Account (70-441120)	Amount Credited to CAGRD Long-Term Storage Sub-Account (70-441120.0001)	Amount Credited to CAGRD Replenishment Reserve Sub-Account (70-441120.0002)	Amount Credited to CAGRD Conservation District Account (75-441120)	Year of Obligation Covered	Notes
1,560	73-569775 (AFRP-Managed)	1,554.31	--	--	751.25	803.06	2010/2011	
0	73-569776 (AFRP-Const.)	0	--	--	--	--		
5,242	73-584466 (HMRP)	5,214.90	--	--	1,989.66	3,225.24	2011	
4,000	73-534550 (QCID-GSF)	3,978.61	--	--	994.65	2,983.96	2011	There is an additional 21.39 at stored but not credited to these accis due to over-flex.
8,193	73-207702 (SMRP)	8,159.16	--	--	--	8,159.16	2011	
14,301	73-534439 (Tonopah ID)	14,181.00	--	--	284.59	13,896.41	2011	
9,000	73-534888 (NMIDD)	8,676.88	--	--	--	8,676.88	2011/2012	There is an additional 323.12 at stored but not credited to these accis due to fail-to-file.
0	73-593305 (TDRP)	0						

**B. CREDIT TRANSFERS AMONG ACCOUNTS – Units: AF**

Account Number	Description of Account from Which Credits were Transferred in 2013	Storage Permit Where Transferred Credits Were Accrued	Amount Transferred to CAWCD Long-Term Storage Account (70-441120)	Amount Transferred to CAGRD Long-Term Storage Sub-Account (70-441120.0001)	Amount Transferred to CAGRD Replenishment Reserve Sub-Account (70-441120.0002)	Amount transferred to CAGRD Conservation District Account (75-441120)	Year of Obligation Covered
70-441131	Scottsdale	73-583022.03	--	1,486.93	--	--	--
70-441139	Litchfield Park Service Company	73-572386.02	--	2,296.00	--	--	--
70-441144	City of Goodyear	73-534439.03	--	--	79.04	*204.36	2010/2011
70-441187	Gold Canyon Sewer Company	73-591929.00	--	--	605.00	--	--
70-441152	WUJCFD	73-534888.04	--	--	--	--	--
70-441120	CAWCD	73-534550.04	--	--	13,080.00	--	--

\*68.64 af used to fulfill the 2010 obligation and 135.72 af used to fulfill the 2011 obligation.

**C. ACCOUNT BALANCES – Units: AF**

Account Number	Description	Beginning Balance	Credits Accrued by Storage in 2013	Credits Transferred In During 2013	Credits Transferred Out During 2013	Ending Balance
70-441120.0001	CAGRD Long-Term Storage Sub-Account	55,500.28	0	3,782.93	--	59,283.21
70-441120.0002	CAGRD Replenishment Reserve Sub-Account	113,129.91	4,020.15	13,764.04	--	130,914.10

**D. GROUNDWATER REPLENISHMENT OBLIGATIONS – Units: AF**

Category	Year	Total Amount (AF)	Amount Fulfilled to Date (AF)	Year Fulfilled	Amount Remaining to be Fulfilled (AF)	Final Year to Fulfill
Groundwater Replenishment Obligation	2013	30,970.48	0	--	30,970.48	2016
	2012	*30,048.64	6,932.71	2013 – 6,932.71	23,115.93	2015
	2011	30,406.89	30,406.89	2013 – 30,406.89	0	2014
	2010	28,257.21	28,257.21	2011 – 2,434.33 2012 – 25,213.41 2013 – 609.47	0	2013

\*Reflects a decrease in obligation of 1,324.27 at from that reported in 2012 by Johnson Utilities.

**E. CONTRACT REPLENISHMENT OBLIGATIONS – Units: AF**

Category	Year	Member for Which Obligation was Incurred	Total Amount	Amount Fulfilled to Date	Year Fulfilled	Amount Remaining to be Fulfilled	Notes
Contract Replenishment Obligation	2013	Scottsdale	600	0	--	600	See attached Annual Schedule. Deliveries are being made during 2014.
	2012	Scottsdale	477	477	2013	0	Reflects attached Revised Annual Schedule. This obligation was met through direct deliveries to Scottsdale in-lieu of replenishment (per AFS 48-3772.B.1) in 2013.

**ARIZONA DEPARTMENT OF WATER RESOURCES  
2013 CONSERVATION DISTRICT ANNUAL REPORT - TUCSON AMA (Part 2 of 3)**

**CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT**  
P.O. Box 43020, Phoenix, Arizona 85080-3020

**A. WATER STORED AND ACCOUNTS CREDITED – Units: AF**

Total Amount Stored in Tucson AMA in 2013	Storage Project Where Credits Were Earned	Total Credits Accrued in 2013	Amount Credited to CAWCD Long-Term Storage Account (70-411120)	Amount Credited to CAGRD Long-Term Storage Sub-Account (70-411120.0001)	Amount Credited to CAGRD Replenishment Reserve Sub-Account (70-411120.0002)	Amount Credited to CAGRD Conservation District Account (75-411120)	Year of Obligation Covered	Notes
3,600	73-561366 (LSCRIP)	3,588.22	--	--	1,395.42	2,192.80	2011/2012	
0	73-558092.02 (Kai Farms)	--	--	--	--	--	--	
2,890	73-577501 (PMR – Fullscale)	2,873.81	--	--	1,173.39	1,700.42	2010/2011	

**B. CREDIT TRANSFERS AMONG ACCOUNTS – Units: AF**

Account Number	Description of Account from Which Credits were Transferred in 2013	Storage Permit Where Transferred Credits Were Accrued	Amount Transferred to CAWCD Long-Term Storage Account (70-411120)	Amount Transferred to CAGRD Long-Term Storage Sub-Account (70-411120.0001)	Amount Transferred to CAGRD Replenishment Reserve Sub-Account (70-411120.0002)	Amount transferred to CAGRD Conservation District Account (75-411120)	Year of Obligation Covered
70-411120.0001	CAGRD LTSC Account (Rocking K)	73-538100.01	--	--	--	--	--
70-411160.0000	Town of Oro Valley	73-558092.0401	--	--	--	285.01	2012
70-411170.0000	Spanish Trail	73-538100.0101	--	--	7.77	14.24	2012
70-411170.0000	Spanish Trail	73-558092.0301	--	--	--	--	--
70-411130.0000	MDWID	Various	--	--	--	--	--

**C. ACCOUNT BALANCES – Units: AF**

Account Number	Description	Beginning Balance	Credits Accrued by Storage in 2013	Credits Transferred In During 2013	Credits Transferred Out During 2013	Ending Balance
70-411120.0001	CAGRD Long-Term Storage Sub-Account	16,049.00	--	0	0	16,049.00
70-411120.0002	CAGRD Replenishment Reserve Sub-Account	26,912.35	2,568.81	7.77	0	29,488.93

**D. GROUNDWATER REPLENISHMENT OBLIGATIONS – Units: AF**

Category	Year	Total Amount (AF)	Amount Fulfilled to Date (AF)	Year Fulfilled	Amount Remaining to be Fulfilled (AF)	Final Year to Fulfill
Groundwater Replenishment Obligation	2013	2,933.03	0	--	2,933.03	2016
	2012	*3,020.69	734.30	2013 – 734.30	2,286.39	2015
	2011	3,514.69	3,514.69	2012 – 936.31 2013 – 2,578.38	0	2014
	2010	3,523.18	3,523.18	2011 – 905.46 2012 – 1,737.93 2013 – 879.79	0	2013

\*Reflects a decrease in obligation of 1.68 af from that reported in 2012 by Diablo Village Water Company.

**E. CONTRACT REPLENISHMENT OBLIGATIONS – Units: AF**

Category	Year	Member for Which Obligation was Incurred	Total Amount	Amount Fulfilled to Date	Year Fulfilled	Amount Remaining to be Fulfilled	Notes
Contract Replenishment Obligation	2013	--	--	--	--	--	
	2012	--	--	--	--	--	

**F. CONTRACT REPLENISHMENT CREDIT ACCOUNTING – Units: AF**

Member Service Area	Beginning Contract Replenishment Account Balance	Contract Replenishment Credits Applied to Reduce the 2013 Service Area Replenishment Obligation	Ending Contract Replenishment Account Balance
Metropolitan Domestic Water Improvement District	551.73	0	551.73
--	--	--	--

**ARIZONA DEPARTMENT OF WATER RESOURCES  
2013 CONSERVATION DISTRICT ANNUAL REPORT - PINAL AMA (Part 3 of 3)**

**CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT**  
P.O. Box 43020, Phoenix, Arizona 85080-3020

**A. WATER STORED AND ACCOUNTS CREDITED – Units: AF**

Total Amount Stored in Pinal AMA in 2013	Storage Project Where Credits Were Earned	Total Credits Accrued in 2013	Amount Credited to CAWCD Long-Term Storage Account (70-431120)	Amount Credited to CAGRD Long-Term Storage Sub-Account (70-431120.0001)	Amount Credited to CAGRD Replenishment Reserve Sub-Account (70-431120.0002)	Amount Credited to CAGRD Conservation District Account (75-431120)	Year of Obligation Covered	Notes
231	73-531381.0300 (MSIDD)	225.20	--	--	--	225.20	2011	

**B. CREDIT TRANSFERS AMONG ACCOUNTS – Units: AF**

Account Number	Description of Account from Which Credits were Transferred in 2013	Storage Permit Where Transferred Credits Were Accrued	Amount Transferred to CAWCD Long-Term Storage Account (70-431120)	Amount Transferred to CAGRD Long-Term Storage Sub-Account (70-431120.0001)	Amount Transferred to CAGRD Replenishment Reserve Sub-Account (70-431120.0002)	Amount transferred to CAGRD Conservation District Account (75-431120)	Year of Obligation Covered
70-431120	CAWCD	73-531381.0300	--	--	243.00	--	--
70-431120.0001	CAGRD	73-531381.0300	--	--	--	--	--

**C. ACCOUNT BALANCES – Units: AF**

Account Number	Description	Beginning Balance	Credits Accrued by Storage in 2013	Credits Transferred In During 2013	Credits Transferred Out During 2013	Ending Balance
70-431120.0001	CAGRD Long-Term Storage Sub-Account	0	--	--	--	0
70-431120.0002	CAGRD Replenishment Reserve Sub-Account	3,000	--	243.00	--	3,243.00

**D. GROUNDWATER AND CONTRACT REPLENISHMENT OBLIGATIONS – Units: AF**

Category	Year	Total Amount (AF)	Amount Fulfilled to Date (AF)	Year Fulfilled	Amount Remaining to be Fulfilled (AF)	Final Year to Fulfill
Groundwater Replenishment Obligation	2013	703.50	--	--	703.50	2016
	2012	317.70	1.47	2013 -- 1.47	316.23	2015
	2011	245.78	245.78	2012 – 22.05 2013 – 223.73	0	2014
	2010	212.68	212.68	2011 – 1.09 2012 – 211.59	0	2013
Contract Replenishment Obligation	No Contract Replenishment to Date in Pinal AMA					



# **APPENDIX C**

## **[CHAPTER 5 – REPLENISHMENT RESERVE]**

1. Statutory language related to establishing and funding the Replenishment Reserve
2. Policy Regarding the Dedication of CAWCD's Existing Underground Storage Credits to CAGR for Use in Establishing the Replenishment Reserve (Approved October 6, 2005)

# STATUTORY LANGUAGE RELATED TO ESTABLISHING AND FUNDING THE REPLENISHMENT RESERVE

## **A.R.S. § 48-3772. Duties and powers of district regarding replenishment**

### **E. The district shall establish and maintain a replenishment reserve as follows:**

1. The district shall calculate a reserve target for each of the three active management areas within the district and shall identify the reserve target in the plan of operation prepared pursuant to section 45-576.02. The reserve target for each active management area shall be calculated as follows:
  - (a) Establish the projected one hundred year replenishment obligation for each active management area. For the purposes of this subdivision, each active management area's projected one hundred year replenishment obligation does not include replenishment obligations under resolutions adopted pursuant to subsection B, paragraph 10 of this section or replenishment obligations for category 2 member lands.
  - (b) Subtract from the active management area's projected one hundred year replenishment obligation the sum of the following volumes of water derived from sources identified in the plan as water that the district plans to use to meet its replenishment obligations for that active management area:
    - (i) The annual volume of each non-declining, long-term municipal and industrial subcontract for central Arizona project water multiplied by one hundred.
    - (ii) The annual volume of water under leases or contracts that can be made physically and legally available to the district consistent with the rules adopted pursuant to section 45-576, subsection H, multiplied by the number of years, not to exceed one hundred, in which the water is to be made available to the district. The water need not be continuously available to be included in this item. A lease or contract shall not be considered under this item if the water to be made available under the lease or contract is for a term of less than twenty years.
    - (iii) The total volume of groundwater that the district plans to transport to the active management area during the next one hundred years as allowed by title 45, chapter 2, article 8.1.
    - (iv) The total volume of all sources of water not identified in items (i), (ii) or (iii) of this subdivision that will not be held by the district under a lease or contract. Volumes to be included under this item must be consistent with the rules adopted by the director pursuant to section 45-576, subsection H.
  - (c) Multiply the result from subdivision (b) of this paragraph by twenty per cent. The result is the reserve target for the active management area.
2. The reserve target for an active management area may be adjusted by the district, subject to the approval of the director of water resources, based on changes in either of the following:
  - (a) The active management area's projected one hundred year replenishment obligation.
  - (b) The volumes of water identified in the plan of operation prepared pursuant to section 45-576.02 as water that the district plans to use to meet its replenishment obligations for that active management area.

3. The district shall include a replenishment reserve charge in the annual replenishment assessment levied against all parcels of category 1 member land as provided in section 48-3774.01 and in the annual replenishment tax levied against all municipal providers that have member service areas as provided in section 48-3780.01. The replenishment reserve charge for each active management area is established annually by the district based on the reserve target for that active management area.
4. The district shall levy a replenishment reserve fee against category 1 member lands pursuant to section 48-3774.01 and against member service areas pursuant to section 48-3780.01. For category 1 member lands the fee is equal to twice the applicable replenishment reserve charge multiplied by the total projected average annual replenishment obligation for the member lands as reported by the director of water resources pursuant to section 45-578, subsection F. For member service areas the fee is equal to twice the applicable replenishment reserve charge multiplied by the excess groundwater increment. With the approval of the district and the director of water resources, long-term storage credits as defined in section 45-802.01 may be assigned to the district's replenishment reserve subaccount in lieu of paying the replenishment reserve fee.
5. The district shall use replenishment reserve charges and replenishment reserve fees collected within each active management area together with all interest earned on the charges and fees to store water in that active management area in advance of groundwater replenishment obligations for the purpose of developing long-term storage credits as defined in section 45-802.01 that shall be credited to the replenishment reserve subaccount for that active management area as provided in section 45-859.01.
6. Beginning on January 1, 2030 or earlier, on approval of the director of water resources pursuant to section 45-859.01, subsection K, the district may transfer credits from a replenishment reserve subaccount to a conservation district account as provided in section 45-859.01 to satisfy its groundwater replenishment obligations.
7. If the district transfers credits from the replenishment reserve subaccount for an active management area pursuant to section 45-859.01, subsection E, the district shall include in the annual replenishment assessment levied against all parcels of category 1 member land in that active management area and, except as provided in section 48-3780.01, subsection B, in the annual replenishment tax levied against all municipal providers that have member service areas in that active management area a reserve replacement component to fund the replacement of the transferred credits. The district shall use all monies from the reserve replacement component collected within an active management area together with all interest earned on the monies to develop long-term storage credits as defined in section 45-802.01 within that active management area to be credited to the replenishment reserve subaccount for that active management area as provided in section 45-859.01.
8. For the purposes of establishing and maintaining the replenishment reserve, the district shall have access to excess central Arizona project water equivalent to but no more than the access the Arizona water banking authority has for the purposes specified in section 45-2401, subsection H, paragraph 2.

# BOARD POLICY

Approved by the CAWCD Board – October 6, 2005

## POLICY REGARDING THE DEDICATION OF CAWCD'S EXISTING UNDERGROUND STORAGE CREDITS TO CAGR D FOR USE IN ESTABLISHING THE REPLENISHMENT RESERVE

### BACKGROUND

#### **Status of CAWCD's Existing Credits**

During the period 1992 through 1996, CAWCD purchased Excess CAP water using its own funds for storage at groundwater savings facilities (GSFs) in the Phoenix, Pinal and Tucson Active Management Areas (AMAs).

The following table identifies the volumes of credits accrued:

<b>Long-term Storage Credits Accrued by CAWCD at GSFs</b>			
<b>(Acre-feet)</b>			
<b>Phoenix</b>	<b>Pinal</b>	<b>Tucson</b>	
AMA	AMA <sup>1</sup>	AMA	<b>Total</b>
196,338	310,486	1,805	<b>508,629</b>

In July 1999, the CAWCD Board of Directors voted to establish a policy under which:

*"All long-term storage credits currently held by CAWCD in the Phoenix and Tucson AMAs, and up to 100,000 AF of the credits currently held in the Pinal AMA, be dedicated for exclusive use by the CAGR D. As the CAGR D needs the credits to offset replenishment obligations in the future, CAWCD will transfer the credits to the CAGR D and CAWCD will be paid no less than the CAP M&I water price per acre-foot, including capital."*

During the period from 1999 through 2005, CAGR D purchased 698 acre-feet of credits from CAWCD under this policy. Therefore, the remaining volumes of credits dedicated to CAGR D under the 1999 policy are described in the following table.

<b>Remaining CAWCD Credits Dedicated to CAGR D</b>			
<b>Under the July 1999 Policy (Acre-feet)</b>			
<b>Phoenix</b>	<b>Pinal</b>	<b>Tucson</b>	
AMA	AMA	AMA	<b>Total</b>
195,795	99,845	1,805	<b>297,445</b>

<sup>1</sup> This volume for Pinal AMA does not include 139,000 acre-feet of credits that were accrued under a demonstration interstate banking program with California (89,000 AF) and Nevada (50,000 AF).

During the period 1994-1996, CAWCD also accrued 143,045 acre-feet of long-term storage credits in the Phoenix AMA using State Water Storage (or State Demonstration) funds. These “State Demonstration Credits” were not dedicated under the July 1999 policy. Therefore, the total volume of unencumbered credits currently held by CAWCD is 353,531 acre-feet (143,045 AF of State Demonstration Credits in the Phoenix AMA and 210,486 AF of credits accrued by CAWCD via GSFs in the Pinal AMA).

**CAGR’s Replenishment Reserve Requirement**

In 2003, new statutes went into effect requiring CAGR to establish a Replenishment Reserve of long-term storage credits. The purpose for the replenishment reserve is to insure that CAGR will always be able to meet its replenishment obligations while enhancing rate stability for its members. During future times of water supply shortage or infrastructure failure, CAGR will be able to use credits from the replenishment reserve to meet its obligations rather than purchase water that is temporarily high-priced due to the extreme conditions.

CAGR’s Plan of Operation is required by statute to identify the volume of credits to be stored in the replenishment reserve (known as the “Reserve Target”) for each AMA. These targets are based on the projected replenishment obligations and water supply acquisitions described in the Plan. The targets identified in CAGR’s second Plan of Operation (as submitted to the Arizona Department of Water Resources in November 2004) are provided below.

<b>Reserve Targets</b> (Acre-feet)			
<b>Phoenix</b> AMA	<b>Pinal</b> AMA	<b>Tucson</b> AMA	<b>Total</b>
1,279,400	93,000	179,700	<b>1,552,100</b>

The CAWCD Board of Directors recognizes that future demand for water within the CAP service area continues to grow and competition for water supplies to meet those demands continues to get stronger. CAGR could use Excess CAP water or acquire other water supplies to build the replenishment reserve. However, in an effort to reduce competition for water supplies, this policy dedicates all unencumbered credits currently held by CAWCD to CAGR for purposes of establishing the replenishment reserve. The credits dedicated under this policy include those accrued by CAWCD at GSFs using its own reserve funds, as well as the State Demonstration Credits<sup>2</sup>. Dedication of these credits to establish the replenishment reserve significantly reduces the amount of water supplies that CAGR would otherwise have to purchase and replenish to comply with statutes.

<sup>2</sup> Through discussions and negotiations with a CAGR Stakeholder Working Group, and with approval from the CAWCD Board of Directors, staff sought and obtained new legislation in 2005 which requires that those credits accrued with State Demonstration funds be used for the benefit of CAGR members in the county in which they were accrued.

