

Approved by the CAGR D Board  
March 2, 2006

Staff Proposal for a  
**CAGR D Conservation Program**

Central Arizona Groundwater Replenishment District  
February 23, 2006

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## **I. INTRODUCTION**

CAGRDR recognizes the benefits that an effective conservation program could have on its operations. Less groundwater use by CAGRDR members means less replenishment obligations for CAGRDR, and a corresponding reduction in the volume of water necessary for CAGRDR to acquire. This results in lower costs for CAGRDR and its members and less competition for potentially scarce water supplies in the future. The state of Arizona has already made great strides in establishing an effective conservation program. In fact, all members of the CAGRDR are subject to the state's municipal conservation regulatory program. However, more can be done to promote water conservation. Therefore, CAGRDR will increase its efforts to promote conservation by its members.

The new Plan of Operation<sup>1</sup> adopted by the Board of Directors in November 2004, required staff to develop a proposed conservation program and submit it to the Board for consideration no later than January 2006. This document presents staff's proposed CAGRDR Conservation Program (Program). The Program is based on work done during 2005 and is designed to address (1) concerns, opinions and directions expressed by the CAGRDR Board of Directors and (2) advice provided to staff by the CAGRDR Conservation Advisory Committee.<sup>2</sup> The proposed program consists of four major components:

- I. Education
- II. Partnerships/Collaborations
- III. Study to Determine Groundwater-Use Efficiency of CAGRDR Member Lands
- IV. Funding

Each of these components is described below.

## **II. EDUCATION**

One of the long-standing criticisms of the CAGRDR is that it is not well-understood by its members and stakeholders. Many feel that it is difficult for most homeowners within CAGRDR Member Lands (ML) and Member Service Areas (MSA) to make a connection between their water use and the resulting replenishment obligations incurred by the CAGRDR. In fact, some contend that the majority of homeowners that are in CAGRDR MLs and MSAs don't even know that they are part of the CAGRDR. If they do know, they likely don't understand the ramifications. Educating these homeowners on what it means to be in the CAGRDR and how their individual water use impacts their taxes and/or water rates will likely result in more efficient use of water. Therefore, a primary goal of the CAGRDR Conservation Program is to better educate its member homeowners about CAGRDR.

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<sup>1</sup> CAGRDR Plan of Operation, Submitted Draft dated November 8, 2004.

<sup>2</sup> The CAGRDR Conservation Advisory Committee and its work is described in Exhibit A.

In addition to educating homeowners about the CAGR, it will be important to educate others who impact, or are impacted by, the CAGR and its growing membership and corresponding replenishment obligations. These others include representatives of the cities, towns and counties who approve subdivision plats that are either enrolled as MLs or are located within a MSA. These platting authorities should have a good understanding of what their actions mean to the CAGR and the state in terms of water resource management. Finally, due to their direct connection to the homeowner, it will be important to educate developers, homebuilders, landscape architects and homeowner associations about the CAGR. Actions and efforts by these entities can result in significant conservation by the end-user of water (i.e., the homeowners). The following describes the education activities that staff proposes as part of this Program.

## **A. Educating Homeowners**

Because the CAGR has two types of members (MLs and MSAs), and because CAGR's interaction with the ML homeowners is considerably different than interaction with MSA homeowners, this Program proposes different education strategies for each homeowner type.

### **1. Member Land Homeowners**

Staff has developed a colorful and informative brochure for use in educating ML homeowners entitled "Having a Home in the CAGR." The brochure explains what the CAGR is, why it was formed, why a home is in a CAGR Member Land, and how the homeowner's property taxes are affected by water use. The brochure provides contact information and refers the reader to the CAGR website where more information can be obtained. Development of the brochure was just the first step towards educating ML homeowners. There are two additional challenges which must be addressed: (1) distributing the brochure to the affected homeowners and (2) encouraging them to read it once they have received it. Staff considered working to establish a program under which all new homebuyers would receive the brochure as part of their closing packet. However, because the new homebuyer is inundated with paperwork and information at closing, staff decided that the likelihood that the homebuyer would actually read the brochure is remote. Therefore, staff proposes to initiate a pilot program to assess the cost and effectiveness of mailing brochures directly to ML homeowners. Under this proposal, staff will hire a contractor to:

- Identify a target group of no more than 5,000 CAGR ML homes to receive the brochure by direct mail;
- Send the brochures to the target group;
- Develop a survey to establish the effectiveness of the direct mailing;
- Conduct the survey;
- Report the survey results to CAGR and provide recommendations on whether the CAGR should pursue a program to distribute the brochures to all ML homeowners.

