MODIFICATIONS TO THE THIRD MANAGEMENT PLAN

2000 – 2010

PINAL ACTIVE MANAGEMENT AREA

ARIZONA DEPARTMENT OF WATER RESOURCES

MAY, 2003

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This booklet contains modifications to the management plan for the Pinal Active Management Area ("AMA") for the third management period, 2000 to 2010 ("Third Management Plan"). The Third Management Plan was adopted by the Director of Water Resources in December of 1999. It is the third in a series of five management plans mandated by the 1980 Groundwater Management Act. As required by the Act, the plan contains mandatory conservation requirements for persons withdrawing, distributing or using groundwater within the Pinal AMA. The plan also contains a Groundwater Quality Management Program, an Augmentation and Recharge Program, a Water Management Assistance Program and a chapter on plan implementation.

The modifications contained in this booklet were adopted by the Director on April 2, 2003. The modifications became effective on May 19, 2003, following public notice and an opportunity to request review or rehearing. Included in the modifications is the adoption of a new Chapter 4 (Agricultural Conservation Program) to replace the Chapter 4 adopted with the Third Management Plan in December of 1999. The new chapter was adopted to comply with legislation enacted in 2002 requiring the Director to calculate the irrigation water duties for most farms regulated under the Base Agricultural Conservation Program using an irrigation efficiency of 80 per cent and requiring the Director to adopt an Agricultural Best Management Practices Program as an alternative to the Base Program. Modifications were also made to Chapter 5 (Municipal Conservation Program), Chapter 6 (Industrial Conservation Program), and Chapter 9 (Water Management Assistance Program).

The following is a brief description of the modifications to the Third Management Plan contained in this booklet:

Chapter 4, Agricultural Conservation Program

Chapter 4 has been replaced in its entirety with a new chapter 4. The new chapter retains the Historic Cropping Program and the conservation requirements and monitoring and reporting requirements for irrigation distribution systems and also includes the following new provisions:

1. A Base Agricultural Conservation Program (Section 4-102) with new irrigation water duties and maximum annual groundwater allotments for farms within the Pinal AMA for the third management period. As required by A.R.S. § 45-566(A)(1), the water duties were calculated using an irrigation efficiency of 80 per cent, except that a lower

irrigation efficiency was used for farm units determined by the Director to have limiting soils or excessive slopes and for farm units where orchard crops were historically grown and continue to be grown. The new irrigation water duties and maximum annual groundwater allotments are set forth in Supplement I to the Third Management Plan. Because of its length, Supplement I is not included in this booklet, but may be reviewed at the Department's offices in Phoenix and Casa Grande, as well as the Department's Website: www.water.az.gov.

2. A Best Management Practices ("BMP") Program (Section 4-104) that is an alternative to the Base Agricultural Conservation Program. An owner or lessee of an Irrigation Grandfathered Right may apply to the Department for regulation under the BMP Program. Persons regulated under the BMP program are not required to comply with an irrigation water duty or maximum annual groundwater allotment, but instead must implement specific agricultural conservation practices on their farm.

3. A new section (Section 4-107) allowing groundwater withdrawn pursuant to a remedial action project to be accounted for consistent with surface water for purposes of determining compliance with agricultural conservation requirements if certain conditions are met.

Chapter 5, Municipal Conservation Program

1. Non-Per Capita Conservation Program – The following modifications were made to the Non-Per Capita Conservation Program in Section 5-104:

   a. Language was added allowing a municipal provider applying for regulation under the Non-Per Capita Conservation Program to replace a standard Reasonable Conservation Measure ("RCM") in a residential or non-residential water use category with a substitute RCM in a different water use category (other than the system related water use category) if the following two conditions are met: (1) the substitute RCM must be designed to achieve a water use efficiency within the provider's service area that is greater than the efficiency that would result from implementation of the standard RCM, and (2) the substitution must not result in the provider implementing no RCMs in the water use category in which the standard RCM is included.

   b. The residential interior standard RCM in Appendix 5-F.1 entitled "Water Audit and Fixture Retrofit Program for Existing Residential Customers" was modified to clarify that only those audits or retrofits that are verified by the provider as having been successfully completed will count toward the required number of audits or retrofits. The RCM was also modified to require the provider to conduct a follow-up survey of a statistically significant sample of customers audited.

   c. The residential exterior standard RCM in Appendix 5-F.1 entitled "Audit Program for Existing Residential Customers" was modified to clarify that only those audits that are verified by the provider as having been successfully completed will count toward the required number of audits.

d. The non-residential exterior standard RCM in Appendix 5-F.2 entitled "Landscape Ordinance or Condition of New Service for New Facilities" was modified to exclude the following facilities from the landscaping restrictions imposed by the RCM: schools, parks, cemeteries, golf courses, common areas of housing developments and public recreation facilities.

e. The Substitute RCM List in Appendix 5-F.4 was modified by moving the RCM entitled "Landscape Retrofit Program for Existing Residential Customers" from the "Residential Interior" category to the "Residential Exterior" category.

2. Individual User Requirements for Municipal Providers and Individual Users – The following modifications were made to Section 5-112, Individual User Requirements for Municipal Providers and Individual Users:

   a. Section 5-112(A)(3) was modified by deleting the language allowing a municipal provider or individual user to obtain a waiver from the landscaping requirements in publicly owned rights-of-way if a waiver is in the public interest. New language was added allowing a waiver only if plants listed on the Department's Low Water Use Plant List cannot grow in the right-of-way because of high elevation or low-light conditions.

   b. Section 5-112(A)(4) was modified by deleting the language allowing a municipal provider or individual user to obtain a waiver from the regulation prohibiting new water features within publicly owned rights-of-way.

   c. Section 5-112(B) was modified to conform to legislation enacted in 2002 regarding responsibility for compliance with individual user conservation requirements.

Chapter 6, Industrial Conservation Program

1. Conservation Requirements for All Industrial Users – The following modifications were made to Section 6-202, Conservation Requirements for All Industrial Users:

   a. Section 6-202(5) was modified by deleting the language allowing an industrial user to obtain a waiver from the landscaping requirements in publicly owned rights-of-way if a waiver is in the public interest. New language was added allowing a waiver only if plants listed on the Department's Low Water Use Plant List cannot grow in the right-of-way because of high elevation or low-light conditions.

   b. Section 6-202(6) was modified by deleting the language allowing an industrial user to obtain a waiver from the regulation prohibiting new water features within publicly owned rights-of-way.

2. Conservation Requirements for New Large Landscape Users – Section 6-1001 was modified to exclude schools, parks, cemeteries, golf courses, common areas of housing developments and public recreational facilities from the conservation requirements for new large landscape users.

Chapter 9, Water Management Assistance Program

Chapter 9 was modified to conform the chapter to legislation requiring state agencies to follow specific procedures in soliciting and awarding grants.

The official language of the modifications described above are set forth in the pages that follow. The Department appreciates the input it received from the Pinal AMA Groundwater Users Advisory Council and the Governor's Agricultural Water Conservation Best Management Practices Advisory Committee in developing the modifications. Anyone desiring more information about the modifications or the Third Management Plan should contact the Pinal AMA office at 520-836-4857.

Sincerely,

Herbert R. Guenther
Director

MODIFICATIONS TO CHAPTER 4,

AGRICULTURAL CONSERVATION PROGRAM

THIRD MANAGEMENT PLAN

PINAL ACTIVE MANAGEMENT AREA

Chapter 4, "Agricultural Conservation Program," of the management plan for the Pinal Active Management Area for the third management period is replaced with the following Chapter 4.

4.1 INTRODUCTION

The Agricultural Conservation Program for the Third Management Plan has been developed to contribute to the achievement of the water management goal for the Pinal Active Management Area (AMA). The goal for the AMA is to allow the development of non-irrigation water uses and to extend the life of the agricultural economies for as long as feasible, while preserving water supplies for future non-agricultural uses.

Only land associated with a certificate of Irrigation Grandfathered Right (IGFR) can be legally irrigated with groundwater within an AMA. A.R.S. § 45-465. These certificates were issued by the Arizona Department of Water Resources (Department) based on crops and acreage planted from the years 1975 to 1980. Land not irrigated during this time period may not be irrigated unless one of the exceptions stated in the Groundwater Code (Code) applies. A.R.S. § 45-452. Except for IGFRs with ten or fewer acres, a person using groundwater pursuant to an IGFR must comply with conservation requirements established in the management plan for each management period. A.R.S. § 45-465. The Agricultural Conservation Program contains three conservation programs for IGFR owners: 1) the Base Program, 2) the Historic Cropping Program, and 3) the Best Management Practices (BMP) Program. For the third management period, the Department will calculate the maximum annual groundwater allotment for each IGFR based on the statutory criteria of the Base Program. However, the owner of the IGFR may opt to enroll in one of the two alternative conservation programs if certain requirements are met. In addition, conservation requirements exist for irrigation districts and private water companies that distribute groundwater for irrigation purposes.

All IGFRs will be regulated under the Base Program unless the owner of the IGFR has been accepted into one of the two alternative conservation programs described below. In most cases under the Base Program, the water duty for a farm unit is calculated based upon its 1975 to 1980 crop history and an assigned irrigation efficiency of 80 percent. The Code provides for participants in the Base Program to borrow or bank groundwater from year to year to allow for varying climatic and market conditions. To meet this provision, the Department maintains an operating flexibility account for each IGFR.

The Historic Cropping Program was the first alternative agricultural conservation program developed by the Department, as required by A.R.S. § 45-566.02(A). Participation in the Historic Cropping Program is strictly voluntary. This alternative program is similar to that of the Base Program in that it is allotment-based. The water duty for the farm unit is calculated based upon its 1975 to 1980 crop history and an assigned irrigation efficiency of 75 percent for most farms. Similar to the Base Program, this program has a flexibility account provision. There is a limit, however, on the total amount of credits that may be accumulated, and the amount of debits that may be accumulated is smaller than under the Base Program.

In 2002, A.R.S. § 45-566.02 was amended by the legislature to require the director to include a BMP Program in the Third Management Plan. Participation in the BMP Program is strictly voluntary. Unlike the Base Program or the Historic Cropping Program, a farmer in the BMP Program agrees to implement specified agricultural conservation practices. To efficiently use water, this program relies upon the implementation of on-farm physical improvements and farm management practices. Since this program is not allotment-based, there is no provision for an operating flexibility account. The BMP Program allows participants flexibility to make decisions concerning their farming operation. As with the Base Program and the Historic Cropping Program, only acres irrigated between 1975 and 1980 may be irrigated under the BMP Program.

In addition to these conservation program requirements, the Department will continue to encourage the efficient use of renewable water supplies by the agricultural sector through other water resource management methods. During the third management period, indirect recharge at groundwater savings facilities, effluent use, and programs supported by water management assistance funds will continue to contribute to the water management activities in the Pinal AMA.

In this chapter, the following topics are discussed in the order listed:

- Statutory Provisions (section 4.2)
- Irrigation Water Duties and Maximum Annual Groundwater Allotments (section 4.3)
- Agricultural Conservation Program Components (section 4.4)
- Non-Regulatory Water Resource Management Strategies (section 4.5)
- Future Directions (section 4.6)
- Agricultural Conservation Requirements and Monitoring and Reporting Requirements (section 4.7)

4.2 STATUTORY PROVISIONS

The Code limits uses of groundwater for irrigation purposes in AMAs in several ways. These statutory provisions are described below.

4.2.1 Third Management Plan Guidelines

A.R.S. §§ 45-566, 566.01, and 566.02 require the director to follow established guidelines in developing management plans for each AMA during the third management period (the years 2000 to 2010). For the agricultural sector, in the plan for each AMA the director:

- Shall establish an irrigation water duty for each farm unit to be reached by the end of the third management period.

- May establish one or more intermediate water duties to be reached at specified intervals during the third management period.

- Shall calculate the irrigation water duty or intermediate water duties as the quantity of water reasonably required to irrigate the crops historically grown in the farm unit. The water duties shall be computed by dividing the total irrigation requirement per acre of those crops by an irrigation efficiency of 80 percent, except that a lower irrigation efficiency may be used for a farm unit or portion of a farm unit determined by the director to have limiting soils or excessive slopes, and for a farm unit where orchard crops were historically grown and continue to be grown.

- After computing the irrigation water duties or intermediate water duties, may adjust the highest 25 percent of the water duties within an area of similar farming conditions by reducing each water duty in an amount up to 10 percent, except that in making the adjustment, no water duty may be reduced to an amount less than the greater of the following:

  (a) The highest water duty within the lowest 75 percent of the water duties computed within the area of similar farming conditions for the third management period.

(b) A water duty computed for the farm unit using an irrigation efficiency of 80 percent.

- Shall grant an exemption from the irrigation water duties at any time during the third management period if an applicant can demonstrate to the director's satisfaction that the applicant's farm unit meets specific hydrologic conditions regarding waterlogging or basin outflow.

- Shall establish additional economically reasonable conservation requirements for the distribution of groundwater by cities, towns, private water companies, and irrigation districts within their service areas.

- Shall provide an historic cropping program as an alternative conservation program that achieves conservation equivalent to the base program required by A.R.S. § 45-566(A)(1). The irrigation water duty shall be calculated similar to the base program but using a lower irrigation efficiency of 75 percent for farm units with non-limiting soils. For farm units with limiting soils, the statute authorizes the director to use an irrigation efficiency as low as 70 percent. The flexibility account provisions of A.R.S. § 45-467 apply except that a credit balance cannot exceed 75 percent of the IGFR's maximum annual groundwater allotment and a debit balance cannot exceed 25 percent of the allotment.

- Shall include in the modification of the management plan for the third management period a best management practices program that is an alternative to the base program required by A.R.S. § 45-566(A)(1), and that the director determines will achieve conservation that is at least as equivalent to that of the base program. The BMP program requires the implementation of specific agricultural conservation practices on the land or farm unit to which the IGFR is appurtenant in lieu of complying with an irrigation water duty and a maximum annual groundwater allotment.

- May establish additional alternative agricultural conservation programs for the third management period through a management plan modification if it is shown that such programs achieve conservation that is at least as equivalent to that required under A.R.S. § 45-566(A)(1).

4.2.2 New Irrigated Lands Prohibited

Under A.R.S. § 45-452, only acres of land which were legally irrigated at any time from January 1, 1975 through January 1, 1980, which are capable of being irrigated and which have not been retired from irrigation or conveyed for a non-irrigation use, may be irrigated with any water unless one of the following exceptions apply:

- Substantial capital investment was made for the subjugation of the land for an irrigation use prior to June 12, 1980. A.R.S. § 45-452(A)(1) and (2).

- Surface water may be used pursuant to decreed or appropriative rights established before June 12, 1980. A.R.S. § 45-452(A).

- Existing acreage irrigated with surface water may be replaced with new acreage if the surface water right is severed and transferred to the new acreage. A.R.S. § 45-172.

- State universities may irrigate new acreage not to exceed a total of 320 acres of land with not more than five acre-feet of groundwater per acre per year. A.R.S. § 45-452(H).

- Correctional facilities under the jurisdiction of the Arizona Department of Corrections may irrigate new acreage not to exceed a total of ten acres of land with not more than 4.5 acre-feet of water per acre per year for the purpose of producing plants for consumption by inmates as part of a prisoner work program. A.R.S. § 45-452(J).

- Existing acreage may be replaced with new acreage if the substitution is necessary to enable an irrigation district to more efficiently serve CAP water. A.R.S. § 45-452(B).

- Existing acreage damaged by floodwater may be replaced with new acreage. A.R.S. § 45-465.01.

- Existing acreage which has a condition that limits irrigation efficiency may be replaced with new acreage. A.R.S. § 45-465.02.

4.2.3 Maximum Annual Groundwater Allotments

Under A.R.S. § 45-465, all persons using groundwater pursuant to an IGFR, except those whose water use is regulated under the BMP Program or whose IGFR is appurtenant to ten or fewer acres, must comply with a maximum annual groundwater allotment. The maximum annual groundwater allotment for each IGFR is determined by multiplying the irrigation water duty for the IGFR by the water duty acres in the farm. The irrigation water duty is the annual amount of water in acre-feet per acre that is reasonable to apply to irrigated land to produce the crops historically grown (1975 to 1980) in the farm unit divided by an assigned irrigation efficiency. Water duty acres are the highest number of acres in the IGFR, taking land rotation into account, that were legally irrigated during any one year from 1975 to 1980. The maximum annual groundwater allotment may be used to irrigate any or all of the irrigation acres in the IGFR. Irrigation acres are the acres in the IGFR that were legally irrigated at any time from 1975 to 1980.