## POLICY

1. All unencumbered long-term storage credits currently held by CAWCD in the Phoenix, Pinal and Tucson Active Management Areas (AMAs) are dedicated for exclusive use by the CAGRDR to meet its legal requirement to establish and maintain a Replenishment Reserve of long-term storage credits in the Phoenix, Pinal and Tucson AMAs. The credits dedicated under this policy consist of:
  - a.) The long-term storage credits accrued through storage at groundwater savings facilities (or indirect recharge projects) by CAWCD using its own funds, and
  - b.) The long-term storage credits accrued by CAWCD from 1994 through 1996 using State Water Storage funds collected in Maricopa County. These credits will be used to help establish and/or maintain the replenishment reserve in the Phoenix AMA only.
2. CAGRDR will pay CAWCD for credits dedicated under this policy in the year in which the credits are requested by CAGRDR and transferred to the CAGRDR long-term storage account administered by the Arizona Department of Water Resources. The rate shall be the same as the rate for Excess CAP water that CAGRDR could otherwise purchase to accrue long-term storage credits in the year of the transfer. If the transfer takes place in a year in which no Excess CAP water is available for accrual of long-term storage credits, then the rate shall be the same as the rate paid by CAP M&I subcontractors for water deliveries plus the M&I capital charge.
3. This policy supersedes and replaces the credit dedication policy adopted by the Board of Directors on July 1, 1999.

O:\cawcd board of directors manual\Policy Dedication CAP Existing UGS Credits to CAGRDR Replnshmnt Rsrv.doc

# APPENDIX D

## [CHAPTER 6 – STORAGE FACILITIES PLANNED FOR USE]

1. **Table D-1:** Inventory of Storage Capacity Available for Use by CAGR  
at Selected Recharge Facilities
2. **Figure D-1:** Storage Facilities Available for Use by CAGR
3. CAWCD Underground Storage Facility Capacity Priority Policy  
(Approved May 2, 2013)

TABLE D-1

## INVENTORY OF STORAGE CAPACITY AVAILABLE FOR USE BY CAGR D AT SELECTED RECHARGE FACILITIES

	RECHARGE FACILITIES	PERMIT NO.	CAPACITY (AF/YR) <sup>1,2</sup>		STORAGE CAPACITY <sup>3</sup> POTENTIALLY AVAILABLE TO CAGR D (AF/YR)				
			PERMITTED	OPERATIONAL	2015	2020	2025	2030	2035
<b>PHOENIX AMA</b>									
USF	Tonopah Desert Recharge Project	73-593305.0001	150,000	150,000	150,000	150,000	150,000	150,000	150,000
	Hieroglyphic Mountains Recharge Project <sup>4</sup>	73-584466.0000	35,000	35,000	30,000	30,000	30,000	30,000	30,000
	Agua Fria Recharge Project <sup>4</sup>	73-569775.0000 73-569776.0000	100,000	25,000	21,000	21,000	21,000	21,000	21,000
	Superstition Mountains Recharge Project <sup>5,6</sup>	73-207702.0000	56,500	25,000	10,000	41,500	56,500	56,500	56,500
GSF	Tonopah Irrigation District	73-534439.0001	15,000	15,000	14,500	14,500	14,500	14,500	14,500
	Queen Creek Irrigation District	73-534550.0400	22,000	22,000	7,600	7,600	7,600	7,600	7,600
	New Magma Irrigation and Drainage District	73-534888.0101	54,000	54,000	9,000	9,000	9,000	9,000	9,000
	Maricopa Water District	73-558246.0800	40,000	40,000	27,500	27,500	27,500	27,500	27,500
<b>PHOENIX AMA SUBTOTAL:</b>			<b>472,500</b>	<b>366,000</b>	<b>269,600</b>	<b>301,100</b>	<b>316,100</b>	<b>316,100</b>	<b>316,100</b>
<b>PINAL AMA</b>									
GSF	Maricopa Stanfield Irrigation and Drainage District	73-531381.0300	120,000	120,000	57,700	57,700	57,700	57,700	57,700
	Central Arizona Irrigation and Drainage District	72-531382.0005	110,000	110,000	40,000	40,000	40,000	40,000	40,000
<b>PINAL AMA SUBTOTAL:</b>			<b>230,000</b>	<b>230,000</b>	<b>97,700</b>	<b>97,700</b>	<b>97,700</b>	<b>97,700</b>	<b>97,700</b>
<b>TUCSON AMA</b>									
USF	Lower Santa Cruz Recharge Project <sup>7</sup>	73-561366.0000	50,000	42,000	39,722	39,722	39,722	39,722	39,722
	Pima Mine Road Recharge Project <sup>8</sup>	73-577501.0100	30,000	30,000	9,000	9,000	9,000	9,000	9,000
	Avra Valley Recharge Project <sup>9</sup>	73-564896.0000	11,000	8,000	1,000	1,000	1,000	1,000	1,000
GSF	Kai Farms (Red Rock)	73-558092.0201	11,231	11,231	500	500	500	500	500
<b>TUCSON AMA SUBTOTAL:</b>			<b>102,231</b>	<b>91,231</b>	<b>50,222</b>	<b>50,222</b>	<b>50,222</b>	<b>50,222</b>	<b>50,222</b>
<b>TOTAL:</b>			<b>804,731</b>	<b>687,231</b>	<b>377,522</b>	<b>409,022</b>	<b>424,022</b>	<b>424,022</b>	<b>424,022</b>

<sup>1</sup> Permitted capacity represents the maximum annual volume allowable by ADWR. Volumes do not include capacity at projects for effluent supplies.

<sup>2</sup> Operational capacity represents the maximum volume the facility operator has determined can be stored in a given year. Differences between permitted and operational capacity for USFs may vary depending on factors such as infrastructure and infiltration rate limitations.

<sup>3</sup> Storage capacity for CAWCD USF facilities determined to be all available storage after contractual obligations were met. Storage capacity for GSFs was determined by subtracting the average storage over the last six years by non-CAGR D GSF partners from the operational capacity and by coordination with the GSF operators.

<sup>4</sup> City of Peoria owns 15% of storage capacity.

<sup>5</sup> Salt River Project has first right of refusal to 15,000 AF/yr of storage capacity until 2023.

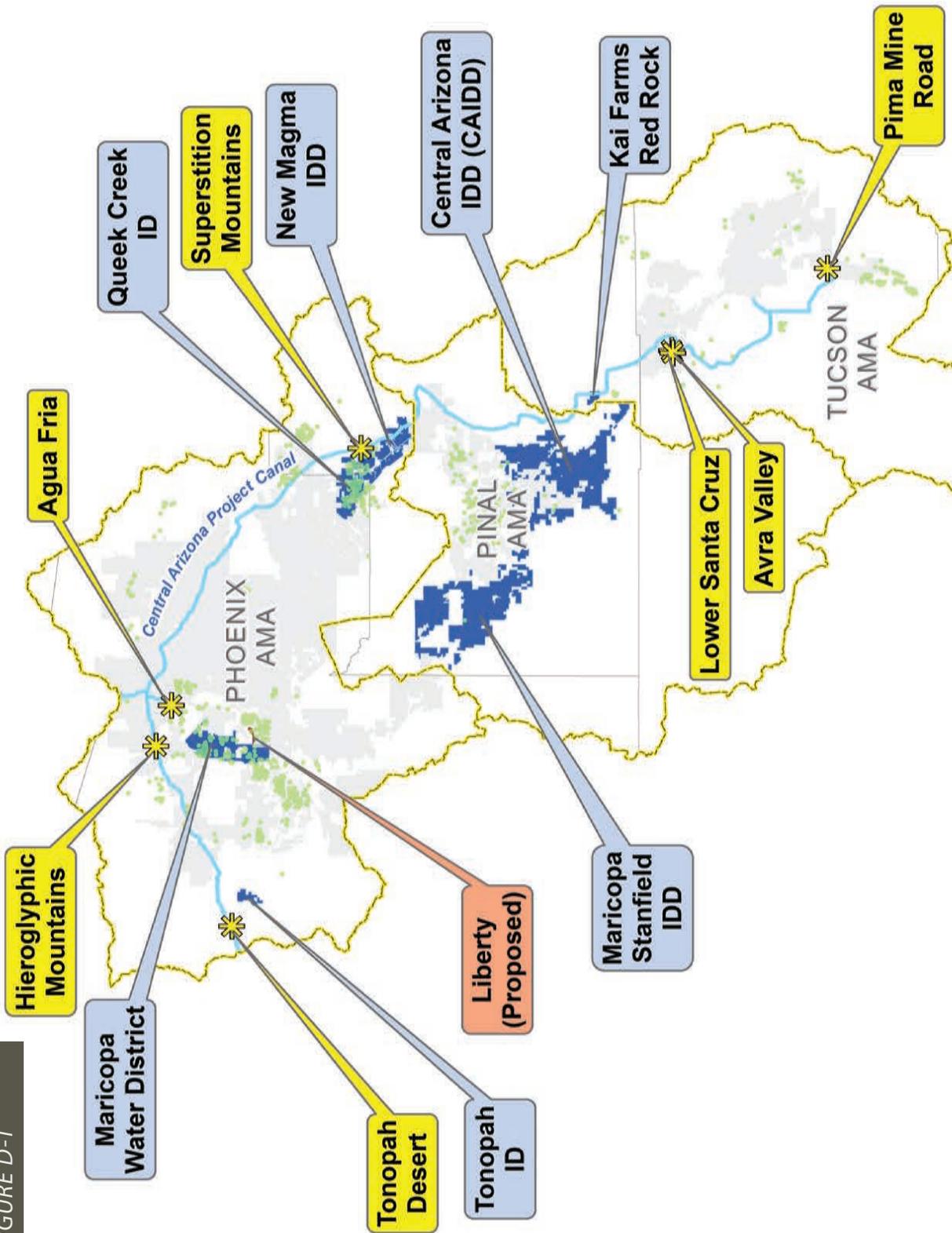
<sup>6</sup> Upon completion of SMRP, Phase 2 (~ 2020), an additional 31,500 AF/yr of storage capacity expected to be available to CAWCD.

<sup>7</sup> Approximately 2,300 AF/yr of storage capacity reserved as system reliability for Northwest Providers.

<sup>8</sup> City of Tucson owns 50% of annual storage capacity; 6,000 AF/yr of remaining storage capacity reserved for Tucson's system reliability.

<sup>9</sup> Owned by Metropolitan Domestic Water Improvement District (MDWID); available storage capacity for CAGR D provided by MDWID staff.

FIGURE D-1



**STORAGE FACILITIES**  
Available for Use by CAGRD

- CAGRD Member Land Subdivision
- ADWR Active Management Area
- Groundwater Savings Facility
- Incorporated City

**SCALE**  
0 5 10  
MILES

**NORTH**

**DATE:** AUGUST 2014  
**LOCATION:** MARICOPA/PINAL/AVRA/PHOENIX Active Management Areas  
**PROJECTION:** NAD 83, NAD 83 State Plane, Central Zone, Unit Feet  
**SOURCE:** Various sources including the Arizona Department of Water Resources, the Arizona Department of Environmental Quality, and the Arizona Department of Transportation.

# BOARD POLICY

**Approved by the CAWCD Board – May 2, 2013**

## **CAWCD UNDERGROUND STORAGE FACILITY CAPACITY PRIORITY POLICY**

CAWCD currently owns and operates six underground storage facilities (USFs) with a total annual operational capacity of approximately 300,000 acre-feet. Requests by various entities for approval of water storage agreements at CAWCD underground storage facilities (USFs) continue to accumulate. Entities currently ordering CAP water for delivery and recharge at CAWCD USFs include the CAGR, AWBA, municipal and private water providers, industrial users, water investment firms and Indian tribes. Water storage agreements do not guarantee water delivery or storage capacity. Although CAWCD has historically met nearly all customer requests for underground storage, the lack of a formal policy for prioritization of storage capacity has led to concerns about competing demands and the potential for insufficient storage at one or more of the USF sites.

CAWCD has statutory obligations to support the efforts of the Central Arizona Groundwater Replenishment District (CAGR) and the Arizona Water Banking Authority (AWBA) to store and replenish water for the public benefit. CAWCD also has entered into contractual agreements with specific partners at different recharge locations and has made commitments to store water for system reliability purposes. CAWCD also desires to support the water management objectives of its CAP subcontractors. This policy provides priorities and guidelines to support these objectives. This policy does not prioritize access to CAP water, it relates only to prioritization of capacity in CAWCD USF's .

### **Policy Objective:**

The objective of this policy is to convey a clear method for scheduling recharge capacity at CAWCD USFs. This policy describes scheduling practices already in place and communicates priorities that will be used to resolve conflicts for available capacity that may arise in the scheduling process. This policy is applicable to all entities who desire to store water at CAWCD USF's.

## Policy Guidelines:

The following guidelines describe a methodology for scheduling storage capacity at CAWCD USFs.

- STEP 1: By October 1, contractors submit requests to CAP for storage capacity in a CAP USF, along with their request for CAP water deliveries.
- STEP 2: Before considering capacity in CAP USFs, CAWCD compiles all requests for water deliveries to determine if the projected available CAP water supplies will be sufficient to satisfy all requests.
- STEP 3: If requests for water deliveries exceed the projected available CAP water supplies, CAWCD makes adjustments to requested water delivery schedules in compliance with existing water scheduling guidelines and policies (e.g., Access to Excess Policy).
- STEP 4: CAWCD makes adjustments to CAP USF storage capacity requests based on the adjustments to water delivery schedules from Step 3.
- STEP 5: CAWCD compiles all requests for CAP USF storage capacity (with any adjustments as provided in Step 4) to determine if there will be sufficient storage capacity available to satisfy all requests.
- STEP 6: If there is not sufficient storage capacity at one or more CAP USFs to satisfy all requests from Step 5, CAWCD contacts requesters individually to determine their willingness to reduce their request or “relocate” some or all of their requested capacity to a different facility.
- STEP 7: If voluntary relocations/reductions from Step 6 are not sufficient, CAWCD convenes a meeting of all affected requesters to provide a forum for the requesters to come to agreement on the best way to share the storage capacity.
- STEP 8: If an agreement on sharing the storage capacity cannot be reached in Step 7, CAWCD uses the following priorities to establish the final storage schedules for CAP USFs:
1. Water storage requests for entities with contractual rights to CAP storage facilities (up to the volume limit of the contractual right). This includes ownership partners and any reliability agreements that CAP has entered into for specific facilities.
  2. Water storage requests for CAGRDR replenishment obligations.
  3. Water storage requests for entities with statutory firming obligations (with coequal priority) including:
    - a.) AWBA
    - b.) CAGRDR Replenishment Reserve
    - c.) United States (Indian Firming)
  4. Individual CAP long-term contract entitlements – priority will be given to entities storing within the AMA where their service area is located.
  5. Individuals storing water under a CAP excess contract.
- STEP 9: CAWCD notifies all contractors of the final CAP USF storage schedules.



# APPENDIX E

## [CHAPTER 7 – FINANCIAL CAPABILITY]

1. CAGR D Enrollment Fee and Activation Fee Policy (Adopted May 1, 2008)
2. CAGR D Assessment Rate Setting Policy (Adopted May 6, 2010)
3. Policy on Collection of CAGR D Annual Membership Dues (Approved April 7, 2011)
4. Infrastructure and Water Rights Funding Proposal  
(Approved November 7, 2013)

# BOARD POLICY

**Approved by the CAGR D Board – May 6, 2004**

**Revised by CAWCD Board – May 1, 2008**

## CAGR D ENROLLMENT FEE AND ACTIVATION FEE POLICY

### **Enrollment Fee For Member Lands**

CAWCD hereby establishes an Enrollment Fee for Member Lands to be set and assessed as set forth below.

1. Applicants seeking to enroll land as Member Lands of the CAGR D shall pay an Enrollment Fee at the time of application for membership.
2. The Enrollment Fee shall be assessed per unit, on the total number of housing units in the subdivision seeking enrollment in the CAGR D, subject to a minimum Enrollment Fee and a maximum number of housing units as established by the Board of Directors.
3. The Enrollment Fee shall become effective upon adoption of this Policy.
4. The Board shall set the Enrollment Fee after providing advance notice of the fee and providing adequate time for public comment. It is contemplated that the Board will adopt the Enrollment Fee schedule at the same time it adopts the final CAGR D assessment rate schedule.
5. The amount of the Enrollment Fee shall be the same for all Active Management Areas.
6. Revenues from the Enrollment Fee will be used by CAWCD, among other revenues, to acquire water rights and develop infrastructure necessary for the CAGR D.

## Activation Fee

CAWCD hereby establishes an Activation Fee to be set and assessed as set forth below.

1. All subdivisions within existing<sup>20</sup> Member Lands and Member Service Areas that have not yet received an approved public report from the Arizona Department of Real Estate shall pay an Activation Fee. Further, all subdivisions within future Member Lands and Member Service Areas shall pay an Activation Fee. The Activation Fee shall be paid to CAGR D on behalf of such subdivisions before issuance of a public report in accordance with A.R.S. §48-3772(A)(7).
2. The Activation Fee shall be a one-time, per-unit fee assessed on the total number of housing units in each affected subdivision.
3. The Board shall set the Activation Fee after providing advance notice of the fee and providing adequate time for public comment. It is contemplated that the Board will adopt the Activation Fee schedule at the same time it adopts the final CAGR D assessment rate schedule.
4. The amount of the Activation Fee shall be the same for all Active Management Areas.
5. Revenues from the Activation Fee will be used by CAWCD, among other revenues, to acquire water rights and develop infrastructure necessary for the CAGR D.

<sup>20</sup> For purposes of this Policy, the term "existing Member Lands and Member Service Areas" means those CAGR D Member Lands and/or Member Service Areas that qualified for membership in the CAGR D before May 6, 2004. The term "future Member Lands and Member Service Areas" means those CAGR D Member Lands and/or Member Service Areas that qualify for membership in the CAGR D on or after May 6, 2004.

# BOARD POLICY

**Approved by the CAWCD Board – April 5, 2001**

**Revised and Approved by the CAGR D Board – June 17, 2004**

**Revised – October 6, 2005**

**Revised – May 6, 2010**

## CAGR D ASSESSMENT RATE SETTING POLICY

### Goals of Rate Setting

1. Cost Recovery — “To pay the district’s costs and expenses to replenish groundwater” as required by statute.
2. Financial Stability — To reliably perform its services, the CAGR D must retain a strong financial position and long-term balanced cash flows.
3. Price Stability and Predictability — CAGR D should make every effort to maintain relatively stable and predictable rates. If unforeseen changes are required, the changes should be announced well in advance and, if possible, phased in over a period of time.
4. Operational Efficiency — CAGR D commits to a goal of operating consistently with sound water resource management strategies at the lowest possible cost.
5. Accountability — Replenishment policies and assessment rates shall be established in a highly public process only after due consideration and analysis of economic and financial impacts, and inviting comment from all affected parties.
6. Legal Compliance — Any rate making processes and policies must be accomplished in accordance with statutory and contractual requirements.
7. Equity — To the extent feasible and consistent with legal and contractual requirements, establish and apply rates in a reasonable relationship to the cost of providing replenishment services for particular members.

### Establishing Annual Assessment Rates

1. Purpose — To allow for the District to levy an annual replenishment assessment against each parcel of member land and an annual replenishment tax against each municipal provider having a qualified member service area.
2. Deadline — Annual replenishment assessments and replenishment taxes must be levied on or before the third Monday in August of each year.

# BOARD POLICY

**Approved by the CAWCD Board – April 7, 2011**

## **POLICY ON COLLECTION OF CAGR D ANNUAL MEMBERSHIP DUES**

### **Enrollment Fee For Member Lands**

Arizona Revised Statutes (ARS) provides CAWCD with the authority to charge Annual Membership Dues (AMDs) on all parcels of Central Arizona Groundwater Replenishment District (CAGR D) member lands and on all municipal providers having a CAGR D member service area, even if they are not yet reporting excess groundwater use. Revenues generated by the collection of AMDs must be used to pay costs associated with the acquisition, lease or exchange of water or water rights and development of infrastructure necessary for CAGR D to perform its replenishment obligations, including the payment of debt service expenses, and necessary reserves and coverage requirements, on bonds issued for replenishment purposes. Revenues generated by the collection of AMDs will not be used to pay the annual costs associated with delivery of water for replenishment purposes.

#### Policy Objective:

The objective of this policy is to describe the general methodology that will be used in establishing AMDs. The policy will be applied in any year in which the CAWCD Board proposes to collect AMDs. Unless otherwise modified by the CAWCD Board, this policy shall be in effect through the 2014/2015 tax year, at which point the policy will be reviewed and revised as necessary to insure compliance with the next CAGR D Plan of Operation.

#### Methodology:

Each year, the CAWCD Board of Directors shall decide if AMDs should be collected from CAGR D member lands and member service areas. In determining the total amount of revenues to be generated through the collection of AMDs in a year, CAWCD shall comply with ARS § 48-3772.A.8. In determining the AMDs to be charged against each parcel of member land and against each member service area, CAWCD shall comply with the provisions in ARS §48-3779. While most aspects of the methodology that staff will use to implement collection of AMDs are specified in statute, the following describes the supporting data that must be generated to carry out the implementation.

### **Member Lands**

CAGR D Staff will maintain and publish a count of AMD-eligible lots (as defined in ARS §48-3779.E), based on data from plats and county parcel records, summed by Active Management Area.