In addition to using brochures for education, staff will also draft an informative article that can be published periodically in newsletters that municipal water providers send to their customers. Staff will survey all providers that serve MLs to identify those which distribute newsletters to their customers. The draft article will be submitted to those providers with a request that it be included in their newsletter at least on an annual basis. Staff will work with each provider that agrees to publish the article to make sure that it meets the newsletter's length, style and content requirements.

## 2. Member Service Area Homeowners

Homeowners within MSAs are not levied a replenishment assessment on their property tax bill based on their individual groundwater use as ML homeowners are. MSA water providers report Excess Groundwater use for their entire service areas to the CAGRDR each year and the water provider pays an annual service area tax to cover the cost of replenishment. Generally, then, the water provider collects revenues to offset the service area replenishment tax through water rates charged to the homeowners in their service area. The volume of Excess Groundwater used within a MSA (and the corresponding replenishment tax) varies greatly from one MSA to another, depending on a number of factors. Therefore, development of a "one-size-fits-all" CAGRDR brochure for MSA homeowners is not possible. Instead, staff proposes to work with each MSA water provider to develop an educational article on the CAGRDR that is specific to the conditions within that particular MSA. Staff will request that the provider publish the article in its periodic newsletter (or include the information in a flyer with its water bills) at least once per year.

## **B. Educating Platting Authorities**

A concern that has been expressed to CAGRDR is that some cities, towns and counties that review and approve plats for new subdivisions located within CAGRDR MLs and MSAs do not fully understand the CAGRDR. These platting authorities should have at least a good working knowledge of what the CAGRDR is, how it operates and how new growth impacts its replenishment obligations. Therefore, staff proposes the following measures to help educate these entities.

- Staff will prepare a general PowerPoint presentation designed to educate platting authorities (e.g., city and town councils and county supervisors). The presentation will include:
  - A description of the CAGRDR and its responsibilities, activities and plans,
  - An overview of the State's Assured Water Supply program and how CAGRDR supports it, and
  - The importance of establishing a "culture" of efficient water use by new growth within the platting authorities' operating boundaries.
- Staff will conduct a study to identify all platting authorities within CAGRDR's three-county service area that act on subdivision plats that are (or could be) located within CAGRDR MLs or MSAs.

- Staff will send a letter to each of the identified platting authorities introducing the CAGR D and offering to make a formal presentation (described above) to the authority’s appropriate representatives. Staff will also enclose with the letter a copy of the DVD entitled “CAGR D – Perspectives and Predictions.”
- For those entities that express interest, staff will attend one of their meetings, make the presentation described above, and answer any questions that arise.
- -When appropriate, partnership arrangements may be developed between CAGR D and platting authorities to promote water conservation in new subdivisions in the platting authorities’ service areas.

### **C. Educating Developers, Homebuilders, Landscape Architects, and Homeowner Associations**

A suggestion that staff received repeatedly over the past year has been to work to establish a culture of efficient water use within subdivisions that are part of the CAGR D. One of the best ways to establish such a culture is to increase efforts to build water-use efficiency into the subdivisions up-front (before houses are sold) rather than simply ask the homeowners to conserve water after they have moved in to the homes. One way to achieve such a goal is to work to educate those who have the most impact on the make-up of new subdivisions. Therefore, staff proposes the following measures to help in this education process.

- Staff will prepare a general PowerPoint presentation designed to educate developers, homebuilders, landscape architects and homeowner associations about the CAGR D. The presentation will be similar to that developed for platting authorities, as described in section I.B. above.
- In an effort to identify target audiences for education, staff will contact organizations that work regularly with these groups, such as the Home Builders Associations of central and southern Arizona, the central and southern Arizona chapters of the Community Associations Institute, the Arizona Nursery Association, etc.
- Once target audiences are identified, staff will contact the appropriate person(s) and offer to make a formal presentation about the CAGR D.

### **D. Other Methods of Education**

CAGR D will use other methods for educating the general public on CAGR D and water conservation. Such methods will include maintenance of a CAGR D website that describes the CAGR D and makes the “Having a Home in the CAGR D” brochure available online. The CAGR D website will also provide links to other websites that contain information and instruction on water conservation. Staff will also insure that a water conservation message continues to be included in existing and future CAP education programs such as speaker’s bureau presentations and elementary school education packets.