4.2.4 Flexibility Account Provisions

In order to provide farmers with sufficient flexibility to address varying climatic conditions and to take advantage of changing agricultural market conditions, the Code requires the director to establish a flexibility (flex) account for each farm that receives a maximum annual groundwater allotment. A.R.S. § 45-467. In 1988, the Department began implementing these provisions in the Pinal AMA.

Under the flex account statute, an owner of an IGFR may accumulate both flex account credits and debits. If an IGFR owner uses groundwater in excess of the farm's maximum annual groundwater allotment, the flex account is debited. A negative balance that exceeds 50 percent of the annual allotment for an IGFR regulated under the Base Program, or 25 percent for a farm regulated under the Historic Cropping Program, results in a violation of the conservation requirement. If an IGFR owner uses less water than the farm's maximum annual groundwater allotment, the flex account is credited. In the Base Program, accrued flex account credits are not limited. In the Historic Cropping Program, the credit balance in a flex account may not exceed 75 percent of the farm's annual allotment. In both programs, flex credits can be used at any time in future years, and may be used to offset a debit. In addition, under certain conditions, IGFR

owners regulated under the Base Program may transfer or convey flex account credits during the second calendar year following the year in which the flex account credits were earned. A.R.S. § 45-467(O). The flex account provisions do not apply to participants in the BMP Program.

4.2.5 Small Irrigation Grandfathered Rights

In 1994, legislation was passed deregulating small IGFRs. A small IGFR is defined as a farm with ten or fewer irrigation acres and that is not part of an integrated farming operation of more than ten acres. Under A.R.S. §§ 45-563.02 and 45-632(D), small IGFRs are not required to report annual water use or comply with water duty limitations. A person using groundwater pursuant to a small IGFR is required to prevent groundwater from flowing off the surface of the fields unless the groundwater is put to a reasonable and beneficial use elsewhere after being approved by the director. Small IGFRs make up about one-third of the total number of IGFRs in the Pinal AMA but account for less than three percent of the total water use.

4.3 IRRIGATION WATER DUTIES AND MAXIMUM ANNUAL GROUNDWATER ALLOTMENTS

The irrigation water duty is the primary component of the Base Program and the Historic Cropping Program and is used to determine the maximum annual groundwater allotment for each IGFR regulated under these programs. This section describes how the Department determines water duties and maximum annual groundwater allotments. This section does not apply to the BMP Program.

4.3.1 Calculation of Irrigation Water Duties

The irrigation water duty is the quantity of water reasonably required per acre to annually irrigate the crops historically grown in a farm unit from 1975 to 1980. The crops historically grown in each farm unit were verified and established during the first management period. The Department calculates the irrigation water duty for each IGFR using the following formula:

$$\textit{Irrigation Water Duty} = \frac{\textit{Total Irrigation Requirement per Acre}}{\textit{Assigned Irrigation Efficiency}}$$

In this formula, the irrigation water duty is calculated by dividing the total water requirements to produce the crops historically grown by an assigned irrigation efficiency. Each component of the formula is discussed below.

4.3.1.1 Assigned Irrigation Efficiencies

In the Base Program, the assigned irrigation efficiency for most farm units is 80 percent as prescribed by A.R.S. § 45-566(A)(1). For those farm units with limiting soils or excessive slopes, the assigned irrigation efficiency has been determined by the director to be 75 percent in the Pinal AMA. Although few farm units in the AMA have lands with excessive slopes, many farm units do have lands with limiting soils or lands with both limiting and non-limiting soils. In such cases, an assigned irrigation efficiency between 75 and 80 percent will be assigned based upon the total number of acres in each category of soil. For farm units where orchard crops were historically grown and continue to be grown, the assigned irrigation efficiency is 75 percent for pecans and 65 percent for citrus.

For the Historic Cropping Program, the assigned irrigation efficiency for farm units with non-limiting soils is 75 percent as prescribed by A.R.S. § 45-566.02. In areas having limiting soils, the director may use an assigned irrigation efficiency of 70 percent for calculating a farm unit's water duty.

4.3.1.2 Total Irrigation Requirement

The total irrigation requirement for each farm unit equals the amount of water needed annually to satisfy the sum of the irrigation requirements for all of the crops historically grown. For each crop, the irrigation requirement (IR) consists of the amount of water needed to meet the consumptive use (CU) requirement of the crop, plus any other needs (ON) that the crop may have, plus any needed leaching allowance (LA), less any effective precipitation (EP). The irrigation requirement is calculated by the following equation:

$$IR = CU + ON + LA - EP$$

The components of the irrigation requirement equation are discussed below.

4.3.1.2.1 Consumptive Use

The consumptive use requirement of a crop is the amount of water used in transpiration and building of plant tissue, together with the amount of water evaporated from adjacent soil during the growing season. Crop consumptive use values are based on research reviewed during the development of the second management plan and commonly used values for the Pinal AMA. Appendix 4A lists the consumptive use requirement for each crop historically grown.

4.3.1.2.2 Other Needs

Water required by certain crops for purposes other than consumptive use is referred to as "other needs" water. Some vegetable crops, such as lettuce, need additional water for germination, cooling, and quality control. The Department makes adjustments for those crops that have "other needs." Appendix 4A lists the "other needs" requirements for crops historically grown in the Pinal AMA.

4.3.1.2.3 Leaching Allowance

In some situations, a crop may require additional water for leaching or deep percolation. A leaching allowance may be necessary to prevent salts from accumulating in the crop root zone when high levels of total dissolved solids (TDS) are present in the irrigation water. If the accumulated salts in the soil profile are not leached below the root zone, soil salinity will increase and eventually inhibit plant growth and yields.

The procedure used to calculate the leaching allowance for a crop is shown by the following equation:

$$LA = \frac{AE}{0.85}\left[CU \left[\frac{1}{1 - \frac{EC_w}{5EC_e - EC_w}} - 1 \right] \right]$$

In this equation, LA = leaching allowance for the crop; AE = assigned irrigation efficiency for the farm unit; CU = consumptive use requirement of the crop; EC_w = electrical conductivity of the irrigation water (expressed in millimhos per centimeter); and EC_e = tolerance of the crop to soil salinity as indicated by the electrical conductivity of the soil saturation extract (expressed in millimhos per centimeter).

Most irrigation water in the Pinal AMA is of adequate quality for irrigation purposes. Consequently, the Department did not include leaching allowances in the calculation of irrigation requirements for crops grown in the AMA. If, however, an IGFR has an irrigation water supply with an EC_w value greater than 1.5 millimhos per centimeter (a concentration of approximately 1,000 milligrams per liter of TDS), the owner of the IGFR may apply to the Department for an administrative review as discussed in Chapter 10.

4.3.1.2.4 Effective Precipitation

Effective precipitation is defined as the amount of precipitation occurring before and during the growing season that is available for plant growth. Because precipitation is minimal and varies considerably by year and location in the Pinal AMA, effective precipitation is difficult to quantify and is not subtracted from the total irrigation requirements for the crops historically grown. However, managing the use of precipitation to offset use of other water supplies could be an important irrigation water management tool.

4.3.2 Calculation of Maximum Annual Groundwater Allotments

The maximum annual groundwater allotment for each IGFR is determined by multiplying the irrigation water duty by the water duty acres. These calculations are governed by A.R.S. § 45-465 (see section 4.2.3).

4.4 AGRICULTURAL CONSERVATION PROGRAM COMPONENTS

The following section describes the Agricultural Conservation Program components for the Third Management Plan. This program consists of three conservation programs for IGFRs: (1) the Base Program, (2) the Historic Cropping Program, and (3) the Best Management Practices Program. The Agricultural Conservation Program also contains irrigation distribution system conservation requirements for irrigation districts and private water companies distributing groundwater for irrigation use. Each of these programs is described below.

4.4.1 Base Program

Pursuant to A.R.S. § 45-566(A)(1), each IGFR owner and any person entitled to use groundwater pursuant to the right will be regulated under the Base Program unless an application for regulation under an alternative conservation program is approved by Department. As required by this statute, the Department will calculate the water duty for each farm unit by dividing the total irrigation requirement per acre of the crops historically grown on the farm unit by an assigned

irrigation efficiency of 80 percent. A lower assigned irrigation efficiency will be used to calculate the water duties for farm units or portions of farm units that are determined by the director as having limiting soils or excessive slopes. In addition, a lower assigned irrigation efficiency will be used to calculate the water duties for farm units where orchard crops were historically grown and continue to be grown. The 80 percent irrigation efficiency used to calculate the water duty was established by legislation enacted in 2002.

The water duty for each farm unit will become effective upon modification of the Third Management Plan. However, the Department will adjust the flex account balances as of January 1, 2000.

A.R.S. § 45-566(A)(1) authorizes the Department, subject to certain limitations, to reduce the highest 25 percent of the water duties within an area of similar farming conditions (see section 4.2.1). The Department chose not to implement this provision for the third management period.

4.4.2 Historic Cropping Program

The Historic Cropping Program was developed by the Department pursuant to A.R.S. § 45-566.02. As required by this statute, the Department will calculate the water duty by dividing the total irrigation requirement per acre of the crops historically grown on the farm unit by an assigned irrigation efficiency of 75 percent. In areas determined by the director to have limiting soils, the director may use an assigned irrigation efficiency of 70 percent for the water duty calculation. As further required by A.R.S. § 45-566.02, the use of flex account provisions will be limited (see section 4.2.4).

In order to enroll in the Historic Cropping Program, an owner of an IGFR must satisfy the following requirements:

- File an application with the Department.
- Reduce any debit balance in the existing flex account to an amount, which does not exceed 25 percent of the existing maximum annual groundwater allotment.
- Reduce any flex account credits in the existing flex account balance to an amount which does not exceed 75 percent of the existing maximum annual groundwater allotment.
- Provide documentation showing that an actual irrigation efficiency of 75 percent has been, or will be, achieved on the farm unit on a seasonal basis or agree to enroll in an irrigation management services program.

Once an IGFR owner has enrolled in the Historic Cropping Program, the owner must remain in the program until the effective date of the conservation requirements established in the Fourth Management Plan unless there is a change in ownership of the IGFR.

Participants in the Historic Cropping Program will be subject to limitations on their ability to accumulate flex account credits and debits. Participants will only be allowed to accrue flex account credits up to 75 percent, and flex account debits up to 25 percent, of their maximum annual groundwater allotments calculated for the Historic Cropping Program. An IGFR owner and any person entitled to use groundwater pursuant to that IGFR are in violation of the IGFR's maximum annual groundwater allotment if the flex account for the IGFR has a debit balance in

excess of 25 percent of the maximum annual groundwater allotment. Participants in the Historic Cropping Program will not be allowed to sell or purchase flex account credits.

Participants in the Historic Cropping Program will be required to comply with certain reporting requirements. Participants must provide information regarding irrigation water management practices, irrigation system type, and the acreage and type of crops grown to assist the Department in determining program effectiveness.

The Historic Cropping Program requires a high level of farm management. Specific entrance and performance criteria must be satisfied, and only IGFR owners may apply. IGFR owners interested in enrolling in the Historic Cropping Program may file an application on a form provided by the Department.

4.4.3 Best Management Practices Program

As required by A.R.S. § 45-566.02(F), the director has modified the Third Management Plan to include a BMP Program. The BMP Program can best be characterized as a commitment to implement certain agricultural conservation practices. The purpose of this program is to provide an alternative conservation program that is designed to be at least as effective in achieving water conservation as the Base Program. Program participants are not restricted to maximum annual groundwater allotments based on the crops historically grown. Instead, they are required to implement specific agricultural conservation practices that involve on-farm irrigation system improvements and increased farm management. This combination of applied physical and management improvements is designed to assist a farmer in achieving a high level of on-farm seasonal irrigation efficiency.

BMPs are approved practices that can be used by farmers to increase the overall water use efficiency of the farm. In order to meet the changing demands of agricultural production, irrigation system improvements and a high level of farm management are essential. The Department, with assistance from the agricultural community, has developed a menu of approved BMPs to ensure that individual farmers may select those practices that provide the best opportunity for increased water savings and efficient operation of their farm.

Approved BMPs are listed in Appendix 4B and are separated into four distinct categories: 1) Water Conveyance System Improvements, 2) Farm Irrigation Systems, 3) Irrigation Water Management, and 4) Agronomic Management. Each category contains specific BMPs that have been approved by the Department, with point values based on their potential contribution for water conservation. To ensure a balance between categories, an applicant to the BMP program may only score a maximum of three points in each category. Furthermore, the applicant must score a minimum of two points in the Farm Irrigation Systems category, a minimum of one point in the other three categories, and at least 10 points overall. The applicant may select a BMP in Category 1 or 2 only if the BMP has already been installed and is being used on the farm at the time the application is filed. The applicant may select a BMP in Category 3 or 4 only if the BMP will be implemented annually during the time the farm is regulated under the BMP Program. In order to receive points for agricultural conservation practices in Category 3 or 4 that are not approved BMPs described in Appendix 4B, the applicant must demonstrate to the Department that such practices will likely result in water savings that are at least equivalent to that of the approved BMPs.

In order to enroll in the BMP Program, an individual must apply to the director on a form prescribed and furnished by the Department. If all eligibility requirements are met, the director will approve the application. The applicant must also submit the following:

- A current farm map that shows all existing improvements to the farm unit respective to water conveyance and farm irrigation systems.

- If the applicant is leasing the land, a signed affidavit from the owner of each IGFR for which the application is filed, stating that the owner agrees to regulation under the BMP Program until the conservation requirements in the Fourth Management Plan become effective. The Department will develop a policy that will allow the owner and the Department to agree to specific terms of compliance at the time the application is filed, so that the owner will know at that time the extent of the owner's liability for any violations of the BMP Program while the land is leased.

It should be noted that under the BMP Program, it is possible to include multiple IGFRs under a single BMP enrollment as long as the IGFRs are contiguous or in close proximity to each other and are part of a single farm unit. Once enrolled in the BMP Program, the IGFR owner and any person using groundwater pursuant to the right (e.g. farm operator or lessee) will be regulated under the BMP program until the Fourth Management Plan requirements become effective, unless there is a change in ownership of the farm unit. New owners of IGFRs may elect to have the IGFR enrolled in another conservation program.

An IGFR owner enrolled in the BMP Program may, under certain conditions, be allowed to withdraw from the BMP Program if the owner demonstrates to the director that the owner has been unable to find a person willing to lease the IGFR and be regulated under the BMP Program. If a person regulated under the BMP Program acquires land with an IGFR not enrolled in the BMP Program or leases land with an IGFR not enrolled in the BMP Program, the person may apply to have the IGFR enrolled in the BMP Program.

While enrolled in the program, the participant must implement all BMPs selected in the application approved by the Department, except that the owner or lessee of the farm unit may replace a selected BMP in Category 3 or 4 with a different BMP under certain conditions. A BMP selected in Category 3 or 4 may be replaced with an approved BMP in the same category without prior approval of the Department. However, the owner or lessee of the farm unit must give the Department written notice of the replacement within thirty days after the replacement occurs.

A BMP selected in Category 3 or 4 may also be replaced with a substitute practice in the same category only if the owner or lessee of the farm unit applies to the Department and the Department approves the application. The Department will approve an application for replacement of a selected BMP if it finds that implementation of the substitute practice will likely result in water savings on the farm at least equivalent to the water savings that would result from implementation of the selected BMP.

4.4.3.1 BMP Advisory Committee

The Governor signed an executive order in May 2002 establishing the Agricultural Water Conservation Best Management Practices Advisory Committee (BMP Advisory Committee) until adoption of the Fourth Management Plan. The BMP Advisory Committee consists of 11 members. Membership includes the director of the Department of Water Resources, the director

of the Arizona Department of Agriculture, the director of the U.S. Department of Agriculture's Water Conservation Laboratory, seven members representing various agricultural interests, and a member representing municipal interests.