### **Member Service Areas**

CAGR D Staff will estimate the long-term replenishment obligation associated with 2015 current-andcommitted demands for each Member Service Area (ARS §48-3779.D.2). That “planned annual service area obligation” will be determined based on the water provider’s projected 2017 demand as indicated in the “Schedule AWS” data submitted to the Arizona Department of Water Resources (ADWR), less supplies available to the Member that are consistent with the management goal of the AMA in which the Member is located. The specific volumes of those supplies will be based upon information contained in each Member’s current Designation Order,

long-term storage account summary, ADWR Annual Reports and contracts for any additional permanent or long-term (100-year) renewable water supplies. CAGR Staff may request additional information regarding the basis of demand projections and will consider renewable supplies not otherwise included in the Member's Designation of Assured Water Supply.

Staff will also calculate the reliance on the CAGR in the Member's current Designation Order. Unless specifically identified, the volume shall be calculated based on the total groundwater, less the portion that is not subject to a replenishment requirement. That exempted portion shall include the calculated incidental recharge, groundwater allowance (divided by 100, [except Pinal AMA, as applicable]) and extinguishment credits (divided by 100, [except Pinal AMA, as applicable]). The Assured Water Supply exemption granted to groundwater remediation projects expires in 2025, and is therefore ineligible.

#### Process:

The process of establishing AMDs will generally coincide with the CAGR rate-setting process, on a biennial schedule, with the primary rate-setting activity taking place in even years and an update, if required, in odd years. AMDs will be established only after being publicly announced and providing adequate time for public comment. The suggested calendar for establishing AMDs is shown below, and is applicable to both the primary AMD-setting process in even years and updates in odd years:

- 1) April – Staff includes proposed AMDs in the preliminary CAGR rate schedule that is delivered to the CAGR and Underground Storage Committee of the Board for study.
- 2) May – Board adopts the preliminary CAGR rate package, including the proposed AMDs. Announcement is made through public notice, which also invites all interested parties to submit written comments.
- 3) May – Public comments are analyzed and reviewed by staff and a proposed final CAGR rate schedule, including proposed AMDs, is disseminated to the Board and interested parties.
- 4) June – Board adopts the final CAGR rate schedule, including AMDs.

#### **Forward Announcement of AMDs**

CAGR AMDs will be announced during each primary or update rate-setting process. Primary AMD rate schedules will be for three years, and updated AMD rate schedules, if required, will be for two years. The first year of the primary rate schedule will be considered "firm" pricing, subject to change only in emergency circumstances and if a change would be permitted under applicable contracts. The second year of the primary rate schedule will be considered "provisional," and will become firm unless updated by the Board prior to the commencement of the second year during the rate update process. The remaining year in the rate schedule is "advisory" for customer planning purposes, but subject to change in subsequent primary rate-setting or rate update processes. Rate updates affecting provisional or advisory rates may be made if there are material changes in assumptions made when these rates were originally published.

# ACTION BRIEF – BOARD OF DIRECTORS

## Agenda Number 4.b.i

**CONTACT:** Dennis Rule (623) 869-2167 drule@cap-az.com  
Ted Cooke (623) 869-2667 tcooke@cap-az.com

**MEETING DATE:** November 7, 2013

**AGENDA ITEM:** Approve a CAGR D Infrastructure and Water Rights Funding Proposal  
and Preliminary CAGR D 2014/15 – 2019/20 Activation Fee Rate Schedule

### RECOMMENDATION:

The CAGR D & Underground Storage Committee recommends that the Board approve the CAGR D Infrastructure & Water Rights Funding Proposal and the attached Preliminary CAGR D 2014/15 – 2019/20 Activation Fee rate schedule. The Committee further recommends that the Board direct staff to evaluate possible modifications to the current CAGR D Activation Fee Policy to be consistent with the CAGR D Infrastructure and Water Rights Funding Proposal and that any amended Policy be brought to the Board for consideration at a future date.

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### FINANCIAL IMPLICATIONS:

The purpose of the Infrastructure & Water Rights Funding Proposal is to collect more funding for Infrastructure & Water Rights earlier in the lifecycle of CAGR D members by increasing the Activation Fee. While it is impossible to predict what the ultimate cost of Infrastructure & Water Rights for CAGR D will be, whatever that cost is will be funded through a combination of Activation Fees, Enrollment Fees, Membership Dues and the Infrastructure & Water Rights component included in the annual CAGR D Rates. If one fee or assessment is increased (e.g., the Activation Fee), it follows that the amounts required from the remaining fees and assessments will ultimately be less than what they otherwise would have been, but not necessarily less than what they are today. The proposal being considered today only addresses an increase in the Activation Fee at this time. As time goes on, appropriate adjustments to the other sources of Infrastructure & Water Rights funding will be considered as part of the normal rate-setting process.

### LINKAGE TO STRATEGIC PLAN, POLICY, STATUTE OR GUIDING PRINCIPLE:

CAWCD Board 2010 Strategic Plan

- Replenishment: CAGR D Management and Oversight

## **PREVIOUS BOARD ACTION/ACTIVITY:**

CAWCD Board of Directors meeting:

- September 5, 2013 - Update on Refined CAGR D Infrastructure and Water Rights Funding Proposal
- September 6, 2012 - Board of Directors Approval of CAGR D Guiding Principles  
CAGR D & Underground Storage Committee meeting
- October 24, 2013 - Discussion and Consideration of Action to Recommend that the Board Approve a CAGR D Infrastructure and Water Rights Funding Proposal and Preliminary CAGR D 2014/15 – 2019/20 Activation Fee Rate Schedule
- August 15, 2013 - Update on Refined CAGR D Infrastructure and Water Rights Funding Proposal
- April 18, 2013 - Committee Discussion of CAGR D Infrastructure and Water Rights Funding Proposal

## **ISSUE SUMMARY/DESCRIPTION:**

Over the past six months, staff has convened a total of nine stakeholder meetings on the CAGR D Plan of Operations 2015 – 2025. The majority of these meetings have focused on modifying the current funding model for the acquisition of water supplies to meet the CAGR D's current and future replenishment obligations. Staff presented an initial funding proposal at the April 18 meeting of the CAGR D & Underground Storage Committee and at the subsequent CAGR D stakeholders meeting on April 24.

Staff's initial funding proposal sought to collect more money for the acquisition of water supplies earlier in the development process through an existing and statutorily authorized fee, the Activation Fee.

The fundamentals of this proposal were as follows:

1. Significantly increase the Activation Fee to collect more of the cost of developing water supplies earlier in the development process. The Activation Fee is collected:
  - a.) prior to new construction and therefore prior to incurring a replenishment obligation; and
  - b.) from new members and also from enrolled but not-yet-developed members, thereby addressing the future replenishment obligation from these enrolled members.
2. Move from a single, "across-the-board" Activation Fee to an Activation Fee that varies with the volume of replenishment obligation placed on the CAGR D by the new development.
3. In any given year, base the Activation Fee on the cost of historical CAGR D water acquisitions, so that newly activated members pay the same that members with current obligations have paid.
4. Rely on annual assessments (i.e., the Infrastructure & Water Rights (I&WR) component of the annual CAGR D assessments) to spread the additional future cost of acquisition and maintenance of long-term supplies equally among all members with replenishment obligations.
5. Regularly adjust the basis of the Activation Fee to reflect the cost of ongoing acquisitions and the amounts paid by existing members.

The funding proposal was intended to address two concerns with the current structure of CAGR D rates and fees. First, the current funding structure's reliance on annual assessments, (i.e., the I&WR component of the annual CAGR D assessments) collects the majority of funding for the acquisition of water supplies after development occurs. Increasing the Activation Fee would provide more revenues prior to development and would give the CAGR D more financial capacity to meet its increasing replenishment obligations over time. Second, the current structure results

in long-term members (i.e., homeowners) paying substantially more toward the cost of acquiring CAGR water supplies through the annual assessments than newer members pay. Collecting more from members one time and earlier in the process through an increased Activation Fee would help to correct this inequity among CAGR members.

Staff proposed a number of refinements to the initial funding proposal in an effort to reach consensus among the stakeholders. The CAGR & Underground Storage Committee and the CAWCD Board of Directors were updated on these refinements on August 15 and September 5, respectively. Subsequently, staff continued to engage various stakeholder groups in discussions on the funding proposal in an attempt to reach consensus among all stakeholders on a final funding proposal. Staff presented a final funding proposal to the CAGR & Underground Storage Committee on October 24, and the Committee voted to recommend Board approval of this proposal.

### **CAGR INFRASTRUCTURE AND WATER RIGHTS FUNDING PROPOSAL:**

Following are the primary elements of the CAGR I&WR Funding Proposal:

1. The underlying concept of the initial staff proposal is retained; the Activation Fee remains based on historical costs of acquisition and future costs are shared through annual assessments on homeowners.
2. The Activation Fee will be based on a replenishment factor per-AMA rather than per-subdivision.
3. For an initial six-year transition period, annual calculation of the basis of the Activation Fee is replaced with a "target" fee basis.
4. During the six-year phase-in period (2014-2019), the Activation Fee is set as outlined in the attached Activation Fee rate schedule.
5. The first three years of the new Activation Fee rate schedule (see Attachment) will be considered "Firm" and the final three years will be considered "Advisory".
6. Staff will regularly determine and report the annual calculation of the basis of the Activation Fee, including when "Firm" rates are in place.

### **PRELIMINARY CAGR 2014/15 – 2019/20 ACTIVATION FEE RATE SCHEDULE:**

The attached Preliminary Activation Fee rate schedule for the six-year phase-in period reflects the change to staff's initial funding proposal to make rates for years four through six "Advisory" rather than "Firm".

After the initial six-year period, future projections of the Activation Fee in published rate schedules will be consistent with then-current Board policy for all other CAWCD rates.

### **PROPOSED MOTION:**

I move that the Board approve the CAGR Infrastructure and Water Rights Funding Proposal and the attached Preliminary CAGR 2014/15 – 2019/20 Activation Fee rate schedule. I further move that the Board direct staff to evaluate possible modifications to the current CAGR Activation Fee Policy to be consistent with the CAGR Infrastructure and Water Rights Funding Proposal and that any amended Policy be brought to the Board for consideration at a future date.

Attachment.

**PRELIMINARY 2014/15 – 2019/20 CAGR ACTIVATION FEE RATE SCHEDULE**

		Activation Fee Basis			
		\$2700/ acre-foot			
		Phoenix AMA	Pinal AMA Pre-2007	Pinal AMA Post-2007	Tucson AMA
Acre-feet/unit		0.4	min*	0.4	0.3
Activation Fee Target		\$ 1,080	min*	\$ 1,080	\$ 810
		Activation Fee Transition Schedule \$ Per Housing Unit			
2013		196	196	196	196
2014	Firm	260	235	260	250
2015	Firm	350	282	350	320
2016	Firm	460	282	460	400
2017	Advisory	610	282	610	510
2018	Advisory	820	282	820	640
2019	Advisory	1,080	282	1,080	810

\* = Existing Rate Schedule = Minimum Activation Fee  
for pre-2007 Pinal AMA and pre-tipping point MSAs

# **APPENDIX F**

[TRANSMITTAL LETTER TO DIRECTOR OF ADWR  
FOR 2015 CAGRD PLAN OF OPERATION]



**Board of Directors**

December 29, 2014

**President**

Pamela Pickard  
Maricopa County

Mr. Michael J. Lacey, Director  
Arizona Department of Water Resources  
3550 North Central Avenue #2  
Phoenix, Arizona 85012

**Vice President**

Warren Tenney  
Pima County

Dear Director Lacey:

**Secretary**

Lisa Atkins  
Maricopa County

In compliance with ARS § 45-576.02.C.2, enclosed is CAGRDR's 2015 Plan of Operation ("Plan"). The Plan verifies that CAGRDR has met its replenishment obligation during the past ten years of operation. The Plan also provides reasonable projections of future CAGRDR enrollment and replenishment obligation and identifies an inventory of water supplies available to meet the projected obligation. The Plan's Replenishment Reserve target calculation shows that CAGRDR has significant water resources available to meet the target. Finally, the Plan demonstrates that CAGRDR has sufficient available replenishment capacity and has the capability to meet current and future replenishment obligation.

Gayle Burns  
Maricopa County

Guy Carpenter  
Maricopa County

Frank Fairbanks  
Maricopa County

Terry Goddard  
Maricopa County

Jim Hartdegen  
Pinal County

Jim Holway, Ph.D.  
Maricopa County

L.M. "Pat" Jacobs, IV  
Pima County

Mark Lewis  
Maricopa County

Heather A. Macre  
Maricopa County

The CAWCD Board of Directors is committed to ensuring that the CAGRDR continues to successfully fulfill its critical role in water management within its three-county service area. To that end, the Board fully supports the concept of ongoing planning and analysis throughout the entire ten years this Plan will be effective. The Board is directing that the CAGRDR planning activities include an enhanced annual report of CAGRDR operations, in addition to the required Conservation District Annual Report submitted to ADWR, to ensure that all interested parties are fully informed on CAGRDR operations, enrollment and obligation on an ongoing basis. In addition, the Board is directing staff to develop a mid-Plan review that will provide a comprehensive view of the mid-term trends in CAGRDR operations under this Plan, and indications of where these trends may lead the CAGRDR over the remaining five years of the Plan and any adjustments to the Plan that may need to be considered.

We look forward to working closely with the Department during its review of the Plan.

Sharon B. Megdal, Ph.D.  
Pima County

Sincerely,

Cynthia Moulton  
Maricopa County

Pam Pickard  
Board President  
Central Arizona Water Conservation District

Lisa A. Atkins  
Board Secretary, CAGRDR Chairman  
Central Arizona Water Conservation District

Carol Zimmerman  
Pima County

Enclosures

# APPENDIX G

## [DECISION AND ORDER FOR PHOENIX, PINAL & TUCSON AMAS]

1. Decision and Order Determining that the Plan of Operation is Consistent with Achieving the Management Goal of the Phoenix AMA
2. Decision and Order Determining that the Plan of Operation is Consistent with Achieving the Management Goal of the Pinal AMA
3. Decision and Order Determining that the Plan of Operation is Consistent with Achieving the Management Goal of the Tucson AMA

# DECISION AND ORDER — PHOENIX AMA

## ARIZONA DEPARTMENT OF WATER RESOURCES BEFORE THE DIRECTOR

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5  
6

<b>IN THE MATTER OF THE CENTRAL</b>	)	<b>DECISION AND ORDER</b>
<b>ARIZONA GROUNDWATER</b>	)	<b>DETERMINING THAT PLAN OF</b>
<b>REPLENISHMENT DISTRICT'S PLAN</b>	)	<b>OPERATION IS CONSISTENT WITH</b>
<b>OF OPERATION FOR THE PHOENIX</b>	)	<b>ACHIEVING THE MANAGEMENT</b>
<b>ACTIVE MANAGEMENT AREA</b>	)	<b>GOAL OF THE PHOENIX</b>
<b>SUBMITTED ON DECEMBER 29, 2014</b>	)	<b>ACTIVE MANAGEMENT AREA</b>

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### 7 I. INTRODUCTION

8 On December 29, 2014, the Central Arizona Groundwater Replenishment District  
9 (“CAGRDR”), a division of the Central Arizona Water Conservation District (“CAWCD”),  
10 submitted to the Arizona Department of Water Resources (“Department”) its 2015 Plan of  
11 Operation (“Plan”) pursuant to A.R.S. § 45-576.02(C)(2). The Plan describes the activities that  
12 CAGRDR proposes to undertake for the Phoenix, Pinal, and Tucson Active Management Areas  
13 (“AMAs”) during the 100 years following submission of the Plan. By letter dated February 26,  
14 2015, the Department notified CAGRDR that the Department had determined the Plan to be  
15 complete. In accordance with A.R.S. § 45-576.03(K), the Department held public hearings on the  
16 Plan in Phoenix on March 30, 2015, and in Coolidge and Tucson on April 1, 2015. The hearing  
17 record remained open until April 8, 2015, at 5:00 p.m. for the submission of written comments.

18 The Director of the Department (“Director”) is required by A.R.S. § 45-576.03(M) to issue  
19 a decision for each of the three AMAs determining whether or not the Plan is consistent with  
20 achieving the management goal of each respective AMA. The Director must include findings with  
21 the decision and a summary of all public comments received in writing and made at the public  
22 hearings held with respect to this matter.

23 As provided in A.R.S. § 45-576.03(N), the Director must determine that the Plan is  
24 consistent with achieving the management goal for each AMA if all of the following have been  
25 demonstrated:  
26

1           1.     CAGRD has identified sufficient water supplies to meet its replenishment  
2 obligations for current members during the 20 calendar years following submission of the Plan and  
3 has identified additional water supplies potentially available for its projected groundwater  
4 replenishment obligations for the 100 calendar years following submission of the Plan for current  
5 members and potential members based on reasonable projections of real property and service areas  
6 that could qualify for membership in the 10 years following submission of the Plan.

7           2.     The replenishment reserve target for each AMA was calculated as prescribed in  
8 A.R.S. § 48-3772(E), and CAGRD is developing a replenishment reserve in each AMA pursuant  
9 to A.R.S. § 48-3772(E).

10          3.     CAGRD has identified sufficient capacity at storage facilities and projects to be used  
11 for replenishment purposes during the 20 calendar years following submission of the Plan.

12          4.     CAGRD has made a reasonable estimate of its projected replenishment obligations  
13 for the 100 calendar years following submission of the Plan as required by A.R.S. § 45-  
14 576.02(C)(2)(b).

15           **II.     SUMMARY OF PUBLIC COMMENTS**

16           No oral comments were made at the public hearings conducted in connection with the Plan.  
17 The Department received written comments which are summarized in this Section II. Where  
18 specific comments are relevant to particular Findings made by the Director in Section III below,  
19 those comments are discussed more fully in Section III.

20           Mohave County Water Authority (“MCWA”) (by letter dated March 24, 2015)

21           MWCA states that it supports a “midterm adjustment” to the Plan “to allow better reaction  
22 to actual CAGRD demand versus that forecasted” and that it supports “the idea of performance  
23 benchmarks.” MCWA states that any transfers of Colorado River water from the river’s mainstem  
24 for replenishment purposes represents an effective reallocation of Colorado River water in Arizona  
25 and should “only be done pursuant to a full and open public process on a statewide basis.” MCWA  
26

1 states that reliance on Colorado River supplies should include more discussion and analysis of  
2 “shortage and structural deficit impacts.” MCWA objects to “reference to 200,000 a/f of [Multi-  
3 Species Conservation Program (“MSCP”)] coverage available to CAGR D for transfers.” MCWA  
4 states that “[b]eyond the plan,” it “supports analysis and discussion of whether the ‘replenishment’  
5 approach is sustainable over the long term.”

6 Pima County Regional Wastewater Reclamation Department (“Pima County”) (by letter  
7 dated April 3, 2015)

8 Pima County expresses support for legislation which permits voluntary termination of  
9 member land status in order to decrease CAGR D’s replenishment obligations. Pima County states  
10 that the Plan reveals an “unmet” obligation of 50,370 acre-feet in 2034 and an additional 26,100  
11 acre-feet in obligation in 2114, as well as a target reserve deficit for the Tucson AMA. Pima County  
12 objects to CAGR D’s proposed reliance on long-term storage credits (“LTSCs”) and stored effluent  
13 for replenishment purposes to the extent those supplies bring no “new” water into the Tucson AMA  
14 and to the extent the replenishment is not made in close proximity to where groundwater is pumped.  
15 Pima County urges the Department to require CAGR D to replenish within the hydrologic area of  
16 impact of member lands’ withdrawals or to require that the CAGR D deliver renewable water using  
17 water delivery infrastructure or wheeling agreements. Additionally, Pima County notes that the  
18 future availability of excess Central Arizona Project (“CAP”) water and non-Indian agricultural  
19 pool water is uncertain in light of potential shortage declaration and increased use of entitlement  
20 holders to use their entitlements.

21 Douglas Ranch El Dorado, LLC; DMB Associates, Inc.; Sunbelt Holdings; and Robson  
22 Communities (“Douglas Ranch, et al.”) (by letter dated April 6, 2015)

23 Douglas Ranch, et al., state that the Plan complies with all of the elements of A.R.S. § 45-  
24 576.03(N)(1)-(4) for each of the AMAs. They state that the applicable statute does not require that  
25 CAGR D demonstrate that it has already acquired all water supplies needed to fulfill its obligations  
26

1 for the next 20 years or the next 100 years. Douglas Ranch, et al., state that the extensive and  
2 detailed modelling structure developed by CAGR D along with other materials submitted to the  
3 Department demonstrate that CAGR D’s membership projections and replenishment obligations are  
4 reasonable. Douglas Ranch, et al., state that the Plan contains the reserve target for each of the three  
5 AMAs calculated as prescribed by A.R.S. § 45-576.03(N)(2), and that the storage credits already  
6 acquired by CAGR D satisfy the replenishment reserve development requirement of A.R.S. § 45-  
7 576.03(N)(2). They state that the underground storage capacity described in the Plan far exceeds  
8 CAGR D’s projected replenishment obligations in the three AMAs.