### **III. PARTNERSHIPS/COLLABORATIONS**

As a result of discussions with the Board and stakeholders during 2005, staff has developed a clear understanding that CAGR D should not “reinvent the wheel” when it comes to establishing its own conservation program. CAGR D is not a regulator, nor is it a retail water provider, and its activities related to water conservation need to reflect its unique place in the state’s water resource management picture. At the same time, successful water conservation programs and regulations that are implemented by others will have a direct and significant impact on the CAGR D’s replenishment obligations and the corresponding costs that must be borne by CAGR D members. Therefore, staff proposes to establish meaningful collaborative partnerships with others to enhance the viability and success of their water conservation programs.

#### **A. Statewide Conservation Strategy**

On March 20, 2003, Governor Napolitano signed Executive Order #2003-12 establishing the Governor’s Drought Task Force with leadership to be provided by the Arizona Department of Water Resources. Among the provisions of the Executive Order are two requirements that pertain directly to conservation: (1) the development and implementation of a statewide water conservation strategy, and (2) the establishment of a Conservation Education Task Force Group. The Statewide Conservation Strategy (Strategy) was approved by the Governor’s Drought Task Force on October 6, 2004, for submission to the Governor. The stated overall goal of the Strategy is to achieve greater water use efficiency for the state resulting in measurable water savings. Key recommendations in the Strategy include development of partnerships to provide funding and “buy-in” for the establishment of new conservation programs; continuation and expansion of existing education programs; providing technical assistance to water providers and/or customers; creation of a state sponsored conservation web site, and creation of conservation incentives.

In March 2005, staff presented the Board with the following list of recommendations for CAGR D’s participation in the Arizona Statewide Water Conservation Strategy:

- Data Sharing: CAGR D receives annual reports each year from water providers showing groundwater deliveries to Member Land parcels and Member Service Areas. CAGR D will prepare comprehensive tables showing the historic water deliveries reported to CAGR D from 1995 through 2004. CAGR D will also prepare tables each year in the future, beginning in 2005, showing the annual reported water deliveries to its Member Lands and Member Service Areas. The tables will be made available to the Arizona Department of Water Resources (and others, as requested) for use in (1) establishing baseline water uses, and (2) comparison of current year uses against the baseline to determine the effectiveness of conservation programs.

- Support Creation of a State Office of Water Conservation: CAGRD will actively support a legislative initiative to establish a State Office of Water Conservation that would be responsible for coordinating conservation efforts within the state.
- Seek a Seat on the Water Conservation Advisory Board: CAGRD/CAWCD will seek a seat on the Water Conservation Advisory Board. A member of the CAGRD/CAWCD Board of Directors could represent CAGRD in this capacity.
- Seek a Seat on the Water Conservation Advisory Task Group: The CAGRD Manager will seek a seat on the Water Conservation Advisory Task Group.
- Develop a CAGRD Conservation Program: CAGRD staff will develop a proposed Conservation Program using an open, public process that actively seeks advice and input from stakeholders and interested parties. The proposed program will outline specific conservation efforts that CAGRD will implement itself. The program will also address how CAGRD could partner with others to create, continue or expand other programs regarding conservation education and incentives. The proposed CAGRD Conservation Program will be presented to the CAGRD Board of Directors by January 2006.

## **B. Arizona Department of Water Resources**

The Arizona Department of Water Resources (ADWR) is the agency that is charged with establishing and implementing standards for efficient water use in Arizona. In accordance with Arizona Revised Statutes Title 45, Chapter 9, ADWR is responsible for developing management plans every ten years for each of the state's Active Management Areas (AMAs). Currently, the Phoenix, Pinal and Tucson AMAs are operating under ADWR's corresponding Third Management Plans (TMP). An important component of each AMA's TMP is the Municipal Conservation Program, which is designed to assist the AMAs in achieving their management goals by "gradually reducing per capita water consumption, encouraging the best available water conservation practices, and maximizing the efficient use of renewable water supplies." Because all of CAGRD's members are located within an AMA, they all fall under ADWR's regulatory umbrella. However, many contend that, for a variety of reasons, ADWR's current regulations relating to water conservation may not be achieving the desired results (i.e., maximizing the efficient use of water).

ADWR has initiated an effort to evaluate its existing regulatory program and develop a revised program for municipal providers. The effort will include a public process in which stakeholders will be asked to provide significant input. Although CAGRD is not a municipal provider, it will certainly be impacted by any changes in regulations for municipal providers. Because CAGRD membership (1) consists of nineteen municipal water provider service areas as well as more than 750 subdivisions served by municipal water providers, and (2) is broadly distributed among three AMAs, CAGRD's participation in the stakeholder process will be very important. Therefore, staff proposes that CAGRD be an active and vocal participant in ADWR's planned stakeholder process as well as all subsequent activities relating to the development

or revision of municipal conservation regulations in the Phoenix, Pinal and Tucson AMAs. In this participation, CAGR D will advocate an increase in ADWR's ability and authority to regulate conservation at the subdivision level when necessary.