The purpose of the BMP Advisory Committee is to advise the director of the Arizona Department of Water Resources on the development of a BMP Program that is suitable for most farmers. In consultation with the Department and the agricultural community, the BMP Advisory Committee will review and analyze data collected during the third management period regarding the effectiveness and administration of the BMP Program. Based on this information, the BMP Advisory Committee may recommend changing or terminating the program, and may also recommend the structure of a BMP Program for subsequent management periods.

4.4.4 Irrigation Distribution System Conservation Program

For the third management period, the director is required to establish "additional economically reasonable conservation requirements for the distribution of groundwater by cities, towns, private water companies and irrigation districts within their service areas." A.R.S. § 45-566(A)(5). The same conservation requirements were required by the Second Management Plan. A.R.S. § 45-565(A)(5).

In the Second Management Plan, private water companies and irrigation districts which distributed 20 percent or more of their total water deliveries for irrigation use by January 1, 1990, were required to reduce their irrigation distribution system lost and unaccounted for water either by lining all their canals, or by operating their delivery systems so that the total quantity of lost and unaccounted for water was 10 percent or less of the total quantity of water withdrawn, diverted, or received during a year. These requirements became effective upon the commencement of operation or January 1, 2000, whichever was later. A Department review of the conservation practices of the largest irrigation districts has shown that most districts are achieving the Second Management Plan distribution system conservation requirements.

For the Third Management Plan, the irrigation distribution system conservation requirements established in the Second Management Plan will continue to apply to irrigation districts and private water companies which, as of January 1, 2000, distributed 20 percent or more of their total water deliveries for irrigation use. These irrigation districts and private water companies will be required to reduce their irrigation distribution system lost and unaccounted for water by lining all their canals, or by operating their delivery systems so that the total quantity of lost and unaccounted for water is 10 percent or less of the total quantity of water withdrawn, diverted, or received during a year. These requirements are effective upon the commencement of operation or by January 1, 2002, whichever is later.

If a private water company or irrigation district has economic circumstances which prevent timely compliance with the irrigation distribution system conservation requirements, a variance of up to five years may be requested as provided by A.R.S. § 45-574. Information submitted in support of the variance request must include a complete water loss reduction plan prepared by a registered civil engineer that contains:

- A complete construction design document that shows specifications for repairing or modifying the irrigation distribution system. The document must include material specifications, proposed design specifications, installation and construction specifications, and any other engineering information or specifications necessary to complete the proposed rehabilitation of the distribution system.

- A detailed list of engineering costs and the proposed investment options designed to pay for the system improvements.

- The final completion date for the rehabilitation.

- If applicable, a system operating guide to reduce lost and unaccounted for water to a minimum. This guide may be modified as the rehabilitation progresses.

The procedures for obtaining a variance are described in Chapter 10, section 10.3.1.

4.4.5 Use of Remediated Groundwater

In 1997, legislation was enacted that significantly revised the Water Quality Assurance Revolving Fund (WQARF) Program to provide incentives for the use of remediated groundwater to facilitate the treatment of contaminated groundwater. This legislation provides that the Department shall account for the use of groundwater withdrawn pursuant to an approved remedial action project as surface water when determining compliance with management plan conservation requirements. Laws 1997, Ch. 287, § 51(B). The criteria that must be met to qualify for this accounting are set forth in section 4-107 of the Agricultural Conservation Requirements and Monitoring and Reporting Requirements. Groundwater withdrawn pursuant to an approved remedial action project retains its legal character as groundwater for all other purposes under Title 45, Arizona Revised Statutes. For more information on the statutory mandates for the Department's involvement in the WQARF Program, see Chapter 7, section 7.4.4.6.3.

4.5 NON-REGULATORY WATER RESOURCE MANAGEMENT STRATEGIES

In addition to the agricultural conservation programs described above, there are other water resource management strategies that are available to achieve the water management goal for the Pinal AMA. These strategies are described below.

4.5.1 Direct Use of Renewable Water Supplies

4.5.1.1 CAP Water Use

The Pinal AMA should encourage the importation and use of Central Arizona Project (CAP) water supplies while they are available. Because non-Indian agriculture is the largest water use sector in the AMA, it is critical that CAP water continues to be used as a replacement supply for groundwater for as long as such supplies are available. During the third management period, groundwater overdraft in the AMA may be significantly reduced through the utilization of CAP water supplies. Since CAP water first became available in 1987, groundwater use in the AMA has been significantly reduced.

4.5.1.2 Effluent Use

In 1991, the Legislature amended A.R.S. § 45-467 to exclude effluent from consideration in determining the amount of any debit to be registered to a farm's flex account. Laws 1991, Ch. 112, § 3. Under this amendment, a person using groundwater on a farm pursuant to an IGFR may use an unlimited amount of effluent on the farm without any debit being registered to the farm's flex account as a result of effluent use. This amendment has created an incentive for the use of effluent.

During the third management period, the Department will study alternatives to increase the use of effluent. In the past, effluent utilization for agricultural irrigation has been limited mostly by the lack of necessary infrastructure. Other requirements, such as the wastewater reuse rules adopted by the Arizona Department of Environmental Quality, have limited the types of crops that can be irrigated solely by effluent. As effluent treatment techniques improve and more effluent becomes accessible to the agricultural sector, the Arizona Department of Water Resources expects that effluent use for agricultural purposes will increase.

4.5.2 Groundwater Savings Program (Indirect Recharge)

A reduction in agricultural groundwater use has occurred in the Pinal AMA as a result of indirect recharge opportunities that were first authorized by the Legislature in 1990 and later reauthorized in 1994 as the groundwater savings program. Laws 1994, Ch. 291, § 32; Laws 1990, Ch. 176, § 14. Historically, most agricultural water use in the AMA was supplied by groundwater. In the late 1980s, much of the agricultural sector in the AMA began to utilize CAP water. In the early 1990s, agriculture's use of CAP water increased significantly through incentives provided by the indirect recharge program and arrangements made initially with the Central Arizona Water Conservation District (CAWCD), which operates the CAP delivery system, and later with the newly established Arizona Water Banking Authority (AWBA). This increased use of incentive priced CAP water for indirect recharge by agriculture has reduced the current groundwater use. However, the long-term storage credits earned may be recovered and used in the future by CAWCD and AWBA.

4.5.3 Conservation Assistance

The Department has provided conservation assistance funds to reduce agricultural water use in the Pinal AMA. One important example is the Irrigation Management Service (IMS). The IMS is a cooperative program of the Natural Resources Conservation Districts, the U.S. Natural Resources Conservation Service, the Department, and more recently the U.S. Bureau of Reclamation (USBR). The IMS provides irrigation scheduling, application rate information, and water management education to numerous farmers.

During the third management period, conservation assistance monies may be used to fund water conservation programs designed by the Department and other entities to assist the agricultural sector in the Pinal AMA. The Department will support programs that promote efficient agricultural water use and, more particularly, the use of BMPs. For example, monies could be used to assist farmers with irrigation water management practices and efficient irrigation systems. Conservation assistance funds could also be used to facilitate BMP education, extension, and public outreach efforts. In addition, these funds could be used to study individual conservation practices, identify promising new practices, and assess the overall effectiveness of the BMP Program. The AMA's Water Management Assistance Program is described more fully in Chapter 9.

4.6 FUTURE DIRECTIONS

In order to help preserve agricultural economies for as long as feasible, it will be necessary to fully utilize available renewable water supplies while reducing demand through improvement of on-farm irrigation systems and increased farm management.

During the third management period, the Department will continue to provide the agricultural sector with technical and conservation planning assistance to reduce its reliance on groundwater supplies. The Department will investigate programs that may encourage the increased use of effluent, Colorado River water, and other renewable supplies. In addition, agreements among irrigation districts in the Pinal AMA, USBR, the Gila River Indian Community, and the Tohono O'odham Nation to limit groundwater pumping by the districts in the vicinity of the two Indian reservations will be monitored for potential benefits to non-Indian agricultural operations.

The Department will continue to work cooperatively with the agricultural community to ensure that existing conservation requirements are effective and appropriate. In addition, the Department will work closely with the BMP Advisory Committee throughout the third management period to ensure that the BMP Program is an effective and efficient agricultural water conservation program. As part of this effort, the Department, in conjunction with the BMP Advisory Committee, will monitor and analyze both existing and newly implemented BMPs.

The Department will also continue to monitor crop and water use patterns during the third management period to assess agriculture's impact on achieving the goal for the Pinal AMA and to evaluate the effects of Department programs on farming operations. The impacts of the agricultural market on water use trends will also be evaluated for future planning needs.

The Agricultural Conservation Program for the Third Management Plan is a step toward achieving the water management goal for the Pinal AMA. During the third management period, this program will continue to be evaluated for its effectiveness in achieving that goal.

4.7 AGRICULTURAL CONSERVATION REQUIREMENTS AND MONITORING AND REPORTING REQUIREMENTS

4-101. Definitions

In addition to the definitions set forth in Chapters 1 and 2 of Title 45 of the Arizona Revised Statutes, the following words and phrases used in sections 4-101 through 4-107 of this chapter shall have the meanings set forth below, unless the context otherwise requires:

1. *"Assigned Irrigation Efficiency" is defined as the irrigation efficiency used to compute the irrigation water duty for the third management period pursuant to A.R.S. §§ 45-566 and 45-566.02.*

2. *"Canal" is defined as a waterway constructed for the purpose of transporting water to a point of delivery, including main canals and lateral canals.*

3. *"Farm" is defined under A.R.S. § 45-402.*

4. *"Farm Unit" is defined under A.R.S. § 45-402.*

5. *"Flexibility Account" is an account maintained under A.R.S. § 45-467.*

6. *"Irrigation Acre" is defined under A.R.S. § 45-402.*

7. *"Irrigation Distribution System" is defined as a system of canals, flumes, pipes, or other works that are owned or operated by an irrigation district or private water company and used to deliver water for irrigation use.*

8. *"Irrigation Water Duty" is defined under A.R.S. § 45-566 which, for the Third Management Plan, is the total irrigation requirement to produce the crops historically grown divided by the assigned irrigation efficiency.*

9. *"Lost Water" is defined as water from any source, including effluent, which enters an irrigation distribution system and is lost from the system during transportation or distribution due to seepage, evaporation, leaks, breaks, phreatophyte use, or other causes*

10. *"Maximum Annual Groundwater Allotment" is defined as the maximum amount of groundwater that may be used per year for the irrigation of each irrigation acre in the farm that is calculated pursuant to A.R.S. § 45-465.*

11. *"On-farm Seasonal Irrigation Efficiency" is defined as the total water requirements to produce a crop divided by the total quantity of water actually applied to that crop during one growing season.*

12. *"Total Quantity of Lost and Unaccounted for Water" is defined as the total quantity of water from any source, including effluent, withdrawn, diverted, or received by an irrigation district or private water company during a calendar year less the total deliveries of water from any source, including effluent, made by the irrigation district or private water company during the calendar year that*

are measured or estimated based on a generally accepted method of estimating water use.

13. "Water Duty Acres" is defined under A.R.S. § 45-461.

4-102. Base Agricultural Conservation Program Requirements

A. *Unless the owner of a Certificate of Irrigation Grandfathered Right ("IGFR") has applied and been approved for regulation under the Historic Cropping Program described in section 4-103 or the Best Management Practices Program described in section 4-104, the IGFR owner and any person who is entitled to use groundwater pursuant to that IGFR shall comply with this section.*

B. *The IGFR owner and any person entitled to use groundwater pursuant to that IGFR shall comply with the irrigation water duty and maximum annual groundwater allotment assigned for the IGFR beginning with calendar year 2003, and during each calendar year thereafter until the first compliance date for any substitute conservation requirement established in the management plan for the fourth management period ("Fourth Management Plan"). The irrigation acres, water duty acres, assigned irrigation efficiency, irrigation water duty and maximum annual groundwater allotment for each IGFR in the Pinal Active Management Area are set forth in the document entitled "Supplement I to the Third Management Plan for the Pinal Active Management Area," which is incorporated herein by reference and which is available for inspection and copying at the Arizona Department of Water Resources' office in Phoenix and Casa Grande, Arizona.*

C. *The IGFR owner and any person entitled to use groundwater pursuant to that IGFR may use the maximum annual groundwater allotment assigned for the right in Supplement I to irrigate only the irrigation acres to which the right is appurtenant.*

The IGFR owner and any person entitled to use groundwater pursuant to that IGFR shall not use water for irrigation purposes during a calendar year in an amount which exceeds the maximum annual groundwater allotment assigned to the right in Supplement I, except as provided by the flexibility account provisions of A.R.S. §45-467 and any rules adopted by the director.

D. *Pursuant to A.A.C. R12-15-1013, the IGFR owner and any person using groundwater pursuant that IGFR shall keep and maintain, for at least three calendar years following the filing of an annual report required by A.R.S. § 45-632, all records which may be necessary to verify the information and data contained in the annual report.*

4-103. Historic Cropping Program

A. Application for Regulation under the Historic Cropping Program

Only an owner of an IGFR may apply to be regulated under the Historic Cropping Program. Beginning January 1, 2000, an application may be filed by an IGFR owner at any time prior to the first compliance date for the agricultural conservation requirements established in the Fourth Management Plan. An

application for regulation under the Historic Cropping Program shall be on a form prescribed and furnished by the director and shall include the following information:

1. *The name, address, and phone number of the IGFR owner.*

2. *The number of the Certificate of Irrigation Grandfathered Right.*

3. *The name, address, and phone number of any person entitled to use groundwater under the IGFR.*

4. *For each of the three previous years, the number of acres and types of crops planted and the amount of water used to irrigate the planted acres.*

5. *For each of the three previous years, the type of irrigation system which has been used, including percent of slope, length of runs, and method of field application.*

6. *For each of the three previous years, a description of all water conservation practices used on the farm, including the name of any conservation program or irrigation water management service used on the farm.*

B. Criteria for Approval of Application

The director shall approve an application for regulation under the historic cropping program if all of the following requirements are satisfied:

1. *The application is found to be complete and correct.*

2. *Any negative flexibility account balance in the farm's flexibility account does not exceed 25 percent of the maximum annual groundwater allotment in effect at the time that the application is made.*

3. *Any positive flexibility account balance in the farm's flexibility account does not exceed 75 percent of the maximum annual groundwater allotment in effect at the time that the application is made. In order to satisfy this requirement, the IGFR owner may sell or convey any excess credits as provided by A.R.S. § 45-467 or the IGFR owner may relinquish any excess credits.*

4. *The IGFR owner demonstrates that the average on-farm seasonal irrigation efficiency achieved on the farm's irrigation acres during the previous three years was 75 percent or greater. If the IGFR owner cannot demonstrate that an average on-farm seasonal irrigation efficiency of at least 75 percent has been achieved during the previous three years, the IGFR owner shall agree in writing to develop and implement at least one of the following:*

    a. *Enroll in a Department-sponsored or private irrigation management services program throughout the entire third management period or until the IGFR owner can demonstrate to the director that an average on-farm seasonal irrigation efficiency of at least 75 percent has been achieved*

during the previous three years.

b. *Implement water conveyance system or farm irrigation system improvements, approved by the director, designed to enable the IGFR owner to achieve an on-farm seasonal irrigation efficiency of at least 75 percent.*

C. Historic Cropping Program Requirements

An IGFR owner whose application has been approved for regulation under the Historic Cropping Program and any person using groundwater pursuant to that IGFR shall comply with all of the following:

1. *The irrigation water duty and maximum annual groundwater allotment established by the director under this section, beginning with the calendar year in which the IGFR owner is accepted into the Historic Cropping Program, and continuing thereafter until the first compliance date for any substitute conservation requirement established in the Fourth Management Plan. The director shall establish the irrigation water duty and maximum annual groundwater allotment in the same manner that the director established the irrigation water duty and maximum annual groundwater allotment assigned to the IGFR in the Base Agricultural Conservation Program described in section 4-102, except that the director shall use an assigned irrigation efficiency of 75 percent. In areas deemed by the director to have limiting soils, the director may use an assigned irrigation efficiency as low as 70 percent.*

2. *May use the maximum annual groundwater allotment assigned to the IGFR to irrigate only the irrigation acres to which the IGFR is appurtenant.*

3. *Not use water for irrigation purposes during a calendar year in an amount which exceeds the maximum annual groundwater allotment assigned to the right, except as provided in the flexibility account provisions of A.R.S. § 45-467, as modified in subsection D of this section, and any rules adopted by the director.*

D. Flexibility Account Provisions

Under the Historic Cropping Program, the flexibility account provisions of A.R.S. § 45-467 shall apply to the IGFR owner and any person entitled to use groundwater under that IGFR with the following modifications:

1. *If the amount of water used to irrigate the farm in any year is less than the maximum annual groundwater allotment established for the farm pursuant to subsection C, paragraph 1 of this section, the amount of any credit registered to the farm's flexibility account pursuant to A.R.S. § 45-467 shall not exceed the difference between the existing balance in the account and a positive account balance of 75 percent of the maximum annual groundwater allotment. The director shall not register a credit to the farm's flexibility account in any year in which the account has an existing positive account*

balance equal to or greater than 75 percent of the maximum annual groundwater allotment.