9 Pulte Home Corporation (“Pulte”) (by letter dated April 7, 2015)

10 Pulte states that the Plan is consistent with the management goals for each of the AMAs in  
11 which CAGR D operates.

12 Home Builders Association of Central Arizona (“HBCA”) and Southern Arizona Home  
13 Builders Association (“SAHBA”) (by letter dated April 7, 2015)

14 HBCA and SAHBA state that the Plan is consistent with the management goals for each of  
15 the AMAs in which CAGR D operates.

16 Arizona Municipal Water Users Association (“AMWUA”) (by letter dated April 8, 2015)

17 AMWUA states that the Plan does not adequately demonstrate sufficient water supplies to  
18 meet CAGR D’s current and projected replenishment obligations during the 20 years following  
19 submission of the Plan. AMWUA objects to CAGR D’s identification of available Colorado River  
20 water without discussion of governmental review processes required to transfer Colorado River  
21 water. AMWUA also objects to CAGR D’s calculation of available Colorado River water in light  
22 of projected Colorado River water shortage and declining water levels in Lake Mead. AMWUA  
23 states that proposed reliance on Colorado River water is contrary to the Department’s and  
24 CAWCD’s efforts to reduce Colorado River water demand. AMWUA disagrees with CAGR D’s  
25 calculation of available LTSCs and objects to the Plan because it does not include an analysis of  
26

1 who might be willing to sell LTSCs and on what terms and conditions.

2 AMWUA states that it is difficult to reconcile previous statements by the CAWCD in March  
3 of 2014 regarding likely future reductions of available excess CAP water with CAGRDR's estimate  
4 in the Plan of CAP water which will be available for replenishment purposes. AMWUA objects to  
5 CAGRDR's calculation of effluent available during the 20 years following submission of the Plan in  
6 light of a December 3, 2013 report created by a consulting firm, HDR, Inc., indicating that "95%  
7 of the wastewater generated within the CAP service area 'serves beneficial uses'." AMWUA notes  
8 a discrepancy between the HDR, Inc. report's identification of a total of 285,500 acre-feet of  
9 effluent generated in Maricopa, Pinal, and Pima Counties (200,000 acre-feet generated in Maricopa  
10 County and 20,500 acre-feet generated in Pinal County in 2009 and 65,000 acre-feet generated in  
11 Pima County in 2012) and the Plan's identification of 407,600 of current effluent production in the  
12 Phoenix, Pinal, and Tucson AMAs. AMWUA also notes that municipalities that treat wastewater  
13 are likely to continue to use effluent for their own water supply needs.

### 14 III. FINDINGS

15 After reviewing the Plan and public comments received during the public comment period,  
16 the Director makes the following findings:

17 1. CAGRDR has identified sufficient water supplies to meet its replenishment  
18 obligations for current members in the Phoenix AMA during the 20 calendar years following the  
19 submission of the Plan.

20 a. CAGRDR has estimated its replenishment obligations for current members  
21 during the 20 years following submission of the Plan, culminating in a total obligation of  
22 62,700 acre-feet for the year 2034 for all three AMAs. For the Phoenix AMA only, CAGRDR  
23 has estimated that its replenishment obligation for current members will be 52,200 acre-feet  
24 for the year 2034.

1           b.       CAGR D has identified 36,534 acre-feet per year of “acquired supplies,”  
2 identified in Table 4.1 of the Plan, which it plans to use to meet its replenishment obligations  
3 in all three AMAs. This annual amount represents CAGR D’s presently “acquired supplies”  
4 annualized over the span of 100 years. This amount includes 4,009 acre-feet per year of  
5 LTSCs located in the Phoenix AMA and 20,685 acre-feet per year of non-Indian agricultural  
6 priority CAP water that will be available to the CAP service area generally beginning in  
7 calendar year 2017.

8           c.       In addition to these “acquired supplies,” CAGR D has identified between  
9 460,100 and 920,200 acre-feet per year of additional supplies which CAGR D states are  
10 currently available and likely to be used to meet its 20-year replenishment obligation for  
11 current members within all three AMAs.

12           d.       With respect to CAGR D’s obligation to identify supplies to meet its  
13 replenishment obligations for current members during the 20 years following submission of  
14 the Plan, CAGR D is not required to demonstrate that it has already acquired all of the  
15 supplies needed to meet its projected replenishment obligations. Instead, CAGR D may  
16 identify supplies which are likely to be available for acquisition by CAGR D for purposes  
17 of satisfying its replenishment obligation for current members during the 20 years following  
18 submission of the Plan. These must be supplies which are not presently subject to legal or  
19 administrative barriers preventing their acquisition and use for replenishment purposes  
20 during that 20-year period.

21           e.       Long-Term Storage Credits

22           i.       Beyond the amounts of “acquired” supplies listed in Table 4.1 of the  
23 Plan, CAGR D has identified between 11,000 and 22,000 acre-feet per year of  
24 LTSCs within the AMAs and the Harquahala INA as being available for  
25 replenishment purposes during the 20 years following the submission of the Plan.  
26

1 CAGR D defines LTSCs for this purpose as any existing LTSC not currently owned  
2 (or subject to an existing purchase agreement) by CAWCD, CAGR D, or the Arizona  
3 Water Banking Authority, and not currently pledged to a Designation of Assured  
4 Water Supply. CAGR D has calculated an annual available supply of existing LTSCs  
5 by dividing the total number of LTSCs by 100 years.

6 ii. AMWUA objects to the Plan because it does not include an analysis  
7 of who might be willing to sell LTSCs and on what terms and conditions.

8 iii. CAGR D is not required to provide an analysis in the Plan of who  
9 might be willing to sell LTSCs and on what terms and conditions. The market for  
10 LTSC is sufficiently well-established, predictable, and relatively free from legal and  
11 administrative impediments such that CAGR D may rely upon these supplies in  
12 connection with identifying sufficient supplies to meet its 20-year obligation for  
13 current members without identifying entities that might be willing to sell LTSCs and  
14 on what terms and conditions.

15 iv. AMWUA suggests, without explanation, that LTSCs held by Salt  
16 River Project, the Gila River Indian Community, the Bureau of Reclamation, and  
17 municipal water providers that are cities and towns should not be included in  
18 CAGR D's calculation of available LTSCs.

19 v. The Department is not aware of any legal or administrative barriers  
20 preventing the transfer of LTSCs held by Salt River Project, the Gila River Indian  
21 Community, the Bureau of Reclamation, or municipal water providers that are cities  
22 or towns (exclusive of LTSCs pledged to a Designation of an Assured Water Supply)  
23 and which would render the LTSCs unavailable to CAGR D for replenishment  
24 purposes during the 20 years following submission of the Plan.  
25  
26

1                   vi.     Based upon the Department’s accounting of LTSCs within the AMAs  
2 and the Harquahala Irrigation Non-Expansion Area,<sup>1</sup> the Director finds that the  
3 CAGR D’s calculation that a minimum of 11,000 acre-feet per year of LTSCs will  
4 be available to CAGR D to meet its replenishment obligations in all three AMAs  
5 during the 20 years following submission of the Plan is reasonable. The Director  
6 finds that these LTSCs are likely to be available for acquisition by the CAGR D for  
7 purposes of meeting its replenishment obligation for current members in all three  
8 AMAs during the 20 years after submission of the Plan.

9                   vii.    While LTCSs will be available in all three AMAs, only those LTSCs  
10 which are located within the Phoenix AMA should be included for purposes  
11 CAGR D’s identification of supplies available to meet its 20-year replenishment for  
12 current members in the Phoenix AMA. In order for LTSCs in one AMA to be  
13 available for replenishment purposes within another AMA, water would need to be  
14 recovered and physically transferred to the other AMA. This most likely means that  
15 the water would need to be transported through the CAP canal, or “wheeled.”  
16 Wheeling of such water would require an agreement between the U.S. Bureau of  
17 Reclamation and CAWCD. At present date, no standard form of wheeling agreement  
18 has been approved by the Bureau of Reclamation. Because LTSCs located in the  
19 Pinal and Tucson AMAs are presently subject to a legal and/or administrative barrier  
20 which would prevent their physical transfer to the Phoenix AMA, they may not be  
21 included in CAGR D’s calculation of supplies available to meet its 20-year  
22 replenishment obligation for current members in the Phoenix AMA.

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23  
24 <sup>1</sup> The Department’s review of CAGR D’s estimate of LTSCs is based upon LTSC account balances for 2013. The  
25 Department has not yet completed its process for verifying and calculating credits and debits to those accounts based  
26 on storage and recovery activity in 2014; however, based on a preliminary review, the Department does not anticipate  
its 2014 accounting will reveal a significant reduction (if any reduction at all) in available LTSCs.

1                   viii.   Roughly 60% of all currently available LTSCs are located in the  
2 Phoenix AMA.<sup>2</sup> Therefore, it is reasonable to estimate that CAGR D can acquire at  
3 least 6,600 acre-feet per year of LTSCs (60% of 11,000) within the Phoenix AMA  
4 in order to meet its replenishment obligation for current members during the 20 years  
5 after submission of the Plan.

6           f.       CAP Water

7                   i.       CAGR D has identified between 279,700 and 559,300 acre-feet per  
8 year of CAP water as being available for replenishment purposes during the 20 years  
9 after submission of the Plan in all three AMAs. In arriving at this estimate, CAGR D  
10 assumed that any CAP water not currently used as “part of a long-term commitment,  
11 i.e. dedicated to an Assured Water Supply or otherwise committed to a long-term  
12 direct use by the entitlement holder,” may be available during the next 20 years. This  
13 includes: (1) all supplies that CAP subcontractors have not ordered for the past four  
14 years, “with some adjustments in cases where CAGR D has specific knowledge of a  
15 subcontractor’s future plans for full utilization of a supply”; (2) CAP water that is  
16 currently being delivered under a lease for five or fewer years (“short-term lease”);  
17 and (3) CAP water that is being delivered to an underground storage facility or  
18 groundwater savings facility for the purpose of earning LTSCs.

19                   ii.       AMWUA notes that a March 6, 2014 Action Brief prepared for the  
20 CAWCD Board of Directors states, “Since 2009, use of CAP water by long-term  
21 entitlement holders has increased significantly, reducing the amount of excess water  
22 available for allocation each year. . . . That trend is expected to continue over the next  
23 several years” and “we do not anticipate having enough excess water over the next  
24 five years even to fill the underground storage and CAGR D pools at the levels

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25 <sup>2</sup> This estimate is based upon 2013 LTSC account balances, in accordance with Department’s review of LTSCs  
26 discussed at footnote 1, *supra*.

1 specified in 2009.” AMWUA states that these statements contradict CAGR D’s  
2 projections of “unused CAP water” available for replenishment. Pima County states  
3 that the future availability of excess CAP water supplies and non-Indian agricultural  
4 pool water is uncertain, particularly in light of predicted Colorado River shortage  
5 and increasing tendency of CAP entitlement holders to use their entitlements.

6 iii. “Excess CAP water” is defined in the Plan to mean CAP water in  
7 excess of quantities scheduled for delivery under long-term contracts and  
8 subcontracts.

9 iv. With respect to “excess CAP water” supplies, CAGR D notes that  
10 “the availability of excess water for CAGR D use will continue to depend on other  
11 demands for that water....” CAGR D’s indicates in its Plan that it will rely on “excess  
12 CAP water” as long as it is available, but does not assume its availability for  
13 replenishment purposes after 2017. *See* Figure 4.1 of the Plan.

14 vii. Evaluation of shortage impacts on the Plan is outside of the scope of  
15 the Director’s review of the Plan for purposes of A.R.S. § 45-576.03(N), as the  
16 probability of shortage, and the calculation of its degree, duration, and impacts are  
17 too speculative at this time. CAGR D is not required to analyze all scenarios that  
18 might occur in the next 20 or 100 years. The applicable statutes recognize that there  
19 may be some uncertainty in the future availability of the water supplies identified in  
20 the Plan as evidenced, in part, by the requirement that CAGR D develop and maintain  
21 a replenishment reserve. Additionally, A.R.S. § 45-576.03(R) permits the Director  
22 to require CAGR D to submit a revised plan of operation if at any time between the  
23 second and eight anniversary of the Director’s determination of consistency with the  
24 management goal, the Director finds that there has been an unexpected increase in  
25 CAGR D’s projected obligation or an unexpected decrease in available supplies such  
26

1 that the Plan no longer demonstrates consistency with the management goal for one  
2 or more of the AMAs.

3           viii. The Director finds that in addition to “excess CAP water,” certain  
4 “non-excess” CAP supplies, such as supplies which are subject to short-term leases  
5 or are being delivered for purposes of accruing LTSCs are likely to be available to  
6 CAGR D for acquisition for replenishment purposes during the 20 years following  
7 submission of the Plan.

8           ix. Based upon the availability of both excess and certain non-excess  
9 CAP water supplies, including amounts delivered under short-term leases and  
10 supplies delivered to permitted recharge facilities solely for purposes of accruing  
11 LTSCs, the Director finds that CAGR D’s calculation that a minimum of 279,700  
12 acre-feet per year of CAP water will be available during the 20 years following  
13 submission of the Plan is reasonable. The Director finds that 279,700 acre-feet per  
14 year of CAP water is likely to be available to CAGR D for purposes of meeting its  
15 replenishment obligation for current members in all three AMAs during the 20 years  
16 after submission of the Plan.

17 g. Colorado River Water (Other Than CAP Water)

18           i. CAGR D has identified between 109,800 and 219,700 acre-feet per  
19 year of Colorado River water as being available for replenishment purposes for all  
20 three AMAs during the 20 years following submission of the Plan. “Colorado River  
21 water” for this purpose is defined by CAGR D as the total of Arizona’s consumptive  
22 uses of Colorado River water less CAP diversions.

23           ii. MCWA objects to a “reference to 200,000 a/f of MSCP coverage  
24 available to CAGR D for transfers.”  
25  
26

1           iii.     The Department does not find reference to MSCP coverage in the  
2 Plan.

3           iv.     AMWUA objects to CAGR D's identification of available Colorado  
4 River water without including a discussion of governmental review processes  
5 required to transfer Colorado River water. MCWA states that any transfers of  
6 Colorado River water from the river's mainstem for replenishment purposes  
7 represents an effective reallocation of Colorado River water in Arizona and should  
8 "only be done pursuant to a full and open public process on a statewide basis."

9           v.     The Department has issued a Substantive Policy Statement entitled  
10 "Policy and Procedure for Transferring an Entitlement of Colorado River Water"  
11 which sets forth the policies and procedures for obtaining the Director's review of  
12 and advice on proposed transfers of Colorado River water entitlements from a non-  
13 Indian contractor or subcontractor for a term of more than one year pursuant to  
14 A.R.S. § 45-107(D). This Substantive Policy Statement sets forth requirements for  
15 public notice and for opportunity for public comment in the context of proposed  
16 conveyances and leases. CAGR D is bound by, and has indicated in its response to  
17 comments received on its Plan that it will comply with, all applicable federal and  
18 state regulatory requirements in connection with proposed transfers of Colorado  
19 River water.

20           vi.    MCWA states that reliance on Colorado River supplies should  
21 include more discussion and analysis of shortage and structural deficit impacts.  
22 AMWUA also objects to CAGR D's calculation of available Colorado River water  
23 in light of projected Colorado River water shortage and declining water levels in  
24 Lake Mead. AMWUA states that proposed reliance on Colorado River water is  
25  
26

1 contrary to the Department's and CAWCD's efforts to reduce Colorado River water  
2 demand.

3 vii. As described in Finding No. 1(f)(vii) above, concerns regarding  
4 potential shortage declarations are outside of the scope of the Director's review of  
5 the Plan pursuant to A.R.S. § 45-576.03(N).

6 viii. However, the Director finds that Colorado River water should not be  
7 included in the water supplies likely to be available for acquisition by CAGR to  
8 meet its 20-year replenishment obligation for current members. In order for  
9 Colorado River water to be physically available for replenishment purposes within  
10 the three AMAs, such water must necessarily be wheeled through the CAP canal.  
11 For the reasons set forth above at Finding No. 1(e)(vii), these supplies are presently  
12 subject to a legal and/or administrative barrier which prevents their physical transfer  
13 to the three AMAs. Therefore, they may not be included in CAGR's calculation of  
14 supplies available to meet its 20-year replenishment obligation for current members.

15 h. Effluent

16 i. CAGR has identified between 59,600 and 119,200 acre-feet per  
17 year of effluent as being available for replenishment purposes during the 20 years  
18 following submission of the Plan for all three AMAs.

19 ii. AMWUA states that municipalities who treat wastewater will  
20 continue to use effluent for their own needs. While this is likely true, the Plan  
21 anticipates that population will continue to grow within the three AMAs in  
22 connection with estimating CAGR's future replenishment obligations. As  
23 population grows in the AMAs and elsewhere throughout the state, amounts of  
24 available effluent will increase as well.

1           iii.     Furthermore, to the extent that member service areas and member  
2 lands enrolled with CAGR D increase reliance upon their own effluent sources,  
3 CAGR D’s replenishment obligation is likely to be reduced accordingly.

4           iv.     AMWUA objects to CAGR D’s calculation of available effluent in  
5 light of a December 3, 2013 Technical Memorandum created by HDR, Inc.  
6 indicating that “95% of the wastewater generated within the CAP service area serves  
7 beneficial uses.” AMWUA also notes a discrepancy between the HDR, Inc. study’s  
8 identification of a total of 285,500 acre-feet of effluent generated in Maricopa, Pinal,  
9 and Pima Counties and the Plan’s identification of 407,600 of current effluent  
10 production in the Phoenix, Pinal, and Tucson AMAs.

11           v.     CAGR D responds that the report created by HDR, Inc. understates  
12 the amount of available effluent because it did not include effluent production from  
13 facilities producing less than 1.5 million gallons per day in Maricopa County or from  
14 facilities producing less than 500,000 gallons per day in Pima and Pinal Counties.  
15 CAGR D states that the calculation of available effluent in the Plan is based upon a  
16 2013 survey conducted by WestWater Research for CAGR D. CAGR D states that  
17 the HDR’s study “assumed that effluent discharged to a surface drainage without  
18 accrual of storage credits constitutes ‘beneficial use’” and that “CAGR D does not  
19 make this assumption.”

20           vi.    Based upon review of amounts of effluent which were discharged to  
21 a stream channel or evaporation pond by municipal providers as reported in 2014  
22 Annual Water Use Reports, the Director finds that CAGR D’s identification that a  
23 minimum of 59,600 acre-feet per year of effluent will be available to CAGR D during  
24 the 20 years following submission of the Plan is reasonable. While some of these  
25 amounts may currently serve beneficial uses, for instance wildlife, including fish,  
26

1 discharging entities are not necessarily bound to continue discharging effluent to a  
2 stream channel or pond simply because the effluent currently serves such uses.

3           vii. Based on the Department’s review of Annual Water Use Reports, the  
4 Director has assumed that the minimum volume of effluent identified in the Plan,  
5 59,600 acre-feet per year, will be used only within the Phoenix AMA. While some  
6 volumes of effluent may be available for acquisition by the CAGR D in the Tucson  
7 and Pinal AMAs for purposes of meeting CAGR D’s replenishment obligation  
8 during the 20 years after submission of the Plan, the Director lacks information to  
9 confirm the presence of available effluent in the those two AMAs for purposes of  
10 meeting CAGR D’s 20-year replenishment obligation to current members.

11           i. Based on the foregoing, the Director finds it reasonable to assume a  
12 minimum total of 386,834 acre-feet per year of supplies will be available for purposes of  
13 meeting CAGR D’s 20-year replenishment obligation for current members in all three  
14 AMAs. This amount includes CAGR D’s presently “acquired” supplies in the amount of  
15 36,534 acre-feet per year and supplies likely to be available for acquisition by CAGR D in  
16 the amount of 350,300 acre-feet per year. The amount does not include any non-CAP  
17 Colorado River water.