### **C. Memberships, Sponsorships and Grants**

There are numerous organizations and programs that have been established to perform research or provide education relating to water conservation (e.g., Project WET and the Water Conservation Alliance of Southern Arizona). Because of the potential beneficial impacts on their water distribution systems, many municipal water providers have implemented their own programs to encourage water conservation. In addition, as an added service to their clients, various associations (home builders, home owners, landscapers, etc.) have also developed programs to support water conservation. Establishing a mechanism for providing financial support to these entities accomplishes CAGR D's goal of furthering water conservation without reinventing the wheel. Therefore, staff proposes that CAGR D establish an annual fund of \$50,000 to be used exclusively for providing financial support for water conservation programs being implemented by others. By the end of 2006, staff will develop and document an application, review, and award process to be used in distributing the funds.

## **IV. STUDY TO DETERMINE GROUNDWATER-USE EFFICIENCY OF CAGR D MEMBER LANDS**

A number of the discussions that occurred by and between the Board, the staff and the CAGR D Conservation Advisory Committee during the development of this proposed program focused on the following question:

*“Are CAGR D members making efficient use of groundwater or are they wasting it?”*

To provide a satisfactory answer to this question, a number of things should be considered. First, acceptable definitions of “efficient use” and “wasting” must be developed. Second, the projected groundwater use of a member applicant's subdivision needs to be compared against these definitions to determine if its projected groundwater use is efficient or wasteful. Finally, once the subdivision is built out, the actual groundwater use can be compared against the definitions to see if groundwater use within the subdivision can be characterized as efficient or wasteful.

As part of the CAGR D Conservation Program, staff proposes to conduct a study to determine if currently enrolled CAGR D Member Lands<sup>3</sup> are making efficient use of

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<sup>3</sup> The study will focus on MLs for several reasons: (1) reported groundwater use within MSAs is not limited to residential use as it is for MLs, (2) obtaining access to projected and actual groundwater-use data for individual subdivisions within MSAs would be extremely difficult, and (3) groundwater users within many MSAs are subject to local water-use regulations in addition to state regulations, which could impact the results of the study.

groundwater, thereby minimizing CAGR D’s corresponding replenishment obligations as much as possible, or if they are wasting groundwater, resulting in unnecessarily high replenishment obligations. The results of the proposed study can be used by the Board to determine if CAGR D’s Conservation Program needs to be strengthened. The proposed study will consist of the following components.

- Establishment of appropriate measurement “scales” for use in determining the relative efficiency of groundwater use within a subdivision. The scales will need to account for subdivision size, individual parcel size, subdivision amenities, and water sources to be used (i.e., groundwater, surface water or effluent);
- Compilation of projected and actual groundwater-use data for CAGR D MLs that were enrolled from 1995 through 2005, along with an assessment of which ML subdivisions are built out;
- Assessment of groundwater-use efficiency for each ML subdivision based on projected and actual groundwater use (note that the efficiency of actual groundwater use can only be established for those subdivisions that are built out);
- Comparison of projected uses and efficiencies against actual uses and efficiencies.

Staff proposes to complete the study by the end of 2006 with a report submitted to the Board for consideration in January 2007. With Board direction, staff will update the study findings annually.

## V. FUNDING

### A. Projected Program Costs

The following table presents a preliminary estimate of the costs of implementing the first year of the proposed conservation program. Costs for subsequent years will depend on future decisions that will be made using information and data developed in the first year of program implementation.

Program Component	Est. Staff Hours	Est. Consulting Costs	Estimated Materials, Etc.
Education	320	\$15,000	\$5,000
Partnerships/Collaborations	250	--	\$55,000
Study of GW Efficiency	100	\$15,000	--
Funding	40	--	--
Total	710	\$30,000	\$60,000

Assuming that staff hours would be calculated at the midpoint of the Specialist salary range, using CAWCD's current multiplier for overhead, benefits, and paid-time-off, the staffing costs associated with 710 hours is estimated to be about \$55,000. Therefore, the estimated first-year costs for the proposed program totals about \$145,000.

## **B. Funding Mechanism**

As required by statutes, this Conservation Program must be funded completely by CAGR D members. CAGR D generates revenues from its members through various fees, assessments and taxes. The fees are generally collected before houses are constructed. Assessments and taxes are collected after people move into the constructed houses and begin using groundwater. In fact, the assessments and taxes are based on the volume of groundwater used by a member. Staff proposes to fund the Program using money generated from a combination of these revenue sources. The proposed goal is to collect half of the necessary funds through fees and the remaining half through assessments and taxes, as described below.