2. *The IGFR owner and any person entitled to use groundwater under that IGFR who are regulated under the Historic Cropping Program shall not:*

   a. *Purchase flexibility account credits from, or sell flexibility account credits to, another IGFR owner or any other person entitled to use groundwater under another IGFR regardless of whether they are regulated under the Historic Cropping Program.*

   b. *Transfer credits from the flexibility account of one farm to another farm even if the farms are owned by the same IGFR owner.*

3. *The maximum excess amount of groundwater that may be used pursuant to A.R.S. § 45-467 shall not exceed 25 percent of the maximum annual groundwater allotment established for the farm pursuant to subsection C, paragraph 1 of this section. The IGFR owner and any person entitled to use groundwater under that IGFR violate this section if the flexibility account maintained for the IGFR is in arrears at any time in excess of this amount.*

E. Reporting Requirements

1. *In addition to the information required to be submitted in the annual report required by A.R.S. § 45-632, the IGFR owner or any person entitled to use groundwater pursuant to that IGFR shall submit the following information on a form prescribed by the director, regardless of whether an irrigation district files the annual report on behalf of the IGFR owner:*

   a. *The name, address, and phone number of any person entitled to use groundwater under the IGFR.*

   b. *The number of acres and types of crops planted and the amount of water used to irrigate the planted acres.*

   c. *The type of irrigation system which has been used, including percent of slope, length of runs, and method of field application.*

   d. *A description of all water conservation practices used on the farm, including the name of any conservation program or irrigation water management service used on the farm.*

2. *Pursuant to A.A.C. R12-15-1013, the IGFR owner and any person using groundwater pursuant the IGFR shall keep and maintain, for at least three calendar years following the filing of the form, all records which may be necessary to verify the information and data contained therein.*

F. Duration of Regulation under Historic Cropping Program

1. *Except as provided in paragraph 2 of this subsection, after the director approves an application for regulation under the Historic Cropping Program, the IGFR owner and any person entitled to use groundwater pursuant to that right shall be*

regulated under the Historic Cropping Program until the first compliance date for any substitute agricultural conservation requirement established in the Fourth Management Plan.

2. *After the director approves an application for regulation under the Historic Cropping Program, a subsequent owner of the IGFR may file with the director a written request to withdraw from the Historic Cropping Program within 90 days after acquiring an ownership interest in the IGFR. The director shall grant the request unless the director determines that the transfer of ownership was made solely for the purpose of circumventing the provisions of paragraph 1 of this subsection, in which case the request will be denied.*

4-104. Best Management Practices Program

A. Application for Regulation under the Best Management Practices Program

An owner of an IGFR or any person using groundwater pursuant to that IGFR may apply to be regulated under the Best Management Practices ("BMP") Program at any time prior to the first compliance date for the agricultural conservation requirements established in the Fourth Management Plan. One application may be filed for multiple IGFRs if the IGFRs are contiguous or in close proximity to each other and are within the same farm unit. An application for regulation under the BMP Program shall be on a form prescribed and furnished by the director and shall include the following information:

1. *The name, address, and phone number of the applicant.*

2. *The certificate number(s) of Irrigation Grandfathered right for which the application is filed.*

3. *The name of the farm or farm unit (if applicable).*

4. *The current balance in the flexibility account for the farm.*

5. *If the applicant is not the owner of an IGFR for which the application is filed, a signed affidavit from the owner of that IGFR stating that the owner agrees to regulation under the BMP Program until the effective date of any substitute conservation requirements established in the Fourth Management Plan, except as provided in subsection I, paragraph 2 of this section.*

6. *A current farm plan map showing all existing improvements to the farm unit's water conveyance system and farm irrigation systems.*

7. *An identification of those BMPs described in Appendix 4B that the applicant selects to implement on the farm while regulated under the BMP Program. In selecting BMPs:*

    a. *The applicant shall select at least one BMP in each of the four BMP Categories described in Appendix 4B: Category 1 (water conveyance system improvements), Category 2, (farm irrigation systems), Category 3*

(irrigation water management practices), and Category 4 (agronomic management practices). The BMP or BMPs selected in a category shall have a maximum of three points using the point value determination described in that category. The BMP or BMPs selected in BMP Categories 1, 3, and 4 shall have a minimum of one point, and the BMP or BMPs selected in BMP Category 2 shall have a minimum of two points. The total number of points for all BMPs selected by the applicant shall be at least ten points.

b. A BMP may be selected in BMP Category 1 or BMP Category 2 only if the BMP has already been installed and is being used on the farm at the time the application is filed. A BMP may be selected in BMP Category 3 or BMP Category 4 only if the BMP will be implemented on the farm annually while water use on the farm is regulated under the BMP Program.

c. If the applicant selects a substitute practice in BMP Category 3 or BMP Category 4 as described in Appendix 4B, the applicant shall describe the substitute practice in detail and demonstrate that the practice will likely achieve water savings on the farm at least equivalent to the water savings that would result from implementation of an approved BMP in that category.

B. Criteria for Approval of Application

The director shall approve an application for regulation under the BMP program if all of the following requirements are satisfied:

1. The application is found to be complete and correct, and the BMPs selected by the applicant under subsection A, paragraph 7 of this section meet the requirements of that paragraph.

2. The applicant is not currently out of compliance with any agricultural conservation requirement in this Chapter. This paragraph does not apply to a violation of a conservation requirement if the violation has been resolved by the Department through a stipulation and consent order or other mechanism and the applicant is not in violation of that stipulation and consent order or other mechanism.

3. If the BMPs selected by the applicant under subsection A, paragraph 7 of this section include a substitute practice in BMP Category 3 or BMP Category 4 as described in Appendix 4B, the applicant has demonstrated to the satisfaction of the director that the substitute practice will likely achieve water savings on the farm at least equivalent to the water savings that would result from implementation of an approved BMP in that category.

C. Exemption from Maximum Annual Groundwater Allotment Conservation Requirements

After the director approves an application for regulation under the BMP Program, the owner of an IGFR included in the application, and any person using

groundwater pursuant to that IGFR, are exempt from the maximum annual groundwater allotment conservation requirements set forth in section 4-102 beginning on January 1 of the first calendar year after the application for enrollment into the BMP Program is approved, unless the director approves an earlier date.

D. BMP Program Requirements

After the director approves an application for regulation under the BMP Program, the owner of an IGFR included in the application, and any person using groundwater pursuant to that IGFR, shall comply with all of the following:

1. *The IGFR owner and any person entitled to use groundwater under that IGFR shall implement all selected BMPs in the application approved by the director under this section, beginning on January 1 of the first calendar year after the application for enrollment into the BMP Program is approved, unless the director approves an earlier date, and continuing thereafter until the first compliance date for any substitute conservation requirement established in the Fourth Management Plan. If a selected BMP has been replaced with a new BMP pursuant to subsection E of this section, the IGFR owner and any person entitled to use groundwater pursuant to that IGFR shall implement the new BMP in lieu of the selected BMP.*

2. *The IGFR owner, and any person entitled to use groundwater under that IGFR, may use groundwater to irrigate only the irrigation acres to which the IGFR is appurtenant.*

E. Replacement of an Existing BMP with a New BMP after Acceptance into BMP Program

After the director approves an application for regulation under the BMP Program, the owner of an IGFR included in the application, or any person using groundwater pursuant to that IGFR, may:

1. *Replace a BMP selected in BMP Category 3 or BMP Category 4 in the application approved by the director with an approved BMP in the same category as described in Appendix 4B if the applicant notifies the director in writing of the replacement within thirty days after the replacement occurs.*

2. *Apply to the director to replace a BMP selected in BMP Category 3 or BMP Category 4 in the application approved by the director with a substitute practice in the same category as described in Appendix 4B. The director shall approve the application if the director determines that implementation of the substitute practice will likely result in water savings on the farm at least equivalent to the water savings that would result from implementation of the BMP selected in the application approved by the director.*

F. Requirement of New Lessee to Apply for Participation in BMP Program

1. *After the director approves an application for regulation under the BMP*

Program under subsection B of this section, any person who subsequently acquires a leasehold interest in the land enrolled in the program shall file with the director an application to participate in the BMP Program prior to using water on the land. The application shall be on a form prescribed and furnished by the director and shall contain the following information:

a. The applicant's name, address and telephone number.

b. The certificate number(s) of Irrigation Grandfathered right for which the application is filed.

c. A certification that the applicant agrees to be regulated under the BMP Program while leasing the land and an identification of all BMPs the applicant agrees to implement while leasing the land. The BMPs shall meet the requirements set forth in subsection A, paragraph 7 of this section.

d. Any other information required by the director.

2. The director shall approve an application to participate in the BMP Program filed under paragraph 1 of this subsection if the application meets all of the requirements set forth in subsection B of this section. If the director denies the application, the applicant shall file a new application to participate in the BMP Program within thirty days after receiving notice of the director's decision or, if the applicant files a timely notice of appeal of the decision and the appeal is denied, within thirty days after receiving notice of the denial of the appeal. In the new application, the applicant shall make a good faith effort to correct the deficiencies that the director identifies with the first application. If the director denies the new application, both the owner of the IGFR and the applicant shall be regulated under the Base Agricultural Conservation Program in section 4-102.

G. Flexibility Account Provisions

Under the BMP Program, the flexibility account provisions of A.R.S. § 45-467 shall not apply to the IGFR owner and any person entitled to use groundwater under that IGFR. Upon acceptance into the BMP Program, the balance in the farm's flexibility account at the time of acceptance into the BMP Program shall remain unchanged until water use on the farm is no longer regulated under the BMP program.

H. Reporting Requirements

In addition to the information required to be submitted in the annual report required by A.R.S. § 45-632, the IGFR owner or any person entitled to use groundwater pursuant to that IGFR shall submit the following information on a form prescribed by the director by the date the annual report is due, regardless of whether an irrigation district files the annual report on behalf of the IGFR owner:

1. The name, address, and phone number of any person entitled to use groundwater on the farm unit.

2. Certification that all required BMPs have been implemented during the previous

calendar year. Pursuant to A.A.C. R12-15-1013, the person submitting the form shall keep and maintain, for at least three calendar years following the filing of the form, current and accurate records verifying that the BMPs were implemented.

I. Duration of Regulation under BMP Program

1. Except as provided in paragraph 2 of this subsection, after the director approves an application for regulation under the BMP Program, the IGFR owner and any person entitled to use groundwater pursuant to that right shall be regulated under the BMP Program until the first compliance date for any substitute agricultural conservation requirement established in the Fourth Management Plan.

2. After the director approves an application for regulation under the BMP Program:

a. The owner of an IGFR included in the application may file with the director a written request to withdraw from the BMP Program. The director shall grant the request if the owner demonstrates to the satisfaction of the director that both of the following apply:

1) The owner of the IGFR desires to lease the land to which the IGFR is appurtenant to a lessee for a term of at least one year, but the owner has been unable to find a lessee willing to be regulated under the BMP Program, after making a good faith effort to find such a lessee.

2) The owner of the IGFR has found a person that will lease the land for a term of at least one year if the owner is allowed to withdraw from the BMP Program, and that person did not previously lease the land while the owner was regulated under the BMP Program.

b. A subsequent owner of the IGFR may file with the director a written request to withdraw from the BMP Program within 90 days after acquiring an ownership interest in the IGFR. The director shall grant the request unless the director determines that the transfer of ownership was made solely for the purpose of circumventing the provisions of paragraph 1 of this subsection, in which case the request shall be denied.

4-105. Conservation Requirements for Irrigation Distribution Systems

A. Applicability

The irrigation distribution system conservation requirements set forth in subsection B below apply to irrigation districts and private water companies which, as of January 1, 2000, distribute 20 percent or more of their total water deliveries for irrigation use.

B. Conservation Requirements

By January 1, 2002 or upon commencement of operation, whichever is later, and continuing thereafter until the first compliance date of any substitute requirement in the Fourth Management Plan, each irrigation district and private water company owning or operating an irrigation distribution system shall either:

1. *Line all canals used to deliver water for irrigation use with a material that allows no more lost water than a well-maintained concrete lining, or*

2. *Operate and maintain its distribution system so that the total quantity of lost and unaccounted for water is 10 percent or less of the total quantity of water from any source, including effluent, withdrawn, diverted, or received by the irrigation district or private water company on either a calendar year basis or a three-year average basis based on that calendar year and the two preceding calendar years.*

4-106. Monitoring and Reporting Requirements for Irrigation Districts and Private Water Companies

A. Applicability

The monitoring and reporting requirements set forth in subsection B below apply to irrigation districts and private water companies which, as of January 1, 2000, distribute 20 percent or more of their total water deliveries for irrigation use.

B. Monitoring and Reporting Requirements

For calendar year 2002 and for each calendar year thereafter until the compliance date for any substitute requirement in the Fourth Management Plan, each irrigation district and private water company owning or operating an irrigation distribution system shall submit in its annual report required by A.R.S. § 45-632, the following information as it applies to the irrigation district or private water company:

1. *A map showing the irrigation distribution system, including those portions which have lined canals and those portions which have unlined canals, unless a current map is on file with the Department.*

2. *The number of miles of lined canals and the number of miles of unlined canals in the irrigation distribution system.*

3. *The total quantity of water from any source, including effluent, which was withdrawn, diverted, or received by the irrigation district or private water company during the calendar year.*

4. *The total quantity of water from any source, including effluent, delivered by the irrigation district or private water company to all water users during the calendar year.*

5. *An estimate of the irrigation district's or private water company's total quantity of lost and unaccounted for water for the calendar year. This quantity shall be determined by a generally accepted engineering method.*

4-107. Remediated Groundwater Accounting for Conservation Requirements

A. Accounting

Groundwater withdrawn pursuant to an approved remedial action project under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) or Title 49, Arizona Revised Statutes, and used by a person subject to a conservation requirement established under this chapter, shall be accounted for consistent with the accounting for surface water for purposes of determining the person's compliance with the conservation requirement, subject to the provisions of subsections B through D of this section.

B. Amount of Groundwater Eligible for Accounting

For each approved remedial action project, the annual amount of groundwater that is eligible for the remediated groundwater accounting is the project's annual authorized volume. The annual authorized volume for a remedial action project approved on or after June 15, 1999 is the maximum annual volume of groundwater that may be withdrawn pursuant to the project, as specified in a consent decree or other document approved by the United States Environmental Protection Agency (EPA) or the Arizona Department of Environmental Quality (ADEQ). The annual authorized volume for a project approved prior to June 15, 1999 is the highest annual use of groundwater withdrawn pursuant to the project prior to January 1, 1999, except that if a consent decree or other document approved by the EPA or ADEQ specifies the maximum annual volume of groundwater that may be withdrawn pursuant to the project, the project's annual authorized volume is the maximum annual volume of groundwater specified in that document. The director may modify the annual authorized volume for a remedial action project as follows:

1. *For an approved remedial action project associated with a treatment plant that was in operation prior to June 15, 1999, a person may request an increase in the annual authorized volume at the same time the notice is submitted pursuant to subsection C of this section. The director shall increase the annual authorized volume up to the maximum treatment capacity of the treatment plant if adequate documentation is submitted to the director demonstrating that an increase is necessary to further the purpose of the remedial action project and the increase is not in violation of the consent decree or other document approved by the EPA or ADEQ.*

2. *A person may request an increase in the annual authorized volume of an approved remedial action project at any time if it is necessary to withdraw groundwater in excess of the annual authorized volume to further the purpose of the project. The director shall increase the annual authorized volume up to the maximum volume needed to further the purpose of the project if adequate documentation justifying the increase is submitted to the director and the increase is not in violation of the consent decree or other document approved by the EPA or ADEQ.*

3. *The director shall modify the annual authorized volume of an approved remedial action project to conform to any change in the consent decree or other document approved by the EPA or ADEQ if the person desiring the modification gives the director written notice of the change within thirty days after the change. The*

notice shall include a copy of the legally binding agreement changing the consent decree or other document approved by the EPA or ADEQ.