18           j. The supplies identified by CAGR D to meet its replenishment obligations for  
19 current members during the 20 calendar years following submission of the Plan include  
20 supplies which are located in specific AMAs (“AMA-specific supplies”), as well as supplies  
21 which will be available to the entire CAP service area generally. CAGR D has identified  
22 sufficient AMA-specific supplies for purposes of meeting its 20-year replenishment  
23 obligation for current members in the Phoenix AMA, as reflected in the table below:  
24  
25  
26

	Phoenix AMA	Tucson AMA	Pinal AMA
Replenishment Obligation (in acre-feet) for Year 2034 for Current Members	52,200	8,000	2,500
“Acquired” LTSCs Available for Year 2034 (in acre-feet) per Table 4.1 of Plan	(4,009)	(1,444)	0
Additional LTSCs Available for Year 2034 (low estimate in acre-feet) <sup>3</sup>	(6,600)	(1,100)	(3,300)
“Acquired” Effluent for Year 2034 (in acre-feet) per Table 4.1 of Plan	(2,400 )	0	0
Additional Effluent Available for Year 2034 (low estimate in acre-feet)	(59,600)	0	0
“Acquired” AMA-specific CAP water for Year 2034 (in acre-feet) per Table 4.1 of Plan	(7,996)	0	0
Replenishment Obligation (in acre-feet) for Year 2034 for Current Members Not Met by AMA-specific supplies	none	5,456	none
Total available CAP water attributable to the CAP service area generally (low estimate in acre-feet)	(300,585) <sup>4</sup>		
<b>Unmet Replenishment Obligation (in acre-feet) for Year 2034 for Current Members</b>	<b>none</b>	<b>none</b>	<b>none</b>

2. CAGR D has identified additional water supplies potentially available for its projected groundwater replenishment obligations in the Phoenix AMA for the 100 calendar years following submission of the Plan for current members and potential members based on reasonable projections of real property and service areas that could qualify for membership in the 10 years following submission of the Plan.

a. CAGR D has estimated its replenishment obligations for current and potential members in all three AMAs in the 100 years following submission of the Plan, culminating in 113,000 acre-feet of obligation for the year 2114. For the Phoenix AMA only, CAGR D

<sup>3</sup> Divides 11,000 acre-feet of available LTSCs (low estimate) among the three AMAs by the rough proportion of total LTSCs currently in each respective AMA.

<sup>4</sup> Represents 20,685 acre-feet of “acquired supplies” plus a low estimate of 279,700 acre-feet of additionally-available CAP water.

1 has estimated that its replenishment obligation for current and potential members will be  
2 84,200 acre-feet for the year 2114.

3 b. With respect to the requirement that CAGRD identify supplies sufficient to  
4 meet its obligations for both current and potential members in the 100 years following  
5 submission the Plan, CAGRD is entitled to rely upon not only supplies which are currently  
6 likely to be available for acquisition, but also supplies which *potentially* will be available  
7 for acquisition in the future. As noted at Finding No. 1(g)(viii) above, Colorado River water  
8 should not be viewed as currently available for purposes of meeting CAGRD's 20-year  
9 replenishment obligation for current members because no standard form of wheeling  
10 agreement necessary to transport Colorado River water has been approved. However, the  
11 Bureau of Reclamation may approve a standard form of wheeling agreement in the near  
12 future. Therefore some supplies of Colorado River water may be included for purposes of  
13 demonstrating sufficient potentially available supplies for purposes of meeting CAGRD's  
14 total replenishment obligation for current and potential members in the 100 years following  
15 submission of the Plan.

16 c. CAGRD's calculates that a minimum of 372,500 acre-feet per year of  
17 combined LTSCs, effluent, CAP water, and Colorado River water is potentially available  
18 for purposes of meeting its projected replenishment obligations for current and potential  
19 members in all three AMAs in the 100 calendar years following submission of the Plan. The  
20 Director finds that this calculation is reasonable.

21 d. Beyond the categories of supplies identified for purposes of meeting  
22 CAGRD's 20-year replenishment, CAGRD has identified estimates of potentially available  
23 imported groundwater and potentially available desalinated water. However, it appears that  
24 not all of the volumes that CAGRD estimates for these additional categories of supplies will  
25 be potentially available for replenishment purposes. For instance, CAGRD identifies  
26

1 Buckeye waterlogged groundwater as a potential source of desalinated water, *see* note 14 to  
 2 Table 4.2 of the Plan. However, A.R.S. § 48-3771(C) prohibits the use of groundwater  
 3 withdrawn from within an AMA for use for replenishment purposes. Nevertheless, the  
 4 Director need not reach a determination with respect to whether these additional category  
 5 of supplies are potentially available for purposes of satisfying CAGR D’s 100-year  
 6 replenishment obligation, as CAGR D has identified sufficient other supplies in satisfaction  
 7 of the requirements of A.R.S. § 45-576.03(N)(1).

8 e. CAGR D’s low estimate of 372,500 acre-feet per year of potentially available  
 9 supplies of combined LTSCs, effluent, CAP water, and Colorado River water is more than  
 10 sufficient to meet CAGR D’s total 100-year replenishment obligation in all three AMAs, as  
 11 shown in the table below:

12 Replenishment Obligation (in acre-feet) for Year 2114 for Current and Potential Members	84,200 Phoenix AMA 13,300 Tucson AMA 15,500 Pinal AMA 113,000 Total
15 Available Supplies for Year 2114 (low estimate)	(372,500)
16 <b>Unmet Replenishment Obligation (in acre-feet) for Year 2114</b>	<b>none</b>

17  
 18 f. CAGR D’s demonstration that total available supplies exceed its total  
 19 replenishment obligations for all three AMAs is adequate for purposes of identifying  
 20 sufficient supplies for CAGR D’s 100-year replenishment obligation in the Phoenix AMA.  
 21 As discussed above, a standard form of wheeling agreement permitting the movement of  
 22 non-CAP water through the CAP may be approved in the near future. Therefore, currently  
 23 unavailable mechanisms to “transfer” supplies for replenishment purposes, such as through  
 24 recovery and movement of water through the CAP canal, potentially will be available in the  
 25 future, making AMA-specific supplies available to the CAP service area generally.  
 26

1 future, making AMA-specific supplies available to the CAP service area generally.

2 3. The replenishment reserve target for the Phoenix AMA was calculated as prescribed  
3 in section 48-3772(E), and the CAGR D is developing a replenishment reserve in the Phoenix AMA  
4 pursuant to A.R.S. § 48-3772(E).

5 a. CAGR D has accrued 149,622 acre-feet of LTSCs in the Phoenix AMA  
6 Replenishment Reserve Sub-account and has identified an additional 302,832 acre-feet of  
7 LTSCs dedicated by CAWCD for CAGR D replenishment reserve purposes. In Appendix B  
8 to the Plan, the CAGR D has included copies of annual reports filed with the Department  
9 pursuant to A.R.S. § 48-3775(E), demonstrating CAGR D's historic acquisition and  
10 crediting of LTSC's to each AMA's respective replenishment reserve sub-account. CAGR D  
11 has been steadily accruing LTSCs in its Phoenix AMA Replenishment Reserve Sub-account  
12 over the past 10 years. CAGR D has also demonstrated that sufficient LTSCs are currently  
13 available to meet CAGR D's combined reserve target amounts for all three AMAs, relying  
14 on a combination of existing CAGR D reserve credits and LTSCs held by CAWCD which  
15 have been dedicated to CAGR D for replenishment reserve purposes. A large number of  
16 "excess" credits are located in the Pinal AMA Replenishment Reserve Sub-account.  
17 CAGR D states that it will evaluate mechanisms by which to "transfer" or "exchange"  
18 LTSCs as necessary to meet the reserve target amounts for the Phoenix and Tucson AMA.  
19 CAGR D states in the Plan that it will also seek to obtain identified supplies over and above  
20 amounts necessary to fulfill its replenishment obligations for purposes of meeting and  
21 maintaining the replenishment reserve target amount for each AMA. In view of this  
22 information, CAGR D has demonstrated that it is taking reasonable steps to develop the  
23 replenishment reserve in accordance with A.R.S. § 48-3772(E).

24 4. The CAGR D has identified sufficient capacity at storage facilities and projects to be  
25 used for replenishment purposes in the Phoenix AMA during the 20 calendar years following the  
26

1 submission of the Plan.

2 a. CAGR D has identified 211,000 acre-feet of currently available annual  
3 storage capacity in underground storage facilities in the Phoenix AMA and additional  
4 annual storage capacity of 31,500 acre-feet to which CAWCD has exclusive access and to  
5 which CAGR D has been granted highest priority after entities with contractual rights to use  
6 CAWCD storage facilities. CAGR D has further identified approximately 58,600 acre-feet  
7 of available annual storage in groundwater savings facilities (“GSF”) in the Phoenix AMA  
8 which CAGR D calculated with reference to historical usage of four GSFs in the Phoenix  
9 AMA by non-CAGR D GSF partners. These facilities provide more than sufficient capacity  
10 to be used by CAGR D for replenishment purposes in the Phoenix AMA for the next 20  
11 years.

12 5. CAGR D has made a reasonable estimate of its projected replenishment obligations in  
13 the Phoenix AMA for the 100 calendar years following the submission of the Plan as required by  
14 A.R.S. § 45-576.02(C)(2)(b).

15 a. Section 45-576.02(C)(2)(b) provides that the CAGR D shall make an  
16 estimate of the CAGR D’s projected groundwater replenishment obligations for the 100  
17 calendar years following submission of the Plan for current members and potential members  
18 based on reasonable projections of real property and service areas that could qualify for  
19 membership in the ten years following the submission of the Plan.

20 b. The Department reviewed CAGR D’s projections of real property and service  
21 areas that could qualify for membership in the ten years following submission of the Plan.  
22 The Department considered projected population for the three AMAs, projected supply and  
23 demand for each water use sector, and projected water storage activities, to verify that the  
24 CAGR D’s projections of its future replenishment obligations are reasonable. The  
25 Department determined from its review that CAGR D’s projections are reasonable.  
26





1           1.       CAGRD has identified sufficient water supplies to meet its replenishment  
2 obligations for current members during the 20 calendar years following submission of the Plan and  
3 has identified additional water supplies potentially available for its projected groundwater  
4 replenishment obligations for the 100 calendar years following submission of the Plan for current  
5 members and potential members based on reasonable projections of real property and service areas  
6 that could qualify for membership in the 10 years following submission of the Plan.

7           2.       The replenishment reserve target for each AMA was calculated as prescribed in  
8 A.R.S. § 48-3772(E), and CAGRD is developing a replenishment reserve in each AMA pursuant  
9 to A.R.S. § 48-3772(E).

10          3.       CAGRD has identified sufficient capacity at storage facilities and projects to be used  
11 for replenishment purposes during the 20 calendar years following submission of the Plan.

12          4.       CAGRD has made a reasonable estimate of its projected replenishment obligations  
13 for the 100 calendar years following submission of the Plan as required by A.R.S. § 45-  
14 576.02(C)(2)(b).

15                   **II.       SUMMARY OF PUBLIC COMMENTS**

16           No oral comments were made at the public hearings conducted in connection with the Plan.  
17 The Department received written comments which are summarized in this Section II. Where  
18 specific comments are relevant to particular Findings made by the Director in Section III below,  
19 those comments are discussed more fully in Section III.

20                   Mohave County Water Authority (“MCWA”) (by letter dated March 24, 2015)

21           MWCA states that it supports a “midterm adjustment” to the Plan “to allow better reaction  
22 to actual CAGRD demand versus that forecasted” and that it supports “the idea of performance  
23 benchmarks.” MCWA states that any transfers of Colorado River water from the river’s mainstem  
24 for replenishment purposes represents an effective reallocation of Colorado River water in Arizona  
25 and should “only be done pursuant to a full and open public process on a statewide basis.” MCWA  
26

1 states that reliance on Colorado River supplies should include more discussion and analysis of  
2 “shortage and structural deficit impacts.” MCWA objects to “reference to 200,000 a/f of [Multi-  
3 Species Conservation Program (“MSCP”)] coverage available to CAGR D for transfers.” MCWA  
4 states that “[b]eyond the plan,” it “supports analysis and discussion of whether the ‘replenishment’  
5 approach is sustainable over the long term.”

6 Pima County Regional Wastewater Reclamation Department (“Pima County”) (by letter  
7 dated April 3, 2015)

8 Pima County expresses support for legislation which permits voluntary termination of  
9 member land status in order to decrease CAGR D’s replenishment obligations. Pima County states  
10 that the Plan reveals an “unmet” obligation of 50,370 acre-feet in 2034 and an additional 26,100  
11 acre-feet in obligation in 2114, as well as a target reserve deficit for the Tucson AMA. Pima County  
12 objects to CAGR D’s proposed reliance on long-term storage credits (“LTSCs”) and stored effluent  
13 for replenishment purposes to the extent those supplies bring no “new” water into the Tucson AMA  
14 and to the extent the replenishment is not made in close proximity to where groundwater is pumped.  
15 Pima County urges the Department to require CAGR D to replenish within the hydrologic area of  
16 impact of member lands’ withdrawals or to require that the CAGR D deliver renewable water using  
17 water delivery infrastructure or wheeling agreements. Additionally, Pima County notes that the  
18 future availability of excess Central Arizona Project (“CAP”) water and non-Indian agricultural  
19 pool water is uncertain in light of potential shortage declaration and increased use of entitlement  
20 holders to use their entitlements.

21 Douglas Ranch El Dorado, LLC; DMB Associates, Inc.; Sunbelt Holdings; and Robson  
22 Communities (“Douglas Ranch, et al.”) (by letter dated April 6, 2015)

23 Douglas Ranch, et al., state that the Plan complies with all of the elements of A.R.S. § 45-  
24 576.03(N)(1)-(4) for each of the AMAs. They state that the applicable statute does not require that  
25 CAGR D demonstrate that it has already acquired all water supplies needed to fulfill its obligations  
26

1 for the next 20 years or the next 100 years. Douglas Ranch, et al., state that the extensive and  
2 detailed modelling structure developed by CAGR D along with other materials submitted to the  
3 Department demonstrate that CAGR D’s membership projections and replenishment obligations are  
4 reasonable. Douglas Ranch, et al., state that the Plan contains the reserve target for each of the three  
5 AMAs calculated as prescribed by A.R.S. § 45-576.03(N)(2), and that the storage credits already  
6 acquired by CAGR D satisfy the replenishment reserve development requirement of A.R.S. § 45-  
7 576.03(N)(2). They state that the underground storage capacity described in the Plan far exceeds  
8 CAGR D’s projected replenishment obligations in the three AMAs.

9 Pulte Home Corporation (“Pulte”) (by letter dated April 7, 2015)

10 Pulte states that the Plan is consistent with the management goals for each of the AMAs in  
11 which CAGR D operates.

12 Home Builders Association of Central Arizona (“HBCA”) and Southern Arizona Home  
13 Builders Association (“SAHBA”) (by letter dated April 7, 2015)

14 HBCA and SAHBA state that the Plan is consistent with the management goals for each of  
15 the AMAs in which CAGR D operates.

16 Arizona Municipal Water Users Association (“AMWUA”) (by letter dated April 8, 2015)

17 AMWUA states that the Plan does not adequately demonstrate sufficient water supplies to  
18 meet CAGR D’s current and projected replenishment obligations during the 20 years following  
19 submission of the Plan. AMWUA objects to CAGR D’s identification of available Colorado River  
20 water without discussion of governmental review processes required to transfer Colorado River  
21 water. AMWUA also objects to CAGR D’s calculation of available Colorado River water in light  
22 of projected Colorado River water shortage and declining water levels in Lake Mead. AMWUA  
23 states that proposed reliance on Colorado River water is contrary to the Department’s and  
24 CAWCD’s efforts to reduce Colorado River water demand. AMWUA disagrees with CAGR D’s  
25 calculation of available LTSCs and objects to the Plan because it does not include an analysis of  
26

1 who might be willing to sell LTSCs and on what terms and conditions.

2 AMWUA states that it is difficult to reconcile previous statements by the CAWCD in March  
3 of 2014 regarding likely future reductions of available excess CAP water with CAGRD's estimate  
4 in the Plan of CAP water which will be available for replenishment purposes. AMWUA objects to  
5 CAGRD's calculation of effluent available during the 20 years following submission of the Plan in  
6 light of a December 3, 2013 report created by a consulting firm, HDR, Inc., indicating that "95%  
7 of the wastewater generated within the CAP service area 'serves beneficial uses'." AMWUA notes  
8 a discrepancy between the HDR, Inc. report's identification of a total of 285,500 acre-feet of  
9 effluent generated in Maricopa, Pinal, and Pima Counties (200,000 acre-feet generated in Maricopa  
10 County and 20,500 acre-feet generated in Pinal County in 2009 and 65,000 acre-feet generated in  
11 Pima County in 2012) and the Plan's identification of 407,600 of current effluent production in the  
12 Phoenix, Pinal, and Tucson AMAs. AMWUA also notes that municipalities that treat wastewater  
13 are likely to continue to use effluent for their own water supply needs.

14 **III. FINDINGS**

15 After reviewing the Plan and public comments received during the public comment period,  
16 the Director makes the following findings:

17 1. CAGRD has identified sufficient water supplies to meet its replenishment  
18 obligations for current members in the Pinal AMA during the 20 calendar years following the  
19 submission of the Plan.

20 a. CAGRD has estimated its replenishment obligations for current members  
21 during the 20 years following submission of the Plan, culminating in an obligation of 62,700  
22 acre-feet for the year 2034 in total for all three AMAs. For the Pinal AMA only, CAGRD  
23 has estimated that its replenishment obligation for current members will be 2,500 acre-feet  
24 for the year 2034.

1           b.       CAGRD has identified 36,534 acre-feet per year of “acquired supplies,”  
2 identified in Table 4.1 of the Plan, which it plans to use to meet its replenishment obligations  
3 in all three AMAs. This annual amount represents CAGRD’s presently “acquired supplies”  
4 annualized over the span of 100 years. This amount includes 20,685 acre-feet per year of  
5 non-Indian agricultural priority CAP water that will be available to the CAP service area  
6 generally beginning in calendar year 2017.

7           c.       In addition to these “acquired supplies,” CAGRD has identified between  
8 460,100 and 920,200 acre-feet per year of additional supplies which CAGRD states are  
9 currently available and likely to be used to meet its 20-year replenishment obligation for  
10 current members within all three AMAs.

11           d.       With respect to CAGRD’s obligation to identify supplies to meet its  
12 replenishment obligations for current members during the 20 years following submission of  
13 the Plan, CAGRD is not required to demonstrate that it has already acquired all of the  
14 supplies needed to meet its projected replenishment obligations. Instead, CAGRD may  
15 identify supplies which are likely to be available for acquisition by CAGRD for purposes  
16 of satisfying its replenishment obligation for current members during the 20 years following  
17 submission of the Plan. These must be supplies which are not presently subject to legal or  
18 administrative barriers preventing their acquisition and use for replenishment purposes  
19 during that 20-year period.

20           e.       Long-Term Storage Credits

21           i.       Beyond the amounts of “acquired” supplies listed in Table 4.1 of the  
22 Plan, CAGRD has identified between 11,000 and 22,000 acre-feet per year of  
23 LTSCs within the AMAs and the Harquahala INA as being available for  
24 replenishment purposes during the 20 years following the submission of the Plan.  
25 CAGRD defines LTSCs for this purpose as any existing LTSC not currently owned  
26

1 (or subject to an existing purchase agreement) by CAWCD, CAGR, or the Arizona  
2 Water Banking Authority, and not currently pledged to a Designation of Assured  
3 Water Supply. CAGR has calculated an annual available supply of existing LTSCs  
4 by dividing the total number of LTSCs by 100 years.

5 ii. AMWUA objects to the Plan because it does not include an analysis  
6 of who might be willing to sell LTSCs and on what terms and conditions.

7 iii. CAGR is not required to provide an analysis in the Plan of who  
8 might be willing to sell LTSCs and on what terms and conditions. The market for  
9 LTSC is sufficiently well-established, predictable, and relatively free from legal and  
10 administrative impediments such that CAGR may rely upon these supplies in  
11 connection with identifying sufficient supplies to meet its 20-year obligation for  
12 current members without identifying entities that might be willing to sell LTSCs and  
13 on what terms and conditions.

14 iv. AMWUA suggests, without explanation, that LTSCs held by Salt  
15 River Project, the Gila River Indian Community, the Bureau of Reclamation, and  
16 municipal water providers that are cities and towns should not be included in  
17 CAGR's calculation of available LTSCs.

18 v. The Department is not aware of any legal or administrative barriers  
19 preventing the transfer of LTSCs held by Salt River Project, the Gila River Indian  
20 Community, the Bureau of Reclamation, or municipal water providers that are cities  
21 or towns (exclusive of LTSCs pledged to a Designation of an Assured Water Supply)  
22 and which would render the LTSCs unavailable to CAGR for replenishment  
23 purposes during the 20 years following submission of the Plan.  
24  
25  
26

1                   vi.     Based upon the Department’s accounting of LTSCs within the AMAs  
2 and the Harquahala Irrigation Non-Expansion Area,<sup>1</sup> the Director finds that the  
3 CAGRD’s calculation that a minimum of 11,000 acre-feet per year of LTSCs will  
4 be available to CAGRD to meet its replenishment obligations in all three AMAs  
5 during the 20 years following submission of the Plan is reasonable. The Director  
6 finds that these LTSCs are likely to be available for acquisition by the CAGRD for  
7 purposes of meeting its replenishment obligation for current members in all three  
8 AMAs during the 20 years after submission of the Plan.