### **1. Fees**

Staff proposes that half of the revenues needed to fund the CAGR D Conservation Program be generated through "up-front" fees collected from its members and member applicants. Based on the estimated first-year cost of \$145,000 for the program, the amount to be collected through fees would be \$72,500. Staff proposes that this be collected based on the number of new housing units that become part of the CAGR D's service area each year.

For Member Lands, the fee can be added to the current Enrollment Fee, which is already based on the number of housing units in the applicants subdivision. CAGR D's new Plan of Operation projects that new ML housing units will be enrolled in the CAGR D at an average rate of about 18,500 units per year.

For Member Service Areas, the fee can be added to the members' annual Replenishment Tax and could be calculated based on the number of new service connections within the MSA in the prior year.<sup>4</sup> CAGR D's new Plan of Operation projects that new housing starts within MSAs will average about 17,500 units per year. For those MSAs that have their own conservation programs in place, staff proposes that all or part of these conservation fees be waived, depending on the costs of the MSA's program

Combining the ML and MSA projections noted above results in a total of about 36,000 new housing units becoming part of the CAGR D each year. Dividing this number into \$72,500 (the revenue goal from fees) results in a per-unit fee of about \$2 per unit.

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<sup>4</sup> CAGR D would obtain information on the number of new service connections by requesting it on the CAGR D Annual Report that must be filed by each MSA every year.

## 2. Assessments and Taxes

The remaining half of the costs of the proposed conservation program would be rolled into CAGR D's administrative costs and collected via the Administrative component of CAGR D's assessment rates from all Member Lands and Member Service Areas reporting Excess Groundwater use. CAGR D projects that its replenishment obligations will be about 38,000 acre-feet this year.<sup>5</sup> Dividing this number into \$72,500 (the revenue goal from assessments and taxes) results in a rate of about \$2 per acre-foot.

## **VI. CONCLUSION**

This proposed CAGR D Conservation Program will serve several purposes. First, it will begin to address a concern that the CAGR D is not well-understood, even by those who are part of its membership. By increasing the understanding of CAGR D, its current and future members can make better-informed decisions about how they use water. Second, it will provide a mechanism for CAGR D to promote and support the water conservation efforts of others without duplicating the work. Third, under this program, CAGR D will provide a unique voice in the Arizona Department of Water Resources' process of reviewing and revising its regulatory municipal conservation programs in the Phoenix, Pinal and Tucson AMAs. Finally, by conducting a study of the efficiency of groundwater use by its members, CAGR D will be able to determine if it needs to expand its water conservation program in the future.

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<sup>5</sup> This figure is based on the projected use of excess groundwater by members in 2005.

## APPENDIX A

### CAGRD Conservation Advisory Committee

A CAGRD Conservation Advisory Committee was formed in January 2005 to serve in an advisory capacity as staff developed the proposed conservation program. The committee met seven times in 2005 to discuss issues and concerns regarding CAGRD's role in water conservation. Membership was open to any and all who wanted to participate. The group consisted of representatives from a broad range of interests. The following lists those who participated on the committee.

<u>Name</u>	<u>Organization</u>
Rob Anderson	Withey Anderson Morris
Sheila Brennemann	CAWCD
Marc Campbell	Salt River Project
Sally Ceccarelli-Wolf	Arizona-American Water Company
Marvin Collins	Sunrise Water Company
Val Danos	Arizona Municipal Water Users Association
Marsha Esmeier	CAGRD
Kim Furphy	City of El Mirage
Deanna Ikeya	City of Peoria
London Lacey	City of Surprise
Karen LaMartina	City of Tucson
Keith Larson	Arizona-American Water Company
Val Little	Water CASA
Bob McCain	Arizona Municipal Water Users Association
Jo Miller	City of Glendale
Mark Myers	Town of Marana
Cliff Neal	CAGRD
Steve Olea	Arizona Corporation Commission
Mike Pearce	Fennemore Craig
Ken Seasholes	Arizona Department of Water Resources
Cynthia Stefanovic	Arizona State Land Department
Robin Stinnett	Arizona Department of Water Resources
Warren Tenney	Metro Water
Suzanne Ticknor	CAWCD
Kristine Uhlman	University of Arizona

One of the key activities that the committee worked on was the brainstorming and discussion of ideas for CAGRD's involvement in water conservation. That work, which is documented below in Table 1, provided much of the basis for staff's proposed CAGRD Conservation Program.