C. Notification

To qualify for the remediated groundwater accounting provided in subsection A of this section, the person desiring the accounting must notify the director in writing of the anticipated withdrawal of groundwater pursuant to an approved remedial action project under CERCLA or Title 49, Arizona Revised Statutes, prior to the withdrawal. At the time the notice is given, the person desiring the accounting must be using remediated groundwater pursuant to the approved remedial action project or must have agreed to do so through a consent decree or other document approved by the EPA or ADEQ. The notice required by this subsection shall include all of the following:

1. *A copy of the document approved by ADEQ or the EPA, such as the Remedial Action Plan (RAP), Record of Decision (ROD) or consent decree, authorizing the remediated groundwater project. Unless expressly specified in the document, the person shall include in the notice the volume of groundwater that will be pumped annually pursuant to the project, the time period to which the document applies, and the annual authorized volume of groundwater that may be withdrawn pursuant to the project.*

2. *The purpose for which the remediated groundwater will be used.*

3. *The name and telephone number of a contact person.*

4. *Any other information required by the director.*

D. Monitoring and Reporting Requirements

To qualify for the remediated groundwater accounting for conservation requirements as provided in subsection A of this section, groundwater withdrawn pursuant to the approved remedial action project must be metered separately from groundwater withdrawn in association with another groundwater withdrawal authority for the same or other end use. A person desiring the remediated groundwater accounting for conservation requirements shall indicate in its annual report under A.R.S. § 45-632 the volume of water withdrawn and used during the previous calendar year that qualifies for the accounting.

APPENDIX 4A
CONSUMPTIVE USE AND OTHER NEEDS REQUIREMENTS BY CROP
PINAL ACTIVE MANAGEMENT AREA

Crops	Consumptive Use (acre-feet/acre)	Other Needs (acre-feet/acre)
Grain Crops		
Barley	2.08	----
Maize	2.12	----
Millet	2.58	----
Oats	1.83	----
Rye	1.83	----
Grain Sorghum (Single Crop)	2.12	----
Grain Sorghum (Double Crop)	4.29	----
Wheat	2.15	----
Corn	2.12	----
Forage Crops		
Alfalfa	4.06[1]	----
Bermuda Grass	3.63	----
Blue Panic Grass	4.36	----
Clover	4.33	----
Ensilage	2.08	----
Permanent Pasture Mix	5.67	----
Sudan Grass/Sudex	2.58	----
Field Crops		
Castor Beans	3.70	----
Cotton	3.43	----
Cotton (Dry Plant)	3.43	0.33
Flax	2.60	----
Pinto Beans	1.25	----
Safflower	3.78	----
Soybeans	1.85	----
Sugar Beets	3.56	----
Plantago	1.25	----
Guar	1.93	----
Vegetable Crops		
Table Beets	2.00	0.50

APPENDIX 4A
CONSUMPTIVE USE AND OTHER NEEDS REQUIREMENTS BY CROP
PINAL ACTIVE MANAGEMENT AREA

Crops	Consumptive Use (acre-feet/acre)	Other Needs (acre-feet/acre)
Broccoli	1.64	0.50
Cabbage, Early	1.43	0.50
Cabbage, Late	2.04	0.50
Carrots	1.38	0.75
Cauliflower	1.55	0.50
Chili Peppers	2.50	0.50
Sweet Corn	1.63	0.87
Cucumbers, All	1.50	0.50
Lettuce, All	0.71	2.44
Okra	2.50	0.50
Dry Onions	1.94	0.75
Green Onions	1.46	0.75
Parsnips	2.00	0.50
Potatoes	2.03	0.75
Radishes	0.75	0.50
Rappini	2.75	0.50
Turnips/Rutabagas	1.50	0.50
Tomatoes, All	2.00	0.50
Mixed Vegetables	2.00	0.50
Summer Squash/Zucchini	1.75	0.50
Green Manure Crops		
Papago Peas	1.63	----
Sesbania	1.09	----
Small Grains	1.00	----
Vine Crops		
Cantaloupe, Early	1.71	0.50
Cantaloupe, Late	1.40	0.50
Honeydew Melons	2.00	0.50
Watermelons	1.75	0.50
Citrus		
Grapefruit	3.99	----

APPENDIX 4A
CONSUMPTIVE USE AND OTHER NEEDS REQUIREMENTS BY CROP
PINAL ACTIVE MANAGEMENT AREA

Crops	Consumptive Use (acre-feet/acre)	Other Needs (acre-feet/acre)
Lemons/Limes	3.99	----
Oranges, All	3.26	----
Tangerines	3.26	----
Fruits		
Dates	4.92	----
Grapes, All	3.00	0.50
Apricots	4.17	----
Nectarines	4.17	----
Peaches	4.17	----
Plums	4.17	----
Olives	2.58	----
Nuts		
Pecans (with ground cover)	5.83	----
Pecans (without ground cover)	4.50	----
Pistachios	4.33	----
Miscellaneous Crops		
Aloe Vera	1.50	----
Guayule	3.00	----
Jojoba	3.00	----
Christmas Trees	2.50	----
Cut Flowers	3.33	----
Roses	2.50	----
Nursery Stock	3.00	----
Salt Bush	1.50	----
Nursery Cactus	1.25	----

[1] Based on the average yield of alfalfa in Pinal County for the highest year in the historic period 1975 to 1980 and the determined consumptive use rate of 7.5 acre-inches per acre per ton of yield. The average yield was 6.5 tons per acre. For farm units with demonstrated historic yields above this average, the Department assigned higher consumptive use requirements up to the full consumptive use requirement of 6.19 acre-feet per acre.

Sources: Consumptive Use of Water by Major Crops in the Southwestern United States, Conservation Research Report #29, United States Department of Agriculture, Agricultural Research Service. (Provides consumptive use values for major crops in southwestern United States.)

FAO Irrigation and Drainage Paper #24, Food and Agriculture Organization of the United Nations (revised 1977). (Describes Blaney-Criddle method for computing consumptive use values.)

APPENDIX 4B
BEST MANAGEMENT PRACTICES PROGRAM
APPROVED BEST MANAGEMENT PRACTICES

BMP CATEGORY 1. WATER CONVEYANCE SYSTEM IMPROVEMENTS

Description: A farm's water conveyance system allows water to be conveyed from an irrigation district delivery point or a well head for irrigation of each field. This category includes water conveyance system improvements that qualify as approved BMPs.

Approved Water Conveyance Improvements

BMP 1.1 Concrete-lined ditch

A means of transporting water to farm fields via a concrete-lined ditch in order to minimize transmission losses through seepage.

BMP 1.2 Pipelines

Any type of low or high-pressure pipeline used to convey water to a farm field in order to reduce or eliminate water loss prior to the act of irrigation. Pipelines may be constructed of PVC, ABS, concrete, aluminum, and or steel.

BMP 1.3 Drainback system

Level irrigation system technology utilizing headland channel conveyance which is designed and maintained to "drain" excess water applications from one irrigated field to the next down gradient field.

Point Value Determination for BMP Category 1

An applicant for the BMP Program must select one or more of the water conveyance system improvement BMPs described above in the application for the BMP Program. A BMP may be selected only if it is being implemented on the farm at the time the application is filed. The total points for the BMP or BMPs selected in this category shall be calculated by estimating the percentage of the farm's irrigated acreage served by the selected BMP or BMPs, and then determining the point value for that percentage in the table below. For purposes of this determination, "irrigated acreage" means those acres within the farm that will be irrigated while the applicant is regulated under the BMP Program. If the applicant selects more than one BMP in this category, an acre shall not be counted twice in determining the total percentage of the farm's irrigated acreage served by the BMPs. In this category, the maximum number of points allowed is three and the minimum number is one.

Category 1: Water Conveyance System – Point Table

Percentage of the farm's total irrigated acreage served by the approved BMPs	Point Value
50-54	1.0
55-59	1.2
60-64	1.4
65-69	1.6
70-74	1.8
75-79	2.0
80-84	2.2
85-89	2.4
90-94	2.6
95-99	2.8
100	3.0

APPENDIX 4B
BEST MANAGEMENT PRACTICES PROGRAM
APPROVED BEST MANAGEMENT PRACTICES

BMP CATEGORY 2. FARM IRRIGATION SYSTEMS **Description:** Farm irrigation systems are the methods by which a farm field is irrigated. Farm irrigation systems include slope, modified slope, level or near level, sprinkler, trickle or drip, or any combination thereof. This category includes farm irrigation systems that qualify as approved BMPs.
Approved Farm Irrigation Systems
BMP 2.1 Slope systems without uniform grades with tailwater reuse - (1 Point) Definition: Sloped fields without uniform grades with a constructed recovery system that allows for the reuse of water that runs off the end of the field after an irrigation event.
BMP 2.2 Uniform slope systems without tailwater reuse - (1 Point) Definition: Sloped fields that have been engineered to uniform grades with no means of reusing the water that runs off the end of the field after an irrigation event.
BMP 2.3 Uniform slope systems with tailwater reuse - (2 Points) Definition: Sloped fields that have been engineered to uniform grades with a constructed recovery system that allows for the reuse of water that runs off the end of the field after an irrigation event.
BMP 2.4 Uniform slope within an irrigation district that captures and redistributes return flows - (2 Points) Definition: Sloped fields that have been engineered to uniform grades enabling an irrigation district to collect the water that leaves a farm field after an irrigation event for distribution to another farm field.
BMP 2.5 Modified slope systems - (2 Points) Definition: Sloped fields that have been engineered to uniform grades in the upper portion of the field, with the bottom portion generally having a field slope of 0.0 to 0.2 feet of total fall in the direction of irrigation. All irrigation water is retained on the field.
BMP 2.6 High pressure sprinkler systems - (2 Points) Definition: Side-roll, linear, center-pivot, and solid set designs that operate at mainline water pressures of 10 pounds per square inch (psi) or more.
BMP 2.7 Near level systems - (2.5 Points) Definition: Sloped fields that have been engineered to uniform grades between 0.2 to 0.5 feet of total fall in the direction of irrigation over the entire length of the field. All irrigation water is retained on the field.
BMP 2.8 Level systems - (3 Points) Definition: Level border or level furrow system where the field slope may vary from 0.0 to 0.2 feet of total fall in the direction of irrigation over the entire length of the field. Either all irrigation water is retained on the field or a level drainback system is used.
BMP 2.9 Low pressure sprinkler systems - (3 Points) Definition: Linear and center-pivot sprinkler designs that operate at water pressures measured at the high end of the mainline of no greater than 10 psi.
BMP 2.10 Trickle irrigation systems - (3 Points) Definition: Pressurized drip or subsurface irrigation capable of applying precise amounts of water to the crop root zone (also referred to as drip irrigation).

APPENDIX 4B
BEST MANAGEMENT PRACTICES PROGRAM
APPROVED BEST MANAGEMENT PRACTICES

Point Value Determination for BMP Category 2
An applicant for the BMP Program must select one or more of the farm irrigation systems BMPs described above in the application for the BMP Program. A BMP may be selected only if it is being implemented on the farm at the time the application is filed. The points for a BMP selected in this category shall be calculated by multiplying the points assigned to the BMP as shown above by the percentage of the farm's irrigated acreage served by the irrigation system described in the BMP. For purposes of this determination, "irrigated acreage" means those acres within the farm that will be irrigated while the applicant is regulated under the BMP Program. If the applicant selects more than one BMP in this category, an acre shall not be counted twice in determining the total percentage of the farm's irrigated acreage served by the BMPs. In this category, the maximum number of points allowed is three and the minimum number is two.

BMP CATEGORY 3. IRRIGATION WATER MANAGEMENT
Description: Irrigation water management practices include management practices that, when implemented properly, will increase a farm's overall efficiency of water application in a growing season. This category includes irrigation water management practices that qualify as approved BMPs.
Approved Irrigation Water Management Practices
BMP 3.1 Laser touch-up - (1 Point) Definition: Annual re-establishment of precision laser grades to ensure good advancement of applied irrigation water. Must be applied to a minimum of 20 percent of the near level and level basin acreage irrigated the prior year.
BMP 3.2 Alternate row irrigation - (1 Point) Definition: The practice of irrigating every other cultivated row during either single or multiple irrigation events to minimize the surface area of applied water. Annually, must be used on at least 20 percent of the acreage irrigated in row crops for at least one irrigation.
BMP 3.3 Furrow checks - (1 Point) Definition: Manually applied or installed devices placed in rows to raise the water level in the row reducing the velocity to prevent erosion and enhance infiltration rates. Annually, must be used on at least 20 percent of irrigated acreage for at least one irrigation.
BMP 3.4 Angled rows/contour farming - (1 Point) Definition: Annual practice of reducing row fall through row angling and/or contouring to enhance water advancement and infiltration rates. This practice may also minimize or eliminate tailwater runoff. Annually, must be used on at least 20 percent of irrigated acreage.
BMP 3.5 Surge irrigation - (1 Point) Definition: The practice of applying irrigation water to a field by intermittent surges or pulses of water rather than by a continuous flow rate. The irrigation water advances down the field (or furrow), in stages, allowing uniform water penetration and avoiding tailwater runoff. A gradual sealing and soil conditioning occurs with each progressive surge allowing a more efficient water application. Annually, must be used on at least 20 percent of irrigated acreage.

APPENDIX 4B
BEST MANAGEMENT PRACTICES PROGRAM
APPROVED BEST MANAGEMENT PRACTICES

Approved Irrigation Water Management Practices (BMP Category 3 cont.)
BMP 3.6 Temporary sprinklers - (1 Point) Definition: Utilization of portable, roller and/or solid set sprinkler system for meeting pre-irrigation needs, seedling germination to establish a crop, and/or pre-harvest irrigation for maintaining crop quality. This practice reduces water use when compared to conventional flood irrigation techniques that require excessive water applications for seedling germination and/or crop quality. Annually, must be used on at least 20 percent of irrigated acreage.
BMP 3.7 Participation in an educational irrigation water management program - (1 Point) Definition: Enrollment in a private or Department sponsored educational irrigation water management program that includes irrigation water management topics such as soil water replacement needs, application rates, and irrigation scheduling. Annually, must participate in such a program throughout the entire crop season.
BMP 3.8 Participation in a consultant or irrigation district sponsored irrigation scheduling service - (1 Point) Definition: Enrollment in a consultant or Department sponsored irrigation scheduling service that provides recommendations on soil moisture monitoring, soil water replacement needs, irrigation application rates, and irrigation scheduling dates based on soil moisture monitoring or real-time evapotranspiration data. Annually, must participate in such a program throughout the entire crop season.
BMP 3.9 Participation in an irrigation district program to increase the flexibility of water deliveries - (1 Point) Definition: Enrollment in a cooperative program set up by the irrigation district to assist a farmer with timely irrigation deliveries and shut off, constant flow rates, and other water order guidelines developed by the irrigation district. Annually, must participate in such a program throughout the entire crop season.
BMP 3.10 Measure flow rates to determine the amount of water applied - (1 Point) Definition: Measure flow rates to determine the amount of water applied for each irrigation event on each field for the purpose of achieving good application efficiencies.
BMP 3.11 Soil moisture monitoring - (1 Point) Definition: Use of a number of accepted methods to monitor/measure soil moisture for the purpose of determining soil water replacement needs, application rates, and irrigation scheduling on each field (accepted methods may include core sampling, resistance blocks, neutron probe, tensiometers) throughout the entire crop season.
BMP 3.12 Computer based model using meteorological data - (1 Point) Definition: Use of a computer based irrigation scheduling program that incorporates real-time meteorological data (e.g. AZMET) for the purpose of determining irrigation event schedules on each field throughout the entire crop season.
Substitute Irrigation Water Management Practices
Substitute Practice - (1 Point) Definition: A new or existing irrigation water management practice not listed above that the director determines will likely result in water savings on the farm at least equivalent to the water savings that would result from implementation of one of the approved BMPs described in this category.