9                   vii.    While LTSCs will be available in all three AMAs, only those LTSCs  
10 which are located within the Pinal AMA should be included for purposes CAGRD’s  
11 identification of supplies available to meet its 20-year replenishment for current  
12 members in the Pinal AMA. In order for LTSCs in one AMA to be available for  
13 replenishment purposes within another AMA, water would need to be recovered and  
14 physically transferred to the other AMA. This most likely means that the water  
15 would need to be transported through the CAP canal, or “wheeled.” Wheeling of  
16 such water would require an agreement between the U.S. Bureau of Reclamation  
17 and CAWCD. At present date, no standard form of wheeling agreement has been  
18 approved by the Bureau of Reclamation. Because LTSCs located in the Phoenix and  
19 Tucson AMAs are presently subject to a legal and/or administrative barrier which  
20 would prevent their physical transfer to the Pinal AMA, they may not be included  
21 in CAGRD’s calculation of supplies available to meet its 20-year replenishment  
22 obligation for current members in the Pinal AMA.

23 \_\_\_\_\_  
24 <sup>1</sup> The Department’s review of CAGRD’s estimate of LTSCs is based upon LTSC account balances for 2013. The  
25 Department has not yet completed its process for verifying and calculating credits and debits to those accounts based  
26 on storage and recovery activity in 2014; however, based on a preliminary review, the Department does not anticipate  
its 2014 accounting will reveal a significant reduction (if any reduction at all) in available LTSCs.

1                   viii. Roughly 30% of all currently available LTSCs are located in the  
2 Pinal AMA.<sup>2</sup> Therefore, it is reasonable to estimate that CAGR D can acquire at least  
3 3,300 acre-feet per year of LTSCs (30% of 11,000) within the Pinal AMA in order  
4 to meet its replenishment obligation for current members during the 20 years after  
5 submission of the Plan.

6                   f. CAP Water

7                   i. CAGR D has identified between 279,700 and 559,300 acre-feet per  
8 year of CAP water as being available for replenishment purposes during the 20 years  
9 after submission of the Plan in all three AMAs. In arriving at this estimate, CAGR D  
10 assumed that any CAP water not currently used as “part of a long-term commitment,  
11 i.e. dedicated to an Assured Water Supply or otherwise committed to a long-term  
12 direct use by the entitlement holder,” may be available during the next 20 years. This  
13 includes: (1) all supplies that CAP subcontractors have not ordered for the past four  
14 years, “with some adjustments in cases where CAGR D has specific knowledge of a  
15 subcontractor’s future plans for full utilization of a supply”; (2) CAP water that is  
16 currently being delivered under a lease for five or fewer years (“short-term lease”);  
17 and (3) CAP water that is being delivered to an underground storage facility or  
18 groundwater savings facility for the purpose of earning LTSCs.

19                   ii. AMWUA notes that a March 6, 2014 Action Brief prepared for the  
20 CAWCD Board of Directors states, “Since 2009, use of CAP water by long-term  
21 entitlement holders has increased significantly, reducing the amount of excess water  
22 available for allocation each year .... That trend is expected to continue over the  
23 next several years” and “we do not anticipate having enough excess water over the  
24 next five years even to fill the underground storage and CAGR D pools at the levels

25 \_\_\_\_\_  
26 <sup>2</sup> This estimate is based upon 2013 LTSC account balances, in accordance with Department’s review of LTSCs  
discussed at footnote 1, *supra*.

1 specified in 2009.” AMWUA states that these statements contradict CAGR D’s  
2 projections of “unused CAP water” available for replenishment. Pima County states  
3 that the future availability of excess CAP water supplies and non-Indian agricultural  
4 pool water is uncertain, particularly in light of predicted Colorado River shortage  
5 and increasing tendency of CAP entitlement holders to use their entitlements.

6 iii. “Excess CAP water” is defined in the Plan to mean CAP water in  
7 excess of quantities scheduled for delivery under long-term contracts and  
8 subcontracts.

9 iv. With respect to “excess CAP water” supplies, CAGR D notes that  
10 “the availability of excess water for CAGR D use will continue to depend on other  
11 demands for that water...” CAGR D’s indicates in its Plan that it will rely on “excess  
12 CAP water” as long as it is available, but does not assume its availability for  
13 replenishment purposes after 2017. *See* Figure 4.1 of the Plan.

14 vii. Evaluation of shortage impacts on the Plan is outside of the scope of  
15 the Director’s review of the Plan for purposes of A.R.S. § 45-576.03(N), as the  
16 probability of shortage, and the calculation of its degree, duration, and impacts are  
17 too speculative at this time. CAGR D is not required to analyze all scenarios that  
18 might occur in the next 20 or 100 years. The applicable statutes recognize that there  
19 may be some uncertainty in the future availability of the water supplies identified in  
20 the Plan as evidenced, in part, by the requirement that CAGR D develop and maintain  
21 a replenishment reserve. Additionally, A.R.S. § 45-576.03(R) permits the Director  
22 to require CAGR D to submit a revised plan of operation if at any time between the  
23 second and eight anniversary of the Director’s determination of consistency with the  
24 management goal, the Director finds that there has been an unexpected increase in  
25 CAGR D’s projected obligation or an unexpected decrease in available supplies such  
26

1 that the Plan no longer demonstrates consistency with the management goal for one  
2 or more of the AMAs.

3 viii. The Director finds that in addition to “excess CAP water,” certain  
4 “non-excess” CAP supplies, such as supplies which are subject to short-term leases  
5 or are being delivered for purposes of accruing LTSCs are likely to be available to  
6 CAGRDR for acquisition for replenishment purposes during the 20 years following  
7 submission of the Plan.

8 ix. Based upon the availability of both excess and certain non-excess  
9 CAP water supplies, including amounts delivered under short-term leases and  
10 supplies delivered to permitted recharge facilities solely for purposes of accruing  
11 LTSCs, the Director finds that CAGRDR’s calculation that a minimum of 279,700  
12 acre-feet per year of CAP water will be available during the 20 years following  
13 submission of the Plan is reasonable. The Director finds that 279,700 acre-feet per  
14 year of CAP water is likely to be available to CAGRDR for purposes of meeting its  
15 replenishment obligation for current members in all three AMAs during the 20 years  
16 after submission of the Plan.

17 g. Colorado River Water (Other Than CAP Water)

18 i. CAGRDR has identified between 109,800 and 219,700 acre-feet per  
19 year of Colorado River water as being available for replenishment purposes for all  
20 three AMAs during the 20 years following submission of the Plan. “Colorado River  
21 water” for this purpose is defined by CAGRDR as the total of Arizona’s consumptive  
22 uses of Colorado River water less CAP diversions.

23 ii. MCWA objects to a “reference to 200,000 a/f of MSCP coverage  
24 available to CAGRDR for transfers.”  
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iii. The Department does not find reference to MSCP coverage in the Plan.

iv. AMWUA objects to CAGR D’s identification of available Colorado River water without including a discussion of governmental review processes required to transfer Colorado River water. MCWA states that any transfers of Colorado River water from the river’s mainstem for replenishment purposes represents an effective reallocation of Colorado River water in Arizona and should “only be done pursuant to a full and open public process on a statewide basis.”

v. The Department has issued a Substantive Policy Statement entitled “Policy and Procedure for Transferring an Entitlement of Colorado River Water” which sets forth the policies and procedures for obtaining the Director’s review of and advice on proposed transfers of Colorado River water entitlements from a non-Indian contractor or subcontractor for a term of more than one year pursuant to A.R.S. § 45-107(D). This Substantive Policy Statement sets forth requirements for public notice and for opportunity for public comment in the context of proposed conveyances and leases. CAGR D is bound by, and has indicated in its response to comments received on its Plan that it will comply with, all applicable federal and state regulatory requirements in connection with proposed transfers of Colorado River water.

vi. MCWA states that reliance on Colorado River supplies should include more discussion and analysis of shortage and structural deficit impacts. AMWUA also objects to CAGR D’s calculation of available Colorado River water in light of projected Colorado River water shortage and declining water levels in Lake Mead. AMWUA states that proposed reliance on Colorado River water is

1 contrary to the Department's and CAWCD's efforts to reduce Colorado River water  
2 demand.

3 vii. As described in Finding No. 1(f)(vii) above, concerns regarding  
4 potential shortage declarations are outside of the scope of the Director's review of  
5 the Plan pursuant to A.R.S. § 45-576.03(N).

6 viii. However, the Director finds that Colorado River water should not be  
7 included in the water supplies likely to be available for acquisition by CAGRDR to  
8 meet its 20-year replenishment obligation for current members. In order for  
9 Colorado River water to be physically available for replenishment purposes within  
10 the three AMAs, such water must necessarily be wheeled through the CAP canal.  
11 For the reasons set forth above at Finding No. 1(e)(vii), these supplies are presently  
12 subject to a legal and/or administrative barrier which prevents their physical transfer  
13 to the three AMAs. Therefore, they may not be included in CAGRDR's calculation of  
14 supplies available to meet its 20-year replenishment obligation for current members.

15 h. Effluent

16 i. CAGRDR has identified between 59,600 and 119,200 acre-feet per  
17 year of effluent as being available for replenishment purposes during the 20 years  
18 following submission of the Plan for all three AMAs.

19 ii. AMWUA states that municipalities who treat wastewater will  
20 continue to use effluent for their own needs. While this is likely true, the Plan  
21 anticipates that population will continue to grow within the three AMAs in  
22 connection with estimating CAGRDR's future replenishment obligations. As  
23 population grows in the AMAs and elsewhere throughout the state, amounts of  
24 available effluent will increase as well.

1                   iii.     Furthermore, to the extent that member service areas and member  
2 lands enrolled with CAGR D increase reliance upon their own effluent sources,  
3 CAGR D’s replenishment obligation is likely to be reduced accordingly.

4                   iv.     AMWUA objects to CAGR D’s calculation of available effluent in  
5 light of a December 3, 2013 Technical Memorandum created by HDR, Inc.  
6 indicating that “95% of the wastewater generated within the CAP service area serves  
7 beneficial uses.” AMWUA also notes a discrepancy between the HDR, Inc. study’s  
8 identification of a total of 285,500 acre-feet of effluent generated in Maricopa, Pinal,  
9 and Pima Counties and the Plan’s identification of 407,600 of current effluent  
10 production in the Phoenix, Pinal, and Tucson AMAs.

11                  v.     CAGR D responds that the report created by HDR, Inc. understates  
12 the amount of available effluent because it did not include effluent production from  
13 facilities producing less than 1.5 million gallons per day in Maricopa County or from  
14 facilities producing less than 500,000 gallons per day in Pima and Pinal Counties.  
15 CAGR D states that the calculation of available effluent in the Plan is based upon a  
16 2013 survey conducted by WestWater Research for CAGR D. CAGR D states that  
17 the HDR’s study “assumed that effluent discharged to a surface drainage without  
18 accrual of storage credits constitutes ‘beneficial use’” and that “CAGR D does not  
19 make this assumption.”

20                  vi.    Based upon review of amounts of effluent which were discharged to  
21 a stream channel or evaporation pond by municipal providers as reported in 2014  
22 Annual Water Use Reports, the Director finds that CAGR D’s identification that a  
23 minimum of 59,600 acre-feet per year of effluent will be available to CAGR D during  
24 the 20 years following submission of the Plan is reasonable. While some of these  
25 amounts may currently serve beneficial uses, for instance wildlife, including fish,  
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1 discharging entities are not necessarily bound to continue discharging effluent to a  
2 stream channel or pond simply because the effluent currently serves such uses.

3           vii. While some volumes of effluent may be available for acquisition by  
4 CAGRD in the Pinal AMA for purposes of meeting CAGRD's replenishment  
5 obligation during the 20 years after submission of the Plan, the Director lacks  
6 information to confirm the presence of available effluent in the Pinal AMA for  
7 purposes of meeting CAGRD's 20-year replenishment obligation to current  
8 members. As with LTSCs, transfer of effluent supplies from one AMA to another  
9 will likely require wheeling of water through the CAP canal. Presently no form of  
10 wheeling agreement between CAWCD and the Bureau of Reclamation has been  
11 approved. Therefore, for purposes of analyzing whether CAGRD has identified  
12 sufficient supplies to meet its replenishment obligation for current members during  
13 the 20 years following submission of the Plan, the Director has assumed that no  
14 effluent will be available within the Pinal AMA during that period.

15           i. Based on the foregoing, the Director finds it reasonable to assume a  
16 minimum total of 386,834 acre-feet per year of supplies will be available for purposes of  
17 meeting CAGRD's 20-year replenishment obligation for current members in all three  
18 AMAs. This amount includes CAGRD's presently "acquired" supplies in the amount of  
19 36,534 acre-feet per year and supplies likely to be available for acquisition by CAGRD in  
20 the amount of 350,300 acre-feet per year. The amount does not include any non-CAP  
21 Colorado River water.

22           j. The supplies identified by CAGRD to meet its replenishment obligations for  
23 current members during the 20 calendar years following submission of the Plan include  
24 supplies which are located in specific AMAs ("AMA-specific supplies"), as well as supplies  
25 which will be available to the entire CAP service area generally. CAGRD has identified  
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sufficient AMA-specific supplies for purposes of meeting its 20-year replenishment obligation for current members in the Pinal AMA, as reflected in the table below:

	Phoenix AMA	Tucson AMA	Pinal AMA
Replenishment Obligation (in acre-feet) for Year 2034 for Current Members	52,200	8,000	2,500
“Acquired” LTSCs Available for Year 2034 (in acre-feet) per Table 4.1 of Plan	(4,009)	(1,444)	0
Additional LTSCs Available for Year 2034 (low estimate in acre-feet) <sup>3</sup>	(6,600)	(1,100)	(3,300)
“Acquired” Effluent for Year 2034 (in acre-feet) per Table 4.1 of Plan	(2,400 )	0	0
Additional Effluent Available for Year 2034 (low estimate in acre-feet)	(59,600)	0	0
“Acquired” AMA-specific CAP water for Year 2034 (in acre-feet) per Table 4.1 of Plan	(7,996)	0	0
Replenishment Obligation (in acre-feet) for Year 2034 for Current Members Not Met by AMA-specific supplies	none	5,456	none
Total available CAP water attributable to the CAP service area generally (low estimate in acre-feet)		(300,585) <sup>4</sup>	
<b>Unmet Replenishment Obligation (in acre-feet) for Year 2034 for Current Members</b>	<b>none</b>	<b>none</b>	<b>none</b>

2. CAGR D has identified additional water supplies potentially available for its projected groundwater replenishment obligations in the Pinal AMA for the 100 calendar years following submission of the Plan for current members and potential members based on reasonable projections of real property and service areas that could qualify for membership in the 10 years following submission of the Plan.

a. CAGR D has estimated its replenishment obligations for current and potential members in all three AMAs in the 100 years following submission of the Plan, culminating

<sup>3</sup> Divides 11,000 acre-feet of available LTSCs (low estimate) among the three AMAs by the rough proportion of total LTSCs currently in each respective AMA.

<sup>4</sup> Represents 20,685 acre-feet of “acquired supplies” plus a low estimate of 279,700 acre-feet of additionally-available CAP water.

1 in 113,000 acre-feet of obligation for the year 2114. For the Pinal AMA only, CAGRDR has  
2 estimated that its replenishment obligation for current and potential members will be 15,500  
3 acre-feet for the year 2114.

4 b. With respect to the requirement that CAGRDR identify supplies sufficient to  
5 meet its obligations for both current and potential members in the 100 years following  
6 submission the Plan, CAGRDR is entitled to rely upon not only supplies which are currently  
7 likely to be available for acquisition, but also supplies which *potentially* will be available  
8 for acquisition in the future. As noted at Finding No. 1(g)(viii) above, Colorado River water  
9 should not be viewed as currently available for purposes of meeting CAGRDR's 20-year  
10 replenishment obligation for current members because no standard form of wheeling  
11 agreement necessary to transport Colorado River water has been approved. However, the  
12 Bureau of Reclamation may approve a standard form of wheeling agreement in the near  
13 future. Therefore some supplies of Colorado River water may be included for purposes of  
14 demonstrating sufficient potentially available supplies for purposes of meeting CAGRDR's  
15 total replenishment obligation for current and potential members in the 100 years following  
16 submission of the Plan.

17 c. CAGRDR's calculates that a minimum of 372,500 acre-feet per year of  
18 combined LTSCs, effluent, CAP water, and Colorado River water is potentially available  
19 for purposes of meeting its projected replenishment obligations for current and potential  
20 members in all three AMAs in the 100 calendar years following submission of the Plan. The  
21 Director finds that this calculation is reasonable.

22 d. Beyond the categories of supplies identified for purposes of meeting  
23 CAGRDR's 20-year replenishment, CAGRDR has identified estimates of potentially available  
24 imported groundwater and potentially available desalinated water. However, it appears that  
25 not all of the volumes that CAGRDR estimates for these additional categories of supplies will  
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1 be potentially available for replenishment purposes. For instance, CAGR D identifies  
 2 Buckeye waterlogged groundwater as a potential source of desalinated water, *see* note 14 to  
 3 Table 4.2 of the Plan. However, A.R.S. § 48-3771(C) prohibits the use of groundwater  
 4 withdrawn from within an AMA for use for replenishment purposes. Nevertheless, the  
 5 Director need not reach a determination with respect to whether these additional category  
 6 of supplies are potentially available for purposes of satisfying CAGR D’s 100-year  
 7 replenishment obligation, as CAGR D has identified sufficient other supplies in satisfaction  
 8 of the requirements of A.R.S. § 45-576.03(N)(1).

9 e. CAGR D’s low estimate of 372,500 acre-feet per year of potentially available  
 10 supplies of combined LTSCs, effluent, CAP water, and Colorado River water is more than  
 11 sufficient to meet CAGR D’s total 100-year replenishment obligation in all three AMAs, as  
 12 shown in the table below:

13 Replenishment Obligation (in acre-feet) 14 for Year 2114 for Current and 15 Potential Members	84,200 Phoenix AMA 13,300 Tucson AMA 15,500 Pinal AMA 113,000 Total
16 Available Supplies for Year 2114 (low estimate)	(372,500)
17 <b>Unmet Replenishment Obligation (in acre-feet) for Year 2114</b>	<b>none</b>

18 f. CAGR D’s demonstration that total available supplies exceed its total  
 19 replenishment obligations for all three AMAs is adequate for purposes of identifying  
 20 sufficient supplies for CAGR D’s 100-year replenishment obligation in the Pinal AMA. As  
 21 discussed above, a standard form of wheeling agreement permitting the movement of non-  
 22 CAP water through the CAP may be approved in the near future. Therefore, currently  
 23 “unavailable” mechanisms to transfer supplies for replenishment purposes, such as through  
 24 recovery and movement of water through the CAP canal, potentially will be available in the  
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1 future, making AMA-specific supplies available to the CAP service area generally.

2 3. The replenishment reserve target for the Pinal AMA was calculated as prescribed in  
3 section 48-3772(E), and the CAGR D is developing a replenishment reserve in the Pinal AMA  
4 pursuant to A.R.S. § 48-3772(E).

5 a. CAGR D has accrued 3,529 acre-feet of LTSCs in the Pinal AMA  
6 Replenishment Reserve Sub-account and has identified an additional 318,695 acre-feet of  
7 LTSCs dedicated by CAWCD for CAGR D replenishment reserve purposes. These amounts  
8 greatly exceed CAGR D's replenishment reserve target for the Pinal AMA. In Appendix B  
9 to the Plan, the CAGR D has included copies of annual reports filed with the Department  
10 pursuant to A.R.S. § 48-3775(E), demonstrating CAGR D's historic acquisition and  
11 crediting of LTSC's to each AMA's respective replenishment reserve sub-account. CAGR D  
12 has also demonstrated that sufficient LTSCs are currently available to meet CAGR D's  
13 combined reserve target amounts for all three AMAs, relying on a combination of existing  
14 CAGR D reserve credits and LTSCs held by CAWCD which have been dedicated to  
15 CAGR D for replenishment reserve purposes. A large number of "excess" credits are located  
16 in the Pinal AMA Replenishment Reserve Sub-account. CAGR D states that it will evaluate  
17 mechanisms by which to "transfer" or "exchange" LTSCs as necessary to meet the reserve  
18 target amounts for the Phoenix and Tucson AMA. CAGR D states in the Plan that it will  
19 also seek to obtain identified supplies over and above amounts necessary to fulfill its  
20 replenishment obligations for purposes of meeting and maintaining the replenishment  
21 reserve target amount for each AMA. In view of this information, CAGR D has  
22 demonstrated that it is taking reasonable steps to develop the replenishment reserve in  
23 accordance with A.R.S. § 48-3772(E).

24 4. The CAGR D has identified sufficient capacity at storage facilities and projects to be  
25 used for replenishment purposes in the Pinal AMA during the 20 calendar years following the  
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1 submission of the Plan.

2 a. CAGR D has identified 97,700 acre-feet of available annual storage in  
3 groundwater savings facilities (“GSF”) in the Pinal AMA, which CAGR D calculated with  
4 reference to historical usage of two GSFs in the Pinal AMA by non-CAGR D GSF partners.  
5 These facilities provide more than sufficient capacity to be used by CAGR D for  
6 replenishment purposes in the Pinal AMA for the next 20 years.