APPENDIX 4B
BEST MANAGEMENT PRACTICES PROGRAM
APPROVED BEST MANAGEMENT PRACTICES

Point Value Determination for BMP Category 3
An applicant for the BMP Program must select one or more of the irrigation water management BMPs described above in the application for the BMP Program. A BMP may be selected only if it will be implemented on an annual basis while the applicant is regulated under the BMP Program. In this category, the maximum number of points allowed is three and the minimum number is one.

BMP CATEGORY 4. AGRONOMIC MANAGEMENT **Description:** Agronomic management practices include combinations of plant and soil management practices that, if implemented properly, will conserve water over the length of the growing season. This category includes agronomic management practices that qualify as approved BMPs.
Approved Agronomic Management Practices
BMP 4.1 Crop rotation - (1 point) Definition: Periodic rotation of crop types on a given farm field to ensure the non-degradation of soil tilth. Annually, at least 20 percent of the acreage irrigated the prior year needs to be rotated to a different crop.
BMP 4.2 Crop residue management - (1 point) Definition: Incorporation of crop residue into the soil profile to increase soil nutrients, soil water holding capacities, and increase the available soil moisture to a crop. Annually, must be employed on at least 20 percent of the total irrigated acreage.
BMP 4.3 Soil and water quality testing - (1 point) Definition: Annual soil testing to determine: 1) residual amounts of fertilizer, 2) soil salinity for leaching needs, and 3) water intake rates and water holding capacity. Soil testing is required on at least 50 percent of the irrigated acreage. Water quality testing for needs such as estimating leaching requirements or avoiding potential injury to crops. Testing must include a "blend" analysis of irrigation water used from all sources.
BMP 4.4 Pre-irrigation surface conditioning - (1 point) Definition: Mechanical means (i.e. driving rows, soil torpedoes, etc.) by which rows or borders are prepared prior to an initial irrigation to smooth flow of water to avoid unwanted deep percolation during dry conditions or to enhance water advancement rates. Annually, must be used on at least 20 percent of irrigated acreage.
BMP 4.5 Transplants - (1 point) Definition: Use of established seedlings transplanted into a field. This practice eliminates excessive applications of water to germinate crops in the field from seeds. Annually, must be used on at least 20 percent of irrigated acreage.
BMP 4.6 Mulching - (1 point) Definition: Use of organic matter or plastic sheets to cover plant beds (plastic mulch) and/or use of plastic material laid over hoops suspended above the plant beds (floatable row covers) to reduce evaporation losses. Annually, must be used on at least 20 percent of irrigated acreage.
BMP 4.7 Shaping furrow or bed - (1 point) Definition: Use of mechanical means such as a row former to make the bed profile more shallow to minimize time of infiltration and minimize the wetted surface area along the rows. Annually, must be used on at least 20 percent of irrigated acreage.

APPENDIX 4B
BEST MANAGEMENT PRACTICES PROGRAM
APPROVED BEST MANAGEMENT PRACTICES

Approved Agronomic Management Practices (BMP Category 4 cont.)
BMP 4.8 Planting in bottom of furrow - (1 point) Definition: Practice of planting in the bottom of the furrow as opposed to planting along the top of the row bed to minimize impacts of salt build up and wetting (subbing) requirements for germination. Annually, must be used on at least 20 percent of irrigated acreage.
Substitute Agronomic Management Practices
Substitute Practice - (1 Point) Definition: A new or existing agronomic management practice not listed above that the director determines will likely result in water savings on the farm at least equivalent to the water savings that would result from implementation of one of the approved BMPs described in this category.
Point Value Determination for Category 4
An applicant for the BMP Program must select one or more of the agronomic management BMPs described above in the application for the BMP Program. A BMP may be selected only if it will be implemented on an annual basis while the applicant is regulated under the BMP Program. In this category, the maximum number of points allowed is three and the minimum number is one.

MODIFICATIONS TO CHAPTER 5,

MUNICIPAL CONSERVATION PROGRAM

THIRD MANAGEMENT PLAN

PINAL ACTIVE MANAGEMENT AREA

The following are modifications to Chapter 5, "Municipal Conservation Program," of the management plan for the Pinal Active Management Area for the third management period. References are to Attachment No. 1 to the Final Order of Adoption dated December 13, 1999. Language added to an existing section is shown in upper case letters. Language deleted from an existing section is overstricken. When no change is made to an existing subsection or paragraph, "No Change" is indicated.

Section 5.2.4

Section 5.2.4 of Chapter 5 is modified to read as follows:

"5.2.4 **Conservation Requirements for Individual Users**

In addition to requiring the director to establish conservation requirements for municipal providers, the Code requires the director to establish in the Third Management Plan "such other conservation measures as may be appropriate for individual users." A.R.S. § 45-566(A)(2). An "individual user" is a person or entity that receives water from a municipal provider for a non-irrigation use. In the Third Management Plan, the director has established conservation requirements for the following individual users: turf-related facilities, large-scale cooling facilities, and publicly owned rights-of-way. ALL OF THESE REQUIREMENTS ARE SUBSTANTIALLY IDENTICAL TO INDUSTRIAL CONSERVATION REQUIREMENTS IN CHAPTER 6.

A municipal provider that receives notice of an individual user conservation requirement ESTABLISHED IN THE THIRD MANAGEMENT PLAN is responsible for complying with the requirement with respect to all individual users to which it serves water and to which the requirement applies, with two exceptions. First, THE MUNICIPAL PROVIDER IS NOT RESPONSIBLE FOR COMPLYING WITH THE REQUIREMENT WITH RESPECT TO AN INDIVIDUAL USER THAT IT HAS IDENTIFIED IN WRITING TO THE DEPARTMENT BY A SPECIFIED DATE. IF THE INDIVIDUAL USER WAS IN EXISTENCE WHEN THE THIRD MANAGEMENT PLAN WAS ADOPTED AND THE MUNICIPAL PROVIDER IDENTIFIED THE INDIVIDUAL USER TO THE DIRECTOR AT LEAST 90 DAYS BEFORE THE PLAN WAS ADOPTED, THE MUNICIPAL PROVIDER IS NOT RESPONSIBLE FOR COMPLYING WITH THE INDIVIDUAL USER REQUIREMENT WITH RESPECT TO THAT INDIVIDUAL USER AT ANY TIME. A.R.S. § 45-566(B). IF AN INDIVIDUAL USER COMES INTO EXISTENCE AFTER THE THIRD MANAGEMENT PLAN WAS ADOPTED AND THE MUNICIPAL PROVIDER IDENTIFIES THE INDIVIDUAL USER TO THE DEPARTMENT WITHIN 90 DAYS AFTER IT BEGINS SERVING WATER TO THE INDIVIDUAL USER, THE MUNICIPAL PROVIDER IS NOT RESPONSIBLE FOR COMPLYING WITH THE INDIVIDUAL USER REQUIREMENT WITH RESPECT TO THAT INDIVIDUAL USER AT ANY TIME. IF THE MUNICIPAL PROVIDER IDENTIFIES THE NEW INDIVIDUAL USER TO THE DEPARTMENT MORE THAN 90 DAYS AFTER IT BEGINS SERVING WATER TO THE USER, THE MUNICIPAL PROVIDER WILL BE RESPONSIBLE FOR COMPLYING WITH THE INDIVIDUAL USER REQUIREMENT WITH RESPECT TO THAT INDIVIDUAL USER BEGINNING ON THE DATE THE PROVIDER FIRST SERVES WATER TO THE USER AND CONTINUING THEREAFTER UNTIL THE END OF THE CALENDAR YEAR IN WHICH IT FIRST IDENTIFIES THE USER TO THE DEPARTMENT.

SECOND, the municipal provider is not responsible for complying with the requirement with respect to an individual user that has received notice of the requirement directly from the director. IF THE INDIVIDUAL USER WAS IN EXISTENCE WHEN THE THIRD MANAGEMENT PLAN WAS ADOPTED AND IT RECEIVED NOTICE OF THE REQUIREMENT WITHIN THIRTY DAYS AFTER THE PLAN WAS ADOPTED, THE MUNICIPAL PROVIDER IS NOT RESPONSIBLE FOR COMPLYING WITH THE REQUIREMENT AT ANY TIME. IF THE INDIVIDUAL USER WAS IN EXISTENCE WHEN THE THIRD MANAGEMENT PLAN WAS ADOPTED AND IT RECEIVED NOTICE OF THE REQUIREMENT MORE THAN THIRTY DAYS AFTER THE PLAN WAS ADOPTED, THE MUNICIPAL PROVIDER WILL BE RESPONSIBLE FOR COMPLYING WITH

THE REQUIREMENT BEGINNING ON JANUARY 1, 2002 AND CONTINUING THEREAFTER UNTIL THE FIRST DATE ON WHICH THE INDIVIDUAL USER IS RESPONSIBLE FOR COMPLYING WITH THE REQUIREMENT, UNLESS THE MUNICIPAL PROVIDER IDENTIFIED THE INDIVIDUAL USER TO THE DEPARTMENT IN WRITING WITHIN NINETY DAYS BEFORE THE PLAN WAS ADOPTED AS DESCRIBED IN THE PREVIOUS PARAGRAPH. A.R.S § 45-571.02. IF THE INDIVIDUAL USER WAS NOT IN EXISTENCE WHEN THE THIRD MANAGEMENT PLAN WAS ADOPTED, THE MUNICIPAL PROVIDER WILL BE RESPONSIBLE FOR COMPLYING WITH THE REQUIREMENT BEGINNING ON THE DATE THE PROVIDER FIRST SERVES WATER TO THE USER AND CONTINUING THEREAFTER UNTIL THE FIRST DATE ON WHICH THE INDIVIDUAL USER IS RESPONSIBLE FOR COMPLYING WITH THE REQUIREMENT, UNLESS THE MUNICIPAL PROVIDER IDENTIFIED THE INDIVIDUAL USER TO THE DEPARTMENT IN THE MANNER DESCRIBED IN THE PREVIOUS PARAGRAPH.~~In that case, the individual user is responsible for complying with the requirement. Second, if the requirement is substantially identical to an industrial conservation requirement, the municipal provider is not responsible for complying with the requirement with respect to an individual user that it has identified in writing to the Department by a specified date. If the individual user was in existence when the management plan was adopted, the municipal provider must have identified the individual user to the Department at least 90 days before the management plan was adopted. A.R.S. § 45-566(B). If the individual user came into existence after the management plan was adopted, the municipal provider must identify the individual user to the Department within 90 days after it begins serving water to the individual user. If the municipal provider identifies a new individual user to the Department more than 90 days after it begins serving water to the individual user, the municipal provider will be responsible for complying with the individual user requirement until the end of the year in which it first identifies the user to the Department.~~ (See section 5-112 of the municipal conservation requirements.)"

Reason for modifications – This modification conforms the language in the Third Management Plan regarding responsibility for compliance with individual user conservation requirements to legislation enacted in 2002. That legislation amended A.R.S. § 45-571.02 to provide that: 1) the director may give notice of an individual user requirement to an existing individual user (an individual user in existence when the management plan was adopted) more than thirty days after the management plan was adopted; and 2) if the director gives notice of an individual user requirement to an existing individual user more than thirty days after adoption of a management plan, the individual user shall comply with the requirement by January 1 of the calendar year following the first full year after the date of the notice and a municipal provider responsible for complying with the requirement at the time the notice is given shall continue complying with the requirement until the first date on which the individual user is required to comply with the requirement. Laws 2002, Ch. 133, § 2.

Subsection 5.7.1.2.2

Subsection 5.7.1.2.2 of Chapter 5 is modified to read as follows:

"5.7.1.2.2 Reasonable Conservation Measures

A set of standard residential, non-residential, and education RCMs were developed for the NPCCP. Each RCM prescribes actions that must be taken by the provider to achieve water use efficiencies in each sector. Providers that have already implemented these measures will be required to implement additional conservation measures, consistent with the conservation potential for their service area, to qualify for the program. Additional substitute RCMs were developed for providers to allow for additional flexibility to develop a conservation program for the provider that meets the characteristics of each service area. In order for a provider to use a substitute RCM in place of a standard RCM, the provider must apply to the director and demonstrate that the substitute RCM will be designed to achieve a water use efficiency equivalent to the standard RCM IF THE REQUESTED SUBSTITUTE RCM IS IN THE SAME WATER USE CATEGORY AS THE STANDARD RCM OR IS A SYSTEM-RELATED SUBSTITUTE RCM,

OR DESIGNED TO ACHIEVE A GREATER WATER USE EFFICIENCY IF THE SUBSTITUTE RCM IS NOT A SYSTEM-RELATED RCM AND IS FROM A DIFFERENT WATER USE CATEGORY THAN THAT OF THE STANDARD RCM. THE DIRECTOR WILL NOT APPROVE A SUBSTITUTION OF STANDARD RCMS THAT WOULD RESULT IN THE PROVIDER IMPLEMENTING NO RCMS IN A WATER USE CATEGORY. An outline of the standard RCMs is listed below. For a detailed description of each RCM, including the substitute RCMs, refer to Appendix 5F.1-F.4.

A. Residential Interior
1. [No change]
2. [No change]

B. Residential Exterior
1. [No change]
2. [No change]
3. [No change]
4. [No change]
5. [No change]

C. Non-Residential Interior
1. [No change]
2. [No change]
3. [No change]

D. Non-Residential Exterior
1. [No change]
2. [No change]

E. Education
1. [No change]"

Reason for Modification: As originally adopted, the Non-Per Capita Conservation Program allowed a municipal provider to replace a standard RCM in a water use category with a substitute RCM only if the substitute RCM was in the same water use category or was a system-related substitute RCM. A provider was not allowed to replace a standard RCM with a substitute RCM from a different water use category. The Non-Per Capita Conservation Program Advisory Group, a group comprised of members of the regulated community and department staff, identified the limited ability to substitute RCMs as a factor that could limit the ability for a municipal water provider to include effective conservation programs in its Non-Per Capita Conservation Program agreements. This modification allows a municipal provider to replace a standard RCM with an RCM from a different water use category if the director determines that the substitute RCM will result in a water use efficiency that is greater than that of the standard RCM. To maintain compliance with existing statutory requirements, the director will not approve a substitution of standard RCMs in a water use category if it would result in the provider implementing no RCMs in that water use category.