7 5. CAGR D has made a reasonable estimate of its projected replenishment obligations  
8 in the Pinal AMA for the 100 calendar years following the submission of the Plan as required by  
9 A.R.S. § 45-576.02(C)(2)(b).

10 a. Section 45-576.02(C)(2)(b) provides that the CAGR D shall make an  
11 estimate of the CAGR D’s projected groundwater replenishment obligations for the 100  
12 calendar years following submission of the Plan for current members and potential members  
13 based on reasonable projections of real property and service areas that could qualify for  
14 membership in the ten years following the submission of the Plan.

15 b. The Department reviewed CAGR D’s projections of real property and service  
16 areas that could qualify for membership in the ten years following submission of the Plan.  
17 The Department considered projected population for the three AMAs, projected supply and  
18 demand for each water use sector, and projected water storage activities, to verify that the  
19 CAGR D’s projections of its future replenishment obligations are reasonable. The  
20 Department determined from its review that CAGR D’s projections are reasonable.

21 6. The following comments by MWCA are not within the scope of what the Director  
22 may consider in connection with his review of the Plan pursuant to A.R.S. § 45-576.03(N): (1)  
23 MCWA supports a “midterm adjustment” to the Plan “to allow better reaction to actual CAGR D  
24 demand versus that forecasted and supports “the idea of performance benchmarks,” and (2) MCWA  
25 “supports analysis and discussion of whether the ‘replenishment’ approach is sustainable over the  
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1 long term.”

2 7. Pima County’s statement in support of legislation which permits voluntary  
3 termination of member land status in order to decrease CAGR D’s replenishment obligations is not  
4 within the scope of what the Director may consider in connection with his review of the Plan  
5 pursuant to A.R.S. § 45-576.03(N).

6 **IV. DECISION**

7 Based on the above findings, the Director hereby determines that the Plan is consistent with  
8 achieving the management goal for the Pinal AMA.

9 **ORDER**

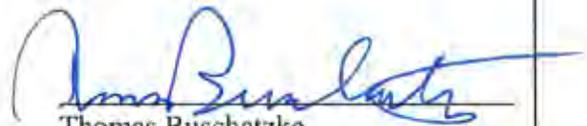
10 IT IS HEREBY ORDERED:

11 1. CAGR D’s Plan of Operation is determined to be consistent with achieving the  
12 management goal of the Pinal AMA.

13 2. Except as provided in A.R.S. § 45-576.03(R), this determination shall expire on the  
14 date provided in A.R.S. § 45-576.03(M).

15 3. This Order shall become effective upon the date signed by the Director below.

16 GIVEN under my hand this 5<sup>th</sup> day of August, 2015.

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18   
19 Thomas Buschatzke  
20 Director

# DECISION AND ORDER — TUCSON AMA

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## ARIZONA DEPARTMENT OF WATER RESOURCES BEFORE THE DIRECTOR

<b>IN THE MATTER OF THE CENTRAL</b>	)	<b>DECISION AND ORDER</b>
<b>ARIZONA GROUNDWATER</b>	)	<b>DETERMINING THAT PLAN OF</b>
<b>REPLENISHMENT DISTRICT'S PLAN</b>	)	<b>OPERATION IS CONSISTENT WITH</b>
<b>OF OPERATION FOR THE TUCSON</b>	)	<b>ACHIEVING THE MANAGEMENT</b>
<b>ACTIVE MANAGEMENT AREA</b>	)	<b>GOAL OF THE TUCSON ACTIVE</b>
<b>SUBMITTED ON DECEMBER 29, 2014</b>	)	<b>MANAGEMENT AREA</b>
_____	)	

### I. INTRODUCTION

On December 29, 2014, the Central Arizona Groundwater Replenishment District (“CAGRDR”), a division of the Central Arizona Water Conservation District (“CAWCD”), submitted to the Arizona Department of Water Resources (“Department”) its 2015 Plan of Operation (“Plan”) pursuant to A.R.S. § 45-576.02(C)(2). The Plan describes the activities that CAGRDR proposes to undertake for the Phoenix, Pinal, and Tucson Active Management Areas (“AMAs”) during the 100 years following submission of the Plan. By letter dated February 26, 2015, the Department notified CAGRDR that the Department had determined the Plan to be complete. In accordance with A.R.S. § 45-576.03(K), the Department held public hearings on the Plan in Phoenix on March 30, 2015, and in Coolidge and Tucson on April 1, 2015. The hearing record remained open until April 8, 2015, at 5:00 p.m. for the submission of written comments.

The Director of the Department (“Director”) is required by A.R.S. § 45-576.03(M) to issue a decision for each of the three AMAs determining whether or not the Plan is consistent with achieving the management goal of each respective AMA. The Director must include findings with the decision and a summary of all public comments received in writing and made at the public hearings held with respect to this matter.

As provided in A.R.S. § 45-576.03(N), the Director must determine that the Plan is consistent with achieving the management goal for each AMA if all of the following have been demonstrated:

1           1.     CAGRD has identified sufficient water supplies to meet its replenishment  
2 obligations for current members during the 20 calendar years following submission of the Plan and  
3 has identified additional water supplies potentially available for its projected groundwater  
4 replenishment obligations for the 100 calendar years following submission of the Plan for current  
5 members and potential members based on reasonable projections of real property and service areas  
6 that could qualify for membership in the 10 years following submission of the Plan.

7           2.     The replenishment reserve target for each AMA was calculated as prescribed in  
8 A.R.S. § 48-3772(E), and CAGRD is developing a replenishment reserve in each AMA pursuant  
9 to A.R.S. § 48-3772(E).

10          3.     CAGRD has identified sufficient capacity at storage facilities and projects to be used  
11 for replenishment purposes during the 20 calendar years following submission of the Plan.

12          4.     CAGRD has made a reasonable estimate of its projected replenishment obligations  
13 for the 100 calendar years following submission of the Plan as required by A.R.S. § 45-  
14 576.02(C)(2)(b).

## 15           **II.     SUMMARY OF PUBLIC COMMENTS**

16           No oral comments were made at the public hearings conducted in connection with the Plan.  
17 The Department received written comments which are summarized in this Section II. Where  
18 specific comments are relevant to particular Findings made by the Director in Section III below,  
19 those comments are discussed more fully in Section III.

### 20           Mohave County Water Authority (“MCWA”) (by letter dated March 24, 2015)

21           MWCA states that it supports a “midterm adjustment” to the Plan “to allow better reaction  
22 to actual CAGRD demand versus that forecasted” and that it supports “the idea of performance  
23 benchmarks.” MCWA states that any transfers of Colorado River water from the river’s mainstem  
24 for replenishment purposes represents an effective reallocation of Colorado River water in Arizona  
25 and should “only be done pursuant to a full and open public process on a statewide basis.” MCWA  
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1 states that reliance on Colorado River supplies should include more discussion and analysis of  
2 “shortage and structural deficit impacts.” MCWA objects to “reference to 200,000 a/f of [Multi-  
3 Species Conservation Program (“MSCP”)] coverage available to CAGR D for transfers.” MCWA  
4 states that “[b]eyond the plan,” it “supports analysis and discussion of whether the ‘replenishment’  
5 approach is sustainable over the long term.”

6 Pima County Regional Wastewater Reclamation Department (“Pima County”) (by letter  
7 dated April 3, 2015)

8 Pima County expresses support for legislation which permits voluntary termination of  
9 member land status in order to decrease CAGR D’s replenishment obligations. Pima County states  
10 that the Plan reveals an “unmet” obligation of 50,370 acre-feet in 2034 and an additional 26,100  
11 acre-feet in obligation in 2114, as well as a target reserve deficit for the Tucson AMA. Pima County  
12 objects to CAGR D’s proposed reliance on long-term storage credits (“LTSCs”) and stored effluent  
13 for replenishment purposes to the extent those supplies bring no “new” water into the Tucson AMA  
14 and to the extent the replenishment is not made in close proximity to where groundwater is pumped.  
15 Pima County urges the Department to require CAGR D to replenish within the hydrologic area of  
16 impact of member lands’ withdrawals or to require that the CAGR D deliver renewable water using  
17 water delivery infrastructure or wheeling agreements. Additionally, Pima County notes that the  
18 future availability of excess Central Arizona Project (“CAP”) water and non-Indian agricultural  
19 pool water is uncertain in light of potential shortage declaration and increased use of entitlement  
20 holders to use their entitlements.

21 Douglas Ranch El Dorado, LLC; DMB Associates, Inc.; Sunbelt Holdings; and Robson  
22 Communities (“Douglas Ranch, et al.”) (by letter dated April 6, 2015)

23 Douglas Ranch, et al., state that the Plan complies with all of the elements of A.R.S. § 45-  
24 576.03(N)(1)-(4) for each of the AMAs. They state that the applicable statute does not require that  
25 CAGR D demonstrate that it has already acquired all water supplies needed to fulfill its obligations  
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1 for the next 20 years or the next 100 years. Douglas Ranch, et al., state that the extensive and  
2 detailed modelling structure developed by CAGR D along with other materials submitted to the  
3 Department demonstrate that CAGR D’s membership projections and replenishment obligations are  
4 reasonable. Douglas Ranch, et al., state that the Plan contains the reserve target for each of the three  
5 AMAs calculated as prescribed by A.R.S. § 45-576.03(N)(2), and that the storage credits already  
6 acquired by CAGR D satisfy the replenishment reserve development requirement of A.R.S. § 45-  
7 576.03(N)(2). They state that the underground storage capacity described in the Plan far exceeds  
8 CAGR D’s projected replenishment obligations in the three AMAs.

9 Pulte Home Corporation (“Pulte”) (by letter dated April 7, 2015)

10 Pulte states that the Plan is consistent with the management goals for each of the AMAs in  
11 which CAGR D operates.

12 Home Builders Association of Central Arizona (“HBCA”) and Southern Arizona Home  
13 Builders Association (“SAHBA”) (by letter dated April 7, 2015)

14 HBCA and SAHBA state that the Plan is consistent with the management goals for each of  
15 the AMAs in which CAGR D operates.

16 Arizona Municipal Water Users Association (“AMWUA”) (by letter dated April 8, 2015)

17 AMWUA states that the Plan does not adequately demonstrate sufficient water supplies to  
18 meet CAGR D’s current and projected replenishment obligations during the 20 years following  
19 submission of the Plan. AMWUA objects to CAGR D’s identification of available Colorado River  
20 water without discussion of governmental review processes required to transfer Colorado River  
21 water. AMWUA also objects to CAGR D’s calculation of available Colorado River water in light  
22 of projected Colorado River water shortage and declining water levels in Lake Mead. AMWUA  
23 states that proposed reliance on Colorado River water is contrary to the Department’s and  
24 CAWCD’s efforts to reduce Colorado River water demand. AMWUA disagrees with CAGR D’s  
25 calculation of available LTSCs and objects to the Plan because it does not include an analysis of  
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1 who might be willing to sell LTSCs and on what terms and conditions.

2 AMWUA states that it is difficult to reconcile previous statements by the CAWCD in March  
3 of 2014 regarding likely future reductions of available excess CAP water with CAGRDR's estimate  
4 in the Plan of CAP water which will be available for replenishment purposes. AMWUA objects to  
5 CAGRDR's calculation of effluent available during the 20 years following submission of the Plan in  
6 light of a December 3, 2013 report created by a consulting firm, HDR, Inc., indicating that "95%  
7 of the wastewater generated within the CAP service area 'serves beneficial uses'." AMWUA notes  
8 a discrepancy between the HDR, Inc. report's identification of a total of 285,500 acre-feet of  
9 effluent generated in Maricopa, Pinal, and Pima Counties (200,000 acre-feet generated in Maricopa  
10 County and 20,500 acre-feet generated in Pinal County in 2009 and 65,000 acre-feet generated in  
11 Pima County in 2012) and the Plan's identification of 407,600 of current effluent production in the  
12 Phoenix, Pinal, and Tucson AMAs. AMWUA also notes that municipalities that treat wastewater  
13 are likely to continue to use effluent for their own water supply needs.

### 14 III. FINDINGS

15 After reviewing the Plan and public comments received during the public comment period,  
16 the Director makes the following findings:

17 1. CAGRDR has identified sufficient water supplies to meet its replenishment  
18 obligations for current members in the Tucson AMA during the 20 calendar years following the  
19 submission of the Plan.

20 a. CAGRDR has estimated its replenishment obligations for current members  
21 during the 20 years following submission of the Plan, culminating in a total obligation of  
22 62,700 acre-feet for the year 2034 for all three AMAs. For the Tucson AMA only, CAGRDR  
23 has estimated that its replenishment obligation for current members will be 8,000 acre-feet  
24 for the year 2034.

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1           b.       CAGRD has identified 36,534 acre-feet per year of “acquired supplies,”  
2 identified in Table 4.1 of the Plan, which it plans to use to meet its replenishment obligations  
3 in all three AMAs. This annual amount represents CAGRD’s presently “acquired supplies”  
4 annualized over the span of 100 years. This amount includes 1,444 acre-feet per year of  
5 LTSCs located in the Tucson AMA and 20,685 acre-feet per year of non-Indian agricultural  
6 priority CAP water that will be available to the CAP service area generally beginning in  
7 calendar year 2017.

8           c.       In addition to these “acquired supplies,” CAGRD has identified between  
9 460,100 and 920,200 acre-feet per year of additional supplies which CAGRD states are  
10 currently available and likely to be used to meet its 20-year replenishment obligation for  
11 current members within all three AMAs.

12           d.       With respect to CAGRD’s obligation to identify supplies to meet its  
13 replenishment obligations for current members during the 20 years following submission of  
14 the Plan, CAGRD is not required to demonstrate that it has already acquired all of the  
15 supplies needed to meet its projected replenishment obligations. Instead, CAGRD may  
16 identify supplies which are likely to be available for acquisition by CAGRD for purposes  
17 of satisfying its replenishment obligation for current members during the 20 years following  
18 submission of the Plan. These must be supplies which are not presently subject to legal or  
19 administrative barriers preventing their acquisition and use for replenishment purposes  
20 during that 20-year period.

21           e.       Long-Term Storage Credits

22           i.       Beyond the amounts of “acquired” supplies listed in Table 4.1 of the  
23 Plan, CAGRD has identified between 11,000 and 22,000 acre-feet per year of  
24 LTSCs within the AMAs and the Harquahala INA as being available for  
25 replenishment purposes during the 20 years following the submission of the Plan.  
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1 CAGRD defines LTSCs for this purpose as any existing LTSC not currently owned  
2 (or subject to an existing purchase agreement) by CAWCD, CAGRD, or the Arizona  
3 Water Banking Authority, and not currently pledged to a Designation of Assured  
4 Water Supply. CAGRD has calculated an annual available supply of existing LTSCs  
5 by dividing the total number of LTSCs by 100 years.

6 ii. AMWUA objects to the Plan because it does not include an analysis  
7 of who might be willing to sell LTSCs and on what terms and conditions.

8 iii. CAGRD is not required to provide an analysis in the Plan of who  
9 might be willing to sell LTSCs and on what terms and conditions. The market for  
10 LTSC is sufficiently well-established, predictable, and relatively free from legal and  
11 administrative impediments such that CAGRD may rely upon these supplies in  
12 connection with identifying sufficient supplies to meet its 20-year obligation for  
13 current members without identifying entities that might be willing to sell LTSCs and  
14 on what terms and conditions.

15 iv. AMWUA suggests, without explanation, that LTSCs held by Salt  
16 River Project, the Gila River Indian Community, the Bureau of Reclamation, and  
17 municipal water providers that are cities and towns should not be included in  
18 CAGRD's calculation of available LTSCs.

19 v. The Department is not aware of any legal or administrative barriers  
20 preventing the transfer of LTSCs held by Salt River Project, the Gila River Indian  
21 Community, the Bureau of Reclamation, or municipal water providers that are cities  
22 or towns (exclusive of LTSCs pledged to a Designation of an Assured Water Supply)  
23 and which would render the LTSCs unavailable to CAGRD for replenishment  
24 purposes during the 20 years following submission of the Plan.  
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1 current members in the Tucson AMA. In order for LTSCs in one AMA to be  
2 available for replenishment purposes within another AMA, water would need to be  
3 recovered and physically transferred to the other AMA. This most likely means that  
4 the water would need to be transported through the CAP canal, or “wheeled.”  
5 Wheeling of such water would require an agreement between the U.S. Bureau of  
6 Reclamation and CAWCD. At present date, no standard form of wheeling agreement  
7 has been approved by the Bureau of Reclamation. Because LTSCs located in the  
8 Phoenix and Pinal AMAs are presently subject to a legal and/or administrative  
9 barrier which would prevent their physical transfer to the Tucson AMA, they may  
10 not be included in CAGR D’s calculation of supplies available to meet its 20-year  
11 replenishment obligation for current members in the Tucson AMA.

12 x. Roughly 10% of all currently available LTSCs are located in the  
13 Tucson AMA.<sup>2</sup> Therefore, it is reasonable to estimate that CAGR D can acquire at  
14 least 1,100 acre-feet per year of LTSCs (10% of 11,000) within the Tucson AMA in  
15 order to meet its replenishment obligation for current members during the 20 years  
16 after submission of the Plan.

17 f. CAP Water

18 i. CAGR D has identified between 279,700 and 559,300 acre-feet per  
19 year of CAP water as being available for replenishment purposes during the 20 years  
20 after submission of the Plan in all three AMAs. In arriving at this estimate, CAGR D  
21 assumed that any CAP water not currently used as “part of a long-term commitment,  
22 i.e. dedicated to an Assured Water Supply or otherwise committed to a long-term  
23 direct use by the entitlement holder,” may be available during the next 20 years. This  
24 includes: (1) all supplies that CAP subcontractors have not ordered for the past four

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26 <sup>2</sup> This estimate is based upon 2013 LTSC account balances, in accordance with Department’s review of LTSCs  
discussed at footnote 1, *supra*.

1 years, “with some adjustments in cases where CAGR D has specific knowledge of a  
2 subcontractor’s future plans for full utilization of a supply”; (2) CAP water that is  
3 currently being delivered under a lease for five or fewer years (“short-term lease”);  
4 and (3) CAP water that is being delivered to an underground storage facility or  
5 groundwater savings facility for the purpose of earning LTSCs.

6 ii. AMWUA notes that a March 6, 2014 Action Brief prepared for the  
7 CAWCD Board of Directors states, “Since 2009, use of CAP water by long-term  
8 entitlement holders has increased significantly, reducing the amount of excess water  
9 available for allocation each year . . . . That trend is expected to continue over the next  
10 several years” and “we do not anticipate having enough excess water over the next  
11 five years even to fill the underground storage and CAGR D pools at the levels  
12 specified in 2009.” AMWUA states that these statements contradict CAGR D’s  
13 projections of “unused CAP water” available for replenishment. Pima County states  
14 that the future availability of excess CAP water supplies and non-Indian agricultural  
15 pool water is uncertain, particularly in light of predicted Colorado River shortage  
16 and increasing tendency of CAP entitlement holders to use their entitlements.

17 iii. “Excess CAP water” is defined in the Plan to mean CAP water in  
18 excess of quantities scheduled for delivery under long-term contracts and  
19 subcontracts.

20 iv. With respect to “excess CAP water” supplies, CAGR D notes that  
21 “the availability of excess water for CAGR D use will continue to depend on other  
22 demands for that water . . . .” CAGR D’s indicates in its Plan that it will rely on “excess  
23 CAP water” as long as it is available, but does not assume its availability for  
24 replenishment purposes after 2017. *See* Figure 4.1 of the Plan.

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vii. Evaluation of shortage impacts on the Plan is outside of the scope of the Director’s review of the Plan for purposes of A.R.S. § 45-576.03(N), as the probability of shortage, and the calculation of its degree, duration, and impacts are too speculative at this time. CAGR D is not required to analyze all scenarios that might occur in the next 20 or 100 years. The applicable statutes recognize that there may be some uncertainty in the future availability of the water supplies identified in the Plan as evidenced, in part, by the requirement that CAGR D develop and maintain a replenishment reserve. Additionally, A.R.S. § 45-576.03(R) permits the Director to require CAGR D to submit a revised plan of operation if at any time between the second and eight anniversary of the Director’s determination of consistency with the management goal, the Director finds that there has been an unexpected increase in CAGR D’s projected obligation or an unexpected decrease in available supplies such that the Plan no longer demonstrates consistency with the management goal for one or more of the AMAs.

viii. The Director finds that in addition to “excess CAP water,” certain “non-excess” CAP supplies, such as supplies which are subject to short-term leases or are being delivered for purposes of accruing LTSCs, are likely to be available to CAGR D for acquisition for replenishment purposes during the 20 years following submission of the Plan.

ix. Based upon the availability of both excess and certain non-excess CAP water supplies, including amounts delivered under short-term leases and supplies delivered to permitted recharge facilities solely for purposes of accruing LTSCs, the Director finds that CAGR D’s calculation that a minimum of 279,700 acre-feet per year of CAP water will be available during the 20 years following submission of the Plan is reasonable. The Director finds that 279,700 acre-feet per

1 year of CAP water is likely to be available to CAGR D for purposes of meeting its  
2 replenishment obligation for current members in all three AMAs during the 20 years  
3 after submission of the Plan.

4 g. Colorado River Water (Other Than CAP Water)

5 i. CAGR D has identified between 109,800 and 219,700 acre-feet per  
6 year of Colorado River water as being available for replenishment purposes for all  
7 three AMAs during the 20 years following submission of the Plan. “Colorado River  
8 water” for this purpose is defined by CAGR D as the total of Arizona’s consumptive  
9 uses of Colorado River water less CAP diversions.

10 ii. MCWA objects to a “reference to 200,000 a/f of MSCP coverage  
11 available to CAGR D for transfers.”

12 iii. The Department does not find reference to MSCP coverage in the  
13 Plan.

14 iv. AMWUA objects to CAGR D’s identification of available Colorado  
15 River water without including a discussion of governmental review processes  
16 required to transfer Colorado River water. MCWA states that any transfers of  
17 Colorado River water from the river’s mainstem for replenishment purposes  
18 represents an effective reallocation of Colorado River water in Arizona and should  
19 “only be done pursuant to a full and open public process on a statewide basis.”

20 v. The Department has issued a Substantive Policy Statement entitled  
21 “Policy and Procedure for Transferring an Entitlement of Colorado River Water”  
22 which sets forth the policies and procedures for obtaining the Director’s review of  
23 and advice on proposed transfers of Colorado River water entitlements from a non-  
24 Indian contractor or subcontractor for a term of more than one year pursuant to  
25 A.R.S. § 45-107(D). This Substantive Policy Statement sets forth requirements for  
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1 public notice and for opportunity for public comment in the context of proposed  
2 conveyances and leases. CAGR D is bound by, and has indicated in its response to  
3 comments received on its Plan that it will comply with, all applicable federal and  
4 state regulatory requirements in connection with proposed transfers of Colorado  
5 River water.

6 vi. MCWA states that reliance on Colorado River supplies should  
7 include more discussion and analysis of shortage and structural deficit impacts.  
8 AMWUA also objects to CAGR D's calculation of available Colorado River water  
9 in light of projected Colorado River water shortage and declining water levels in  
10 Lake Mead. AMWUA states that proposed reliance on Colorado River water is  
11 contrary to the Department's and CAWCD's efforts to reduce Colorado River water  
12 demand.

13 vii. As described in Finding No. 1(f)(vii) above, concerns regarding  
14 potential shortage declarations are outside of the scope of the Director's review of  
15 the Plan pursuant to A.R.S. § 45-576.03(N).

16 viii. However, the Director finds that Colorado River water should not be  
17 included in the water supplies likely to be available for acquisition by CAGR D to  
18 meet its 20-year replenishment obligation for current members. In order for  
19 Colorado River water to be physically available for replenishment purposes within  
20 the three AMAs, such water must necessarily be wheeled through the CAP canal.  
21 For the reasons set forth above at Finding No. 1(e)(ix), these supplies are presently  
22 subject to a legal and/or administrative barrier which prevents their physical transfer  
23 to the three AMAs. Therefore, they may not be included in CAGR D's calculation of  
24 supplies available to meet its 20-year replenishment obligation for current members.  
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1 h. Effluent

2 i. CAGR D has identified between 59,600 and 119,200 acre-feet per  
3 year of effluent as being available for replenishment purposes during the 20 years  
4 following submission of the Plan for all three AMAs.

5 ii. AMWUA states that municipalities who treat wastewater will  
6 continue to use effluent for their own needs. While this is likely true, the Plan  
7 anticipates that population will continue to grow within the three AMAs in  
8 connection with estimating CAGR D's future replenishment obligations. As  
9 population grows in the AMAs and elsewhere throughout the state, amounts of  
10 available effluent will increase as well.

11 iii. Furthermore, to the extent that member service areas and member  
12 lands enrolled with CAGR D increase reliance upon their own effluent sources,  
13 CAGR D's replenishment obligation is likely to be reduced accordingly.

14 iv. Pima County objects to the use of effluent for replenishment purposes  
15 to the extent reliance on those supplies does not bring "new" supplies into the AMA  
16 and urges the Department to require CAGR D to deliver renewable water to the AMA  
17 using water delivery infrastructure or wheeling agreements.

18 v. As stated above in Finding No. 1(e)(vii), CAGR D is not required to  
19 bring "new" supplies into an AMA to fulfill its replenishment obligations. CAGR D  
20 is statutorily authorized by A.R.S. § 48-3771(C) to replenish with any lawfully  
21 available source except groundwater withdrawn from within an AMA.

22 vi. AMWUA objects to CAGR D's calculation of available effluent in  
23 light of a December 3, 2013 Technical Memorandum created by HDR, Inc.  
24 indicating that "95% of the wastewater generated within the CAP service area serves  
25 beneficial uses." AMWUA also notes a discrepancy between the HDR, Inc. study's  
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1 identification of a total of 285,500 acre-feet of effluent generated in Maricopa, Pinal,  
2 and Pima Counties and the Plan's identification of 407,600 of current effluent  
3 production in the Phoenix, Pinal, and Tucson AMAs.

4 vii. CAGRD responds that the report created by HDR, Inc. understates  
5 the amount of available effluent because it did not include effluent production from  
6 facilities producing less than 1.5 million gallons per day in Maricopa County or from  
7 facilities producing less than 500,000 gallons per day in Pima and Pinal Counties.  
8 CAGRD states that the calculation of available effluent in the Plan is based upon a  
9 2013 survey conducted by WestWater Research for CAGRD. CAGRD states that  
10 the HDR's study "assumed that effluent discharged to a surface drainage without  
11 accrual of storage credits constitutes 'beneficial use'" and that "CAGRD does not  
12 make this assumption."

13 viii. Based upon review of amounts of effluent which were discharged to  
14 a stream channel or evaporation pond by municipal providers as reported in 2014  
15 Annual Water Use Reports, the Director finds that CAGRD's identification that a  
16 minimum of 59,600 acre-feet per year of effluent will be available to CAGRD during  
17 the 20 years following submission of the Plan is reasonable. While some of these  
18 amounts may currently serve beneficial uses, for instance wildlife, including fish,  
19 discharging entities are not necessarily bound to continue discharging effluent to a  
20 stream channel or pond simply because the effluent currently serves such uses.

21 ix. While some volumes of effluent may be available for acquisition by  
22 CAGRD in the Tucson AMA for purposes of meeting CAGRD's replenishment  
23 obligation during the 20 years after submission of the Plan, the Director lacks  
24 information to confirm the presence of available effluent in the Tucson AMA for  
25 purposes of meeting CAGRD's 20-year replenishment obligation to current  
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1 members. As with LTSCs, transfer of effluent supplies from one AMA to another  
2 will likely require wheeling of water through the CAP canal. Presently no form of  
3 wheeling agreement between CAWCD and the Bureau of Reclamation has been  
4 approved. Therefore, for purposes of analyzing whether CAGR D has identified  
5 sufficient supplies to meet its replenishment obligation for current members during  
6 the 20 years following submission of the Plan, the Director has assumed that no  
7 effluent will be available within the Tucson AMA during that period.

8 i. Based on the foregoing, the Director finds it reasonable to assume a  
9 minimum total of 386,834 acre-feet per year of supplies will be available for purposes of  
10 meeting CAGR D's 20-year replenishment obligation for current members in all three  
11 AMAs. This amount includes CAGR D's presently "acquired" supplies in the amount of  
12 36,534 acre-feet per year and supplies likely to be available for acquisition by CAGR D in  
13 the amount of 350,300 acre-feet per year. The amount does not include any non-CAP  
14 Colorado River water.

15 j. The supplies identified by CAGR D to meet its replenishment obligations for  
16 current members during the 20 calendar years following submission of the Plan include  
17 supplies which are located in specific AMAs ("AMA-specific supplies"), as well as supplies  
18 which will be available to the entire CAP service area generally. To the extent that  
19 CAGR D's replenishment obligation in the Tucson AMA are not met by Tucson AMA-  
20 specific supplies, CAGR D has identified more than sufficient additional supplies of CAP  
21 water which will be available to the CAP service area generally, including the Tucson AMA,  
22 and which can be directed toward the Tucson AMA as needed, as reflected in the table  
23 below:  
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	Phoenix AMA	Tucson AMA	Pinal AMA
Replenishment Obligation (in acre-feet) for Year 2034 for Current Members	52,200	8,000	2,500
“Acquired” LTSCs Available for Year 2034 (in acre-feet) per Table 4.1 of Plan	(4,009)	(1,444)	0
Additional LTSCs Available for Year 2034 (low estimate in acre-feet) <sup>3</sup>	(6,600)	(1,100)	(3,300)
“Acquired” Effluent for Year 2034 (in acre-feet) per Table 4.1 of Plan	(2,400)	0	0
Additional Effluent Available for Year 2034 (low estimate in acre-feet)	(59,600)	0	0
“Acquired” AMA-specific CAP water for Year 2034 (in acre-feet) per Table 4.1 of Plan	(7,996)	0	0
Replenishment Obligation (in acre-feet) for Year 2034 for Current Members Not Met by AMA-specific supplies	none	5,456	none
Total available CAP water attributable to the CAP service area generally (low estimate in acre-feet)		(300,585) <sup>4</sup>	
<b>Unmet Replenishment Obligation (in acre-feet) for Year 2034 for Current Members</b>	<b>none</b>	<b>none</b>	<b>none</b>

2. CAGR D has identified additional water supplies potentially available for its projected groundwater replenishment obligations in the Tucson AMA for the 100 calendar years following submission of the Plan for current members and potential members based on reasonable projections of real property and service areas that could qualify for membership in the 10 years following submission of the Plan.

a. CAGR D has estimated its replenishment obligations for current and potential members in all three AMAs in the 100 years following submission of the Plan, culminating in 113,000 acre-feet of obligation for the year 2114. For the Tucson AMA only, CAGR D has estimated that its replenishment obligation for current and potential members will be 13,300 acre-feet for the year 2114.

<sup>3</sup> Divides 11,000 acre-feet of available LTSCs (low estimate) among the three AMAs by the rough proportion of total LTSCs currently in each respective AMA.

<sup>4</sup> Represents 20,685 acre-feet of “acquired supplies” plus a low estimate of 279,700 acre-feet of additionally-available CAP water.

1           b.       With respect to the requirement that CAGR D identify supplies sufficient to  
2 meet its obligations for both current and potential members in the 100 years following  
3 submission the Plan, CAGR D is entitled to rely upon not only supplies which are currently  
4 likely to be available for acquisition, but also supplies which *potentially* will be available  
5 for acquisition in the future. As noted at Finding No. 1(g)(viii) above, Colorado River water  
6 should not be viewed as currently available for purposes of meeting CAGR D's 20-year  
7 replenishment obligation for current members because no standard form of wheeling  
8 agreement necessary to transport Colorado River water has been approved. However, the  
9 Bureau of Reclamation may approve a standard form of wheeling agreement in the near  
10 future. Therefore some supplies of Colorado River water may be included for purposes of  
11 demonstrating sufficient potentially available supplies for purposes of meeting CAGR D's  
12 total replenishment obligation for current and potential members in the 100 years following  
13 submission of the Plan.

14           c.       CAGR D's calculates that a minimum of 372,500 acre-feet per year of  
15 combined LTSCs, effluent, CAP water, and Colorado River water is potentially available  
16 for purposes of meeting its projected replenishment obligations for current and potential  
17 members in all three AMAs in the 100 calendar years following submission of the Plan. The  
18 Director finds that this calculation is reasonable.

19           d.       Beyond the categories of supplies identified for purposes of meeting  
20 CAGR D's 20-year replenishment, CAGR D has identified estimates of potentially available  
21 imported groundwater and potentially available desalinated water. However, it appears that  
22 not all of the volumes that CAGR D estimates for these additional categories of supplies will  
23 be potentially available for replenishment purposes. For instance, CAGR D identifies  
24 Buckeye waterlogged groundwater as a potential source of desalinated water, *see* note 14 to  
25 Table 4.2 of the Plan. However, A.R.S. § 48-3771(C) prohibits the use of groundwater  
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1 withdrawn from within an AMA for use for replenishment purposes. Nevertheless, the  
 2 Director need not reach a determination with respect to whether these additional category  
 3 of supplies are potentially available for purposes of satisfying CAGR D’s 100-year  
 4 replenishment obligation, as CAGR D has identified sufficient other supplies in satisfaction  
 5 of the requirements of A.R.S. § 45-576.03(N)(1).

6 e. CAGR D’s low estimate of 372,500 acre-feet per year of potentially available  
 7 supplies of combined LTSCs, effluent, CAP water, and Colorado River water is more than  
 8 sufficient to meet CAGR D’s total 100-year replenishment obligation in all three AMAs, as  
 9 shown in the table below:

10 Replenishment Obligation (in acre-feet) 11 for Year 2114 for Current and 12 Potential Members	84,200 Phoenix AMA 13 13,300 Tucson AMA 14 15,500 Pinal AMA 113,000 Total
13 Available Supplies for Year 2114 (low estimate)	(372,500)
14 <b>Unmet Replenishment Obligation (in acre-feet) for Year 2114</b>	<b>none</b>

15 f. CAGR D’s demonstration that total available supplies exceed its total  
 16 replenishment obligations for all three AMAs is adequate for purposes of identifying  
 17 sufficient supplies for CAGR D’s 100-year replenishment obligation in the Tucson AMA.  
 18 As discussed above, a standard form of wheeling agreement permitting the movement of  
 19 non-CAP water through the CAP may be approved in the near future. Therefore, currently  
 20 “unavailable” mechanisms to transfer supplies for replenishment purposes, such as through  
 21 recovery and movement of water through the CAP canal, potentially will be available in the  
 22 future, making AMA-specific supplies available to the CAP service area generally.

23 3. The replenishment reserve target for the Tucson AMA was calculated as prescribed  
 24 in section 48-3772(E), and the CAGR D is developing a replenishment reserve in the Tucson AMA  
 25 pursuant to A.R.S. § 48-3772(E).  
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1 pursuant to A.R.S. § 48-3772(E).

2 a. CAGRD has accrued 32,491 acre-feet of LTSCs in the Tucson AMA  
3 Replenishment Reserve Sub-account and has identified an additional 2,327 acre-feet of  
4 LTSCs dedicated by CAWCD for CAGRD replenishment reserve purposes. In Appendix B  
5 to the Plan, the CAGRD has included copies of annual reports filed with the Department  
6 pursuant to A.R.S. § 48-3775(E), demonstrating CAGRD's historic acquisition and  
7 crediting of LTSC's to each AMA's respective replenishment reserve sub-account. CAGRD  
8 has been steadily accruing LTSCs in its Tucson AMA Replenishment Reserve Sub-account  
9 over the past 10 years. CAGRD has also demonstrated that sufficient LTSCs are currently  
10 available to meet CAGRD's combined reserve target amounts for all three AMAs, relying  
11 on a combination of existing CAGRD reserve credits and LTSCs held by CAWCD which  
12 have been dedicated to CAGRD for replenishment reserve purposes. A large number of  
13 "excess" credits are located in the Pinal AMA Replenishment Reserve Sub-account.  
14 CAGRD states that it will evaluate mechanisms by which to "transfer" or "exchange"  
15 LTSCs as necessary to meet the reserve target amounts for the Phoenix and Tucson AMA.  
16 CAGRD states in the Plan that it will also seek to obtain identified supplies over and above  
17 amounts necessary to fulfill its replenishment obligations for purposes of meeting and  
18 maintaining the replenishment reserve target amount for each AMA. In view of this  
19 information, CAGRD has demonstrated that it is taking reasonable steps to develop the  
20 replenishment reserve in accordance with A.R.S. § 48-3772(E).

21 b. With respect to the Tucson AMA, Pima County notes that CAGRD has a  
22 reserve target of 112,600 acre-feet but that the CAGRD currently only holds 34,818 acre-  
23 feet "in reserve" (representing amounts held in CAGRD's Tucson AMA Replenishment  
24 Reserve Sub-account and amounts dedicated by CAWCD), and states that, therefore, 70%  
25 of the reserve target for the Tucson AMA remains "unfulfilled."  
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1           c.       CAGRD is not required to have acquired supplies to meet the entire  
2 replenishment reserve target at the time of the submission of the Plan, but must show that it  
3 “is developing” a replenishment reserve pursuant to A.R.S. § 48-3772(E). A.R.S. § 45-  
4 576.03(N)(2). As explained in sub-paragraph (b) above, CAGRD has met this requirement.

5           4.       The CAGRD has identified sufficient capacity at storage facilities and projects to be  
6 used for replenishment purposes in the Tucson AMA during the 20 calendar years following the  
7 submission of the Plan.

8           a.       CAGRD has identified 49,700 acre-feet of available annual storage capacity  
9 in underground storage facilities in the Tucson AMA to which CAWCD has exclusive  
10 access and to which CAGRD has been granted highest priority after entities with contractual  
11 rights to use CAWCD storage facilities. CAGRD has further identified approximately 500  
12 acre-feet of available annual storage in groundwater savings facilities (“GSF”) in the Tucson  
13 AMA, which CAGRD calculated with reference to historical usage of the Kai Farms (Red  
14 Rock) GSF by non-CAGRD GSF partners. These facilities provide more than sufficient  
15 capacity to be used by CAGRD for replenishment purposes in the Tucson AMA for the next  
16 20 years.

17           b.       Pima County states that CAGRD’s underground storage facilities have no  
18 physical or hydrological connection to certain Member Land subdivisions within the Tucson  
19 AMA and urges the Department to require the CAGRD to replenish within the hydrologic  
20 area impacted by Member Lands’ groundwater pumping or deliver renewable water directly  
21 using water delivery infrastructure or wheeling agreements.

22           c.       Pursuant to A.R.S. § 48-3771(B), CAGRD is required to replenish within the  
23 AMA where the respective obligation is incurred. However, there is no requirement that the  
24 CAGRD replenish within the area of impact of each member’s withdrawals. Although the  
25 Department supports efforts to replenish as close as feasible to the area where each  
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1           respective obligation is incurred, the Department lacks authority to impose such a  
2           requirement.

3           5.       CAGRD has made a reasonable estimate of its projected replenishment obligations  
4           in the Tucson AMA for the 100 calendar years following the submission of the Plan as required by  
5           A.R.S. § 45-576.02(C)(2)(b).

6                 a.       Section 45-576.02(C)(2)(b) provides that the CAGRD shall make an  
7                 estimate of the CAGRD’s projected groundwater replenishment obligations for the 100  
8                 calendar years following submission of the Plan for current members and potential members  
9                 based on reasonable projections of real property and service areas that could qualify for  
10                membership in the ten years following the submission of the Plan.

11               b.       The Department reviewed CAGRD’s projections of real property and service  
12                areas that could qualify for membership in the ten years following submission of the Plan.  
13                The Department considered projected population for the three AMAs, projected supply and  
14                demand for each water use sector, and projected water storage activities, to verify that the  
15                CAGRD’s projections of its future replenishment obligations are reasonable. The  
16                Department determined from its review that CAGRD’s projections are reasonable.

17           6.       The following comments by MWCA are not within the scope of what the Director  
18           may consider in connection with his review of the Plan pursuant to A.R.S. § 45-576.03(N): (1)  
19           MCWA supports a “midterm adjustment” to the Plan “to allow better reaction to actual CAGRD  
20           demand versus that forecasted and supports “the idea of performance benchmarks,” and (2) MCWA  
21           “supports analysis and discussion of whether the ‘replenishment’ approach is sustainable over the  
22           long term.”

23           7.       Pima County’s statement in support of legislation which permits voluntary  
24           termination of member land status in order to decrease CAGRD’s replenishment obligations is not  
25           within the scope of what the Director may consider in connection with his review of the Plan  
26

1 pursuant to A.R.S. § 45-576.03(N).

2 **IV. DECISION**

3 Based on the above findings, the Director hereby determines that the Plan is consistent with  
4 achieving the management goal for the Tucson AMA.

5 **ORDER**

6 **IT IS HEREBY ORDERED:**

- 7 1. CAGR D's Plan of Operation is determined to be consistent with achieving the  
8 management goal of the Tucson AMA.
- 9 2. Except as provided in A.R.S. § 45-576.03(R), this determination shall expire on the  
10 date provided in A.R.S. § 45-576.03(M).
- 11 3. This Order shall become effective upon the date signed by the Director below.

12 GIVEN under my hand this 5<sup>th</sup> day of August, 2015.

13  
14   
15 Thomas Buschatzke  
16 Director

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26





**CENTRAL ARIZONA PROJECT**

P.O. BOX 43020

PHOENIX, AZ 85080-3020

**CAGRD.COM**

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