Section 5-104

Section 5-104 of Chapter 5 is modified to read as follows:

5-104. Non-Per Capita Conservation Program

A. Eligibility for the Non-Per Capita Conservation Program

[No change]

B. Application for Non-Per Capita Conservation Program

A large municipal provider's application for the Non-Per Capita Conservation Program must be approved by the provider's governing body, and must include the following:

1. *A description and evaluation, including implementation dates, of the provider's existing conservation programs.*

2. *A description of conservation programs the provider intends to implement if approved for the Non-Per Capita Conservation Program, including a time schedule for implementing the programs.*

3. *If the provider is applying for the Non-Per Capita Conservation Program under subsection A, paragraph 3, a water supply plan demonstrating that the provider will reduce the proportion of mined groundwater supplied by it within its service area to the proportions described in that subparagraph, and that it will deliver no mined groundwater after January 1, 2010.*

4. *If the provider intends to comply with subsection D of this section by implementing one or more substitute RCMs in lieu of a standard RCM, or if the provider requests the director to modify a level of conservation potential for the provider's service area pursuant to subsection D, paragraph 1, subparagraph a of this section, an analysis of water use within the provider's service area that includes all of the following:*

   a. *If the provider intends to implement one or more substitute RCMs,* FROM EITHER THE SAME WATER USE CATEGORY OR A SYSTEM-RELATED SUBSTITUTE RCM, *information demonstrating that the substitute RCM or RCMs will be designed to achieve a water use efficiency within the provider's service area equivalent to the efficiency that would result from implementation of the standard RCM or RCMs.* IF THE PROVIDER INTENDS TO IMPLEMENT ONE OR MORE SUBSTITUTE RCMS THAT ARE NOT FROM THE SAME WATER USE CATEGORY OR SYSTEM-RELATED SUBSTITUTE RCMS, INFORMATION DEMONSTRATING THAT THE SUBTITUTE RCM OR RCMS WILL BE DESIGNED TO ACHIEVE A WATER USE EFFICIENCY WITHIN THE PROVIDER'S SERVICE AREA THAT IS GREATER THAN THE EFFICIENCY THAT WOULD RESULT FROM THE IMPLEMENTATION OF THE STANDARD RCM OR RCMS.

   b. *The amount of water used each month during the past three years by each of the following water use sectors, as applicable: (1) residential (disaggregated by single family and multifamily), (2) commercial, (3) industrial, (4) turf-related facilities, (5) government, (6) construction, (7) distribution system losses, and (8) any other uses. The provider is not required to include this information if it has already been reported to the Department.*

   c. *An identification and evaluation of the water use sectors described in item b) of this subparagraph that have the highest water conservation potential.*

5. *If the provider is requesting an individual incidental recharge factor under subsection C, paragraph 2 of this section:*

   a. *A copy of a hydrological study that demonstrates the amount of water withdrawn, diverted or received for delivery by the provider for use within its service area during each of the preceding five years and the amount of incidental recharge that was*

attributable to the provider during those years. The study shall be prepared consistent with the methodology contained in Appendix 5G.

b. *A copy of a hydrological study projecting the average annual amount of water that will be withdrawn, diverted or received for delivery by the provider for use within its service area during the management period and the average annual amount of incidental recharge that will be attributable to the provider during the management period.*

6. *Any other information required by the director.*

C. ***Incidental Recharge Factor***

[No change]

D. ***Criteria for Approval of Application***

A large municipal provider that applies for the Non-Per Capita Conservation Program shall be approved for the program only if all of the following conditions are satisfied, as applicable:

1. *The provider agrees in writing to implement RCMs that the director determines will, if properly implemented, result in the achievement of a water use efficiency within the provider's service area equivalent to the water use efficiency assumed in the provider's total GPCD requirements for the third management period. To comply with this requirement, the provider must agree in writing to implement the following RCMs for the following water use categories and programs beginning on a date agreed upon by the director and the provider:*

   a. *Residential Water Use*

      1) *<u>Residential interior water use category</u> - The provider shall agree in writing to implement the residential interior standard RCMs described in Appendix 5F.1. In lieu of implementing one or both of the standard RCMs, the provider may agree to implement:* A) *one or more of the residential interior substitute RCMs or system-related substitute RCMs listed in the substitute RCM list described in Appendix 5F.4. if the director determines that the substitute RCM or RCMs will be designed to achieve a water use efficiency within the provider's service area equivalent to the efficiency that would result from implementation of the standard RCM* OR RCMS; OR B) ONE OR MORE SUBSTITUTE RCMS THAT ARE NOT RESIDENTIAL INTERIOR SUSTITUTE RCMS OR SYSTEM-RELATED SUBSTITUTE RCMS IF THE DIRECTOR DETERMINES THAT THE SUBTITUTE RCM OR RCMS WILL BE DESIGNED TO ACHIEVE A WATER USE EFFICIENCY WITHIN THE PROVIDER'S SERVICE AREA THAT IS GREATER THAN THE EFFICIENCY THAT WOULD RESULT FROM THE IMPLEMENTATION OF THE STANDARD RCM OR RCMS. THE DIRECTOR SHALL NOT APPROVE A SUBSTITUTION OF THE STANDARD RESIDENTIAL INTERIOR WATER USE RCMS IF THE SUBSTITUTION WOULD RESULT IN THE PROVIDER IMPLEMENTING NO RCMS IN THE RESIDENTIAL INTERIOR WATER USE CATEGORY.

      2) *<u>Residential exterior water use category</u> - The provider shall agree in writing to implement the residential exterior standard RCMs described in Appendix 5F.1. In lieu of implementing one or more of the standard RCMs, the provider may agree to implement:* A) *one or more of the residential exterior substitute RCMs*

or system-related substitute RCMs listed in the substitute RCM list described in Appendix 5F.4 if the director determines that the substitute RCM or RCMs will be designed to achieve a water use efficiency within the provider's service area equivalent to the efficiency that would result from implementation of the standard RCM OR RCMS; OR B) ONE OR MORE SUBTITUTE RCMS THAT ARE NOT RESIDENTIAL EXTERIOR SUBSTITUTE RCMS OR SYSTEM-RELATED SUBSTITUTE RCMS IF THE DIRECTOR DETERMINES THAT THE SUBTITUTE RCM OR RCMS WILL BE DESIGNED TO ACHIEVE A WATER USE EFFICIENCY WITHIN THE PROVIDER'S SERVICE AREA THAT IS GREATER THAN THE EFFICIENCY THAT WOULD RESULT FROM THE IMPLEMENTATION OF THE STANDARD RCM OR RCMS. THE DIRECTOR SHALL NOT APPROVE A SUBSTITUTION OF THE STANDARD RESIDENTIAL EXTERIOR WATER USE RCMS IF THE SUBSTITUTION WOULD RESULT IN THE PROVIDER IMPLEMENTING NO RCMS IN THE RESIDENTIAL EXTERIOR WATER USE CATEGORY.

3) *Implementation level - The provider shall agree to implement residential interior or exterior RCMs for existing residential customers at the implementation level (minimum, moderate or maximum) that corresponds to the level of conservation potential that the director determined existed for interior and exterior water use by existing residential users within the provider's service area when the director established the provider's total GPCD requirements for the third management period, as shown in Table 5-104.D.*

   The director may modify a level of conservation potential shown for a provider in Table 5-104.D if the provider requests a modification in an application for administrative review pursuant to A.R.S. § 45-575(A) or in the provider's application for regulation under the Non-Per Capita Conservation Program, and the provider demonstrates that the level of conservation potential shown in Table 5-104.D is not accurate for the provider's service area. A provider requesting a modification of a level of conservation potential shall submit to the director a water use analysis containing the information described in subsection B, paragraph 4, of this section. If the level of conservation potential for interior or exterior water use by existing residential users as shown in Table 5-104.D, or as modified by the director, is "no reduction," the provider is not required to implement any RCMs for existing residential customers in that water use category.

b. *Non-Residential Water Use*

1) *Non-residential interior water use category - The provider shall agree in writing to implement the non-residential interior standard RCMs described in Appendix 5F.2. In lieu of implementing one or more of the standard RCMs, the provider may agree to implement:* A) *one or more of the non-residential interior substitute RCMs or system-related RCMs listed in the substitute RCM list described in Appendix 5F.4 if the director determines that the substitute RCM or RCMs will be designed to achieve a water use efficiency within the provider's service area equivalent to the efficiency that would result from implementation of the standard RCM* OR RCMS; OR B) ONE OR MORE SUBTITUTE RCMS THAT ARE NOT NON-RESIDENTIAL INTERIOR WATER USE RCMS OR SYSTEM-RELATED SUBSTITUTE RCMS IF THE DIRECTOR DETERMINES THAT THE SUBTITUTE RCM OR RCMS WILL BE DESIGNED TO ACHIEVE A WATER USE EFFICIENCY WITHIN THE PROVIDER'S SERVICE AREA THAT IS GREATER THAN THE EFFICIENCY THAT WOULD RESULT FROM THE IMPLEMENTATION OF THE STANDARD RCM OR RCMS.

THE DIRECTOR SHALL NOT APPROVE A SUBSTITUTION OF THE STANDARD NON-RESIDENTIAL INTERIOR WATER USE RCMS IF THE SUBSTITUTION WOULD RESULT IN THE PROVIDER IMPLEMENTING NO RCMS IN THE NON-RESIDENTIAL INTERIOR WATER USE CATEGORY.

2) *Non-residential exterior water use category - The provider shall agree in writing to implement the non-residential exterior standard RCMs described in Appendix 5F.2. In lieu of implementing one or both of the standard RCMs, the provider may agree to implement:* A) *one or more of the non-residential exterior substitute RCMs or system-related RCMs listed in the substitute RCM list described in Appendix 5F.4 if the director determines that the substitute RCM or RCMs will be designed to achieve a water use efficiency within the provider's service area equivalent to the efficiency that would result from implementation of the standard RCM* OR RCMS; OR B) ONE OR MORE SUBTITUTE RCMS THAT ARE NOT NON-RESIDENTIAL EXTERIOR RCMS OR SYSTEM-RELATED SUBSTITUTE RCMS IF THE DIRECTOR DETERMINES THAT THE SUBTITUTE RCM OR RCMS WILL BE DESIGNED TO ACHIEVE A WATER USE EFFICIENCY WITHIN THE PROVIDER'S SERVICE AREA THAT IS GREATER THAN THE EFFICIENCY THAT WOULD RESULT FROM THE IMPLEMENTATION OF THE STANDARD RCM OR RCMS. THE DIRECTOR SHALL NOT APPROVE A SUBSTITUTION OF THE STANDARD NON-RESIDENTIAL EXTERIOR WATER USE RCMS IF THE SUBSTITUTION WOULD RESULT IN THE PROVIDER IMPLEMENTING NO RCMS IN THE NON-RESIDENTIAL EXTERIOR WATER USE CATEGORY.

c. *Public Education Program*

The provider shall agree in writing to implement the education standard RCM described in Appendix 5F.3. In lieu of implementing the standard RCM, the provider may agree to implement one or more of the education substitute RCMs listed in the substitute RCM list described in Appendix 5F.4. The substituted RCM or RCMs must not duplicate other RCMs that the provider will implement as part of the Non-Per Capita Conservation Program.

2. [No change]

3. [No change]

4. [No change]

5. [No change]

E. Non-Per Capita Conservation Program Requirements

[No change]"

Reason for Modification: As originally adopted, the Non-Per Capita Conservation Program allowed a municipal provider to replace a standard RCM in a water use category with a substitute RCM only if the substitute RCM was in the same water use category or was a system-related substitute RCM. A provider was not allowed to replace a standard RCM with a substitute RCM from a different water use category. The Non-Per Capita Conservation Program Advisory Group, a group comprised of members of the regulated community and department staff, identified the limited ability to substitute RCMs as a factor

that could limit the ability for a municipal water provider to include effective conservation programs in its Non-Per Capita Conservation Program agreements. This modification allows a municipal provider to replace a standard RCM with an RCM from a different water use category if the director determines that the substitute RCM will result in a water use efficiency that is greater than that of the standard RCM. To maintain compliance with existing statutory requirements, the director will not approve a substitution of standard RCMs in a water use category if it would result in the provider implementing no RCMs in that water use category.

Section 5-112

Section 5-112 of Chapter 5 is modified to read as follows:

5-112. Individual User Requirements for Municipal Providers and Individual Users

A. Individual User Requirements

~~*Beginning January 1, 2002, or upon commencement of service of water, whichever is later, and for each calendar year thereafter until the first compliance date for any substitute requirement in the Fourth Management Plan, the*~~ THE *municipal provider or individual user responsible for compliance with the individual user requirements under subsection B of this section shall comply with the following, as applicable:*

1. *The municipal provider or individual user shall serve water to, or use water within, a turf-related facility only in accordance with sections 6-302 through 6-304 of the Industrial Chapter of the Third Management Plan, and shall comply with the monitoring and reporting requirements set forth in section 6-305 of the Industrial Chapter, as though the individual user were an industrial user. The person responsible for compliance shall also comply with the requirements contained in section 6-202 of the Industrial Chapter, if applicable, as though the individual user were an industrial user.*

2. *The municipal provider or individual user shall serve water to, or use water within, a large-scale cooling facility only if the person using water at the facility complies with all applicable conservation requirements contained in sections 6-702 and 6-703 of the Industrial Chapter of the Third Management Plan as though the person was an industrial user. The person responsible for compliance shall also comply with the applicable monitoring and reporting requirements contained in section 6-203 and the conservation requirements contained in section 6-202 of the Industrial Chapter, if applicable, as though the individual user were an industrial user.*

3. *The municipal provider or individual user shall serve or use groundwater for the purpose of watering landscaping plants planted on or after January 1, 1987 within any publicly owned right-of-way of a highway, street, road, sidewalk, curb or shoulder that is used for travel in any ordinary mode, including pedestrian travel, only if the plants are listed in Appendix 5I. The director may waive this requirement upon request from the municipal provider or individual user if* ~~*a waiver of this requirement is in the public interest*~~. THE MUNICIPAL PROVIDER OR INDIVIDUAL USER DEMONSTRATES TO THE SATISFACTION OF THE DIRECTOR THAT THE PLANTS LISTED IN APPENDIX 5I, LOW WATER USE PLANT LIST FOR THE PINAL ACTIVE MANAGEMENT AREA, OR ANY SUBSEQUENT MODIFICATIONS TO THE LOW WATER USE PLANT LIST, CANNOT GROW IN THE PUBLICLY OWNED RIGHT-OF-WAY BECAUSE OF HIGH ELEVATION OR LOW-LIGHT CONDITIONS, SUCH AS A FREEWAY UNDERPASS. *This requirement does not apply to any portion of a residential lot that extends into a publicly owned right-of-way.*

4. *The municipal provider or individual user shall not serve or use groundwater for the purpose of maintaining a water feature, including fountains, waterfalls, ponds, water courses, and other artificial water structures installed after January 1, 2002 within any publicly owned right-of-way of a highway, street, road, sidewalk, curb or shoulder that is used for travel in any ordinary mode, including pedestrian travel.* ~~*The director may waive this requirement upon request from the municipal provider or individual user if a waiver of this requirement is in the public interest*~~*. This requirement does not apply to any portion of a residential lot that extends into a publicly owned right-of-way.*

B. Responsibility for Compliance with Individual User Requirements

1. BEGINNING JANUARY 1, 2002, AND CONTINUING THEREAFTER UNTIL THE FIRST COMPLIANCE DATE FOR ANY SUBSTITUTE REQUIREMENT IN THE FOURTH MANAGEMENT PLAN, *A municipal provider shall be responsible for compliance with an individual user requirement set forth in subsection A of this section for an existing individual user unless one of the following applies:*

   a. *The provider identified the existing individual user to the director on a form provided by the Department and received by the director no later than 90 days before the adoption of the Third Management Plan.*

   b. *The director gave written notice of the requirement to the individual user within 30 days after the adoption of the Third Management Plan.*

   c. THE MUNICIPAL PROVIDER DID NOT IDENTIFY THE EXISTING INDIVIDUAL USER TO THE DIRECTOR ON A FORM PROVIDED BY THE DEPARTMENT AND RECEIVED BY THE DIRECTOR NO LATER THAN 90 DAYS BEFORE THE ADOPTION OF THE THIRD MANAGEMENT PLAN, AND THE DIRECTOR GAVE WRITTEN NOTICE OF THE INDIVIDUAL USER REQUIREMENT TO THE INDIVIDUAL USER MORE THAN 30 DAYS AFTER THE ADOPTION OF THE THIRD MANAGEMENT PLAN. IF THIS SUBPARAGRAPH APPLIES, THE MUNICIPAL PROVIDER SHALL COMPLY WITH THE INDIVIDUAL USER REQUIREMENT FOR THE EXISTING INDIVIDUAL USER BEGINNING JANUARY 1, 2002 AND CONTINUING THEREAFTER UNTIL THE FIRST DATE ON WHICH THE INDIVIDUAL USER IS REQUIRED TO COMPLY WITH THE REQUIREMENT UNDER PARAGRAPH 2 OF THIS SUBSECTION.

2. *An existing individual user that has been given written notice of an individual user requirement by the director* WITHIN 30 DAYS AFTER THE ADOPTION OF THE THIRD MANAGEMENT PLAN *shall be responsible for complying with the individual user requirement beginning on the date specified in the notice* AND CONTINUING THEREAFTER UNTIL THE FIRST COMPLIANCE DATE OF ANY SUBSTITUTE CONSERVATION REQUIREMENT IN THE FOURTH MANAGEMENT PLAN. AN EXISTING INDIVIDUAL USER THAT IS GIVEN WRITTEN NOTICE OF AN INDIVIDUAL USER REQUIREMENT BY THE DIRECTOR MORE THAN 30 DAYS AFTER THE ADOPTION OF THE THIRD MANAGEMENT PLAN SHALL BE RESPONSIBLE FOR COMPLYING WITH THE INDIVIDUAL USER REQUIREMENT BEGINNING JANUARY 1 OF THE CALENDAR YEAR FOLLOWING THE FIRST FULL YEAR AFTER THE DATE OF THE NOTICE AND CONTINUING THEREAFTER UNTIL THE FIRST COMPLIANCE DATE OF ANY SUBSTITUTE CONSERVATION REQUIREMENT IN THE FOURTH MANAGEMENT PLAN.

3. *A municipal provider shall be responsible for compliance with an individual user requirement set forth in subsection A of this section for a new individual user* BEGINNING JANUARY 1, 2002, OR THE DATE THE NEW INDIVIDUAL USER FIRST RECEIVES WATER FROM THE PROVIDER, WHICHEVER IS LATER, AND CONTINUING THEREAFTER UNTIL THE FIRST COMPLIANCE DATE FOR ANY SUBSTITUTE CONSERVATION REQUIREMENT IN THE FOURTH MANAGEMENT PLAN, *unless one of the following applies:*

   a. *The municipal provider identifies the new individual user to the director on a form provided by the Department. If the provider identifies the new individual user to the director within 90 days after the provider begins serving water to the new individual user, the municipal provider shall not be responsible for complying with the individual user requirement* FOR THE NEW INDIVIDUAL USER *at any time. If the provider identifies the new individual user to the director more than 90 days after the provider begins serving water to the new individual user, the provider shall be responsible for complying with the individual user requirement* FOR THE NEW INDIVIDUAL USER *beginning on the date the new individual user first receives water from the provider until the end of the calendar year in which the provider identifies the individual user to the director.*

   b. THE MUNICIPAL PROVIDER DID NOT IDENTIFY THE NEW INDIVIDUAL USER TO THE DIRECTOR ON A FORM PROVIDED BY THE DEPARTMENT AND *The director has given written notice of the individual user requirement to the individual user* ~~*and the individual user is responsible for complying with the requirement*~~. IF THIS SUBPARAGRAPH APPLIES, THE MUNICIPAL PROVIDER SHALL COMPLY WITH THE INDIVIDUAL USER REQUIREMENT FOR THE NEW INDIVIDUAL USER BEGINNING JANUARY 1, 2002, OR THE DATE THE INDIVIDUAL USER FIRST RECEIVES WATER FROM THE PROVIDER, WHICHEVER IS LATER, AND CONTINUING THEREAFTER UNTIL THE FIRST DATE ON WHICH THE INDIVIDUAL USER IS REQUIRED TO COMPLY WITH THE REQUIREMENT UNDER PARAGRAPH 4 OF THIS SUNSECTION.

4. *A new individual user that has been given written notice of an individual user requirement by the director shall be responsible for compliance with the individual user requirement beginning on the date specified in the notice.*

C. ***Notification of New Individual User by Municipal Provider***

[No change]"

Reason for modifications – These modifications make conforming changes to the language in the Third Management Plan regarding responsibility for compliance with individual user conservation requirements to legislation enacted in 2002. That legislation amended A.R.S. § 45-571.02 to provide that: 1) the director may give notice of an individual user requirement to an existing individual user (an individual user in existence when the management plan was adopted) more than thirty days after the management plan was adopted; and 2) if the director gives notice of an individual user requirement to an existing individual user more than thirty days after adoption of a management plan, the individual user shall comply with the requirement by January 1 of the calendar year following the first full year after the date of the notice and a municipal provider responsible for complying with the requirement at the time the notice is given shall continue complying with the requirement until the first date on which the individual user is required to comply with the requirement. Laws 2002, Ch. 133, § 2.

These modifications also change the criteria for obtaining a waiver from the landscaping requirement for publicly owned rights-of-way. Under the new language a waiver will be granted only upon demonstration

that plants listed on the Low Water Use Plant List will not grow in the right-of-way because of high elevation or low-light conditions. The language allowing a municipal provider or individual user to obtain a waiver from the provision prohibiting the service of groundwater to new water features in public rights-of-way if the waiver is in the public interest was deleted because the Department determined that such a waiver would not be appropriate under any circumstances.

Appendix 5-F.1

Appendix 5-F.1 of Chapter 5 is modified as follows:

"RESIDENTIAL INTERIOR STANDARD RCM

WATER AUDIT AND FIXTURE RETROFIT PROGRAM FOR EXISTING RESIDENTIAL CUSTOMERS
Description: *Water provider staff or hired consultants visit residences, or resident performs self-audit, to examine water use practices, detect leaks, make recommendations for improved efficiency and install retrofit devices. Water use reduction from installation of devices depends on the life of the device, for example toilet flapper normally last about five years.*
Implementation Levels: *Minimum Conservation Potential: The provider shall notify all existing residential customers of the availability of a self-audit and retrofit kit. The provider shall distribute a kit to all customers who request one. Moderate Conservation Potential: The provider shall perform minimum level requirement, plus a minimum of 10 percent of all pre-1980 housing units shall be audited and retrofitted, free of charge to the customer, by January 1, 2010 either by the homeowner or by a trained auditor. Maximum Conservation Potential: The provider shall perform minimum level requirement, plus a minimum of 20 percent of all pre-1980 housing units shall be audited and retrofitted, free of charge to the customer, by January 1, 2010 either by the homeowner or by a trained auditor.* FOR BOTH MODERATE AND MAXIMUM CONSERVATION POTENTIAL, AN AUDIT/RETROFIT SHALL COUNT TOWARD THE REQUIRED NUMBER OF AUDITS/RETROFITS ONLY IF SUCCESSFUL COMPLETETION OF THE AUDIT/RETROFIT IS VERFIED BY THE PROVIDER IN ONE OF THE FOLLOWING WAYS: 1) BY THE PROVIDER'S RECEIPT OF EITHER THE COMPLETED AUDIT OR THE REPORT OF THE COMPLETED AUDIT; 2) BY THE PROVIDER'S RECEIPT OF E-MAIL OR TELEPHONE VERIFICATION FROM THE AUDITED PARTY; 3) RESPONSE FROM THE AUDITED PARTY OR ANY OTHER METHOD MUTUALLY AGREED UPON BETWEEN THE PROVIDER AND THE DIRECTOR. *The self-audit and retrofit kit shall include, at a minimum, toilet leak detection dye tabs, instructions on measuring flow from fixtures, leak repair and fixture replacement instructions, advice on behavioral changes to save water, a toilet conservation device, a low flow showerhead and faucet aerators. The audit shall include measurement of flow rates from plumbing fixtures and a check for leaks.* *The housing units audited or retrofitted to meet this requirement shall not include any housing unit that was audited or retrofitted prior to acceptance into this program for the third management period unless the water use of the housing unit is inefficient.*
Monitoring and Reporting Requirements: *The Annual Report required by A.R.S. § 45-632 shall include a report containing information as agreed to at the time of acceptance into the Non-Per Capita Conservation Program sufficient to assess program effectiveness, including information on the method(s) used to contact customers, the annual number of audits and retrofits performed and self-audit kits sent out, and an estimate of the number and volume of leaks found and repaired,* PLUS A FOLLOW-UP SURVEY OF A STATISTICALLY SIGNIFICANT SAMPLE OF THOSE AUDITED, AS AGREED TO BY THE DIRECTOR, TO DETERMINE IF AUDITED CUSTOMERS HAVE IMPLEMENTED ANY CHANGES IN INTERIOR USE HABITS.

Reason for Modification: This RCM was being modified in two ways. First, language was added to clarify that only those audits/retrofits that are verified by the provider as having been successfully completed will count toward the required number of audits/retrofits. Although this was the Department's policy, it was not clearly stated in the RCM. Second, language was added to require that the provider conduct a follow-up survey of a statistically significant sample of audited customers to determine if they have implemented any changes in interior water use habits. A similar requirement was included in the RCM entitled "Audit Program For Existing Residential Customers," but was inadvertently left out of this RCM when it was originally adopted.

RESIDENTIAL INTERIOR
STANDARD RCM

ORDINANCE OR CONDITION OF NEW SERVICE PROHIBITING INSTALLATION OR REPLACEMENT OF PLUMBING FIXTURES IN RESIDENTIAL HOUSING UNITS UNLESS FIXTURES MEET WATER SAVING STANDARDS
[No change]

RESIDENTIAL EXTERIOR
STANDARD RCM

AUDIT PROGRAM FOR EXISTING RESIDENTIAL CUSTOMERS
Description: *Trained auditors visit residences to examine outdoor water use practices, or materials are supplied for a self-audit of outdoor water use practices. Areas of emphasis are irrigation scheduling advice, sprinkler and drip systems inspection, evaporative cooler inspection, information on improving water retaining capacity of the soil, information on Xeriscape™ concepts and swimming pool maintenance and evaporation control (i.e., pool covers). This program shall be designed to target those customers with the greatest conservation potential.*
Implementation Levels: *Minimum Conservation Potential: The provider shall notify all existing residential customers of the availability of an exterior water use self-audit packet. The packet shall include at a minimum information on checking irrigation systems for efficiency and leaks, information on checking evaporative coolers for efficiency and leaks, irrigation schedules, and information on Xeriscape™. The provider shall distribute a packet to all customers who request one. Moderate Conservation Potential: The provider shall implement the minimum level program plus 5 percent of total housing units in existence when the provider is accepted into this program shall be audited either by the homeowner or a trained auditor free of charge to the customer. Audits shall be completed by January 1, 2010. Maximum Conservation Potential: The provider shall implement the minimum level program plus 10 percent of total housing units in existence when the provider is accepted into this program shall be audited either by the homeowner or a trained auditor free of charge to the customer. The audits shall be completed by January 1, 2010.* FOR BOTH MODERATE AND MAXIMUM CONSERVATION POTENTIAL, AN AUDIT SHALL COUNT TOWARD THE REQUIRED NUMBER OF AUDITS ONLY IF SUCCESSFUL COMPLETETION OF THE AUDIT IS VERFIED BY THE PROVIDER IN ONE OF THE FOLLOWING WAYS: 1) BY THE PROVIDER'S RECEIPT OF EITHER THE COMPLETED AUDIT OR THE REPORT OF THE COMPLETED AUDIT; 2) BY THE PROVIDER'S RECEIPT OF E-MAIL OR TELEPHONE VERIFICATION FROM THE AUDITTED PARTY; 3) RESPONSE FROM THE AUDITED PARTY OR ANY OTHER METHOD MUTUALLY AGREED UPON BETWEEN THE PROVIDER AND THE DIRECTOR. *For both the moderate and maximum levels of implementation, the ratio of audited multifamily housing units to audited single family housing units shall be no greater than the ratio of total multifamily housing units to total single family housing units in the entire service area.* *The housing units audited to meet this requirement shall not include any housing unit that was audited prior to acceptance into this program for the third management period unless the water use of the housing unit is ineffective.*
Monitoring and Reporting Requirements: *The Annual Report required by A.R.S. § 45-632 shall include a report on the number of housing units audited, plus a follow-up survey of a statistically significant sample of those audited, as agreed to by the director, to determine if audited customers have implemented any changes in exterior use habits, irrigation system, or landscaping.*

Reason for Modification: Language was being added to clarify that only those audits that are verified by the provider as having been successfully completed will count toward the required number of audits. Although this was the Department's policy, it was not clearly stated in the RCM.

RESIDENTIAL EXTERIOR
STANDARD RCM

LANDSCAPE WATERING ADVICE PROGRAM FOR EXISTING AND NEW RESIDENTIAL CUSTOMERS
[No change]

RESIDENTIAL EXTERIOR
STANDARD RCM

ORDINANCE OR CONDITIONS OF NEW SERVICE FOR MODEL HOMES IN NEW RESIDENTIAL DEVELOPMENTS
[No change]

RESIDENTIAL EXTERIOR
STANDARD RCM

PROHIBIT THE CREATION OF COVENANTS, CONDITIONS AND RESTRICTIONS WHICH REQUIRE THE USE OF WATER-INTENSIVE LANDSCAPING OR WHICH PROHIBIT THE USE OF LOW WATER USE LANDSCAPING IN NEW RESIDENTIAL DEVELOPMENTS
[No change]

RESIDENTIAL EXTERIOR
STANDARD RCM CHOICE (1 OF 3)

ORDINANCE OR CONDITIONS OF NEW SERVICE LIMITING USE OF TURF AND OTHER WATER-INTENSIVE LANDSCAPING IN NEW MULTIFAMILY DEVELOPMENTS
[No change]

RESIDENTIAL EXTERIOR
STANDARD RCM CHOICE (2 OF 3)

ORDINANCE OR CONDITION OF NEW SERVICE LIMITING USE OF TURF AND OTHER WATER-INTENSIVE LANDSCAPING IN COMMON AREAS OF NEW SINGLE FAMILY AND MULTIFAMILY DEVELOPMENTS
[No change]

RESIDENTIAL EXTERIOR
STANDARD RCM CHOICE (3 OF 3)

REBATE PROGRAM FOR NEW RESIDENTIAL CUSTOMERS
[No change]

"

Appendix 5-F.2

Appendix 5-F.2 of Chapter 5 is modified to read as follows:

"NON-RESIDENTIAL INTERIOR STANDARD RCM

INTERIOR AUDIT PROGRAM FOR EXISTING FACILITIES
[No change]

NON-RESIDENTIAL INTERIOR
STANDARD RCM

ORDINANCE OR CONDITION OF NEW SERVICE PROHIBITING INSTALLATION OR REPLACEMENT OF PLUMBING FIXTURES IN NON-RESIDENTIAL FACILITIES UNLESS FIXTURES MEET WATER SAVING STANDARDS
[No change]

NON-RESIDENTIAL INTERIOR
STANDARD RCM

DISTRIBUTION OF CONSERVATION INFORMATION TO ALL NEW NON-RESIDENTIAL CUSTOMERS AND SUBMITTAL OF WATER USE PLAN BY NEW LARGE FACILITIES
[No change]

NON-RESIDENTIAL EXTERIOR
STANDARD RCM

EXTERIOR AUDIT PROGRAM FOR EXISTING NON-RESIDENTIAL CUSTOMERS
[No change]

NON-RESIDENTIAL EXTERIOR
STANDARD RCM

LANDSCAPE ORDINANCE OR CONDITION OF NEW SERVICE FOR NEW FACILITIES
***Description**: Provider requires new non-residential customers to limit water-intensive landscaping, install efficient irrigation systems, and limit water features/fountains.*
***Implementation:** The provider shall adopt and enforce an ordinance or establish conditions of new service requiring new non-residential customers with greater than or equal to 10,000 square feet of landscapable area to comply with the following, as applicable: (1) If the new non-residential customer is not a hotel or motel, the water-intensive landscaped area within the facility shall not exceed an area calculated by adding 10,000 square feet plus 20 percent of the facility's landscapable area in excess of 10,000 square feet. Schools, parks, cemeteries, golf courses, common areas of housing developments~~,~~ and public recreational facilities ~~with water-intensive landscaping greater than or equal to 10 acres~~ are exempt from this provision~~, as they are regulated under the individual user requirements~~; (2) If the new non-residential customer is a hotel or motel, the water-intensive landscaped area within the facility shall not exceed an area calculated by adding 20,000 square feet plus 20 percent of the facility's landscapable area in excess of 20,000 square feet; (3) Only efficient irrigation systems shall be used; and (4) The use of water features and/or fountains shall be limited and shall be equipped with water recycling or reuse systems.*
***Monitoring/Reporting:** The Annual Report required by A.R.S. § 45-632 shall include a copy of the ordinance or sample conditions of new service agreement used to meet the implementation requirements for this RCM. This shall be submitted one time only (the first year of compliance with the Non-Per Capita Conservation Program) unless there is an amendment to the ordinance or agreement.*

"

Reason for Modification: The requirements in this RCM were intended to apply to large commercial and industrial facilities such as industrial parks, hotels and motels where restrictions on water-intensive landscaping would not prohibit the intended use of the facility. The Department did not intend the RCM to apply to schools, parks, cemeteries, common areas of housing developments and public recreational facilities. The RCM as originally adopted excluded those facilities, but only if they had a water-intensive landscaped area greater than or equal to ten acres. This modification excludes all schools, parks, cemeteries, common areas of housing developments and public recreational facilities regardless of their size, which is what the Department intended when it originally adopted this RCM.

Appendix 5-F.4

Appendix 5-F.4 of Chapter 5 is modified to read as follows:

"SUBSTITUTE RCM LIST

The Substitute RCM List for the Pinal Active Management Area (AMA) is filed in the Department's Pinal AMA office. A copy of the list effective as of the date of this plan follows in this Appendix. Because the list may be amended in the manner described below, a current list is available upon request from the Pinal AMA office.

PROCEDURE FOR MODIFICATION OF SUBSTITUTE RCM LIST

1. *A municipal provider who seeks to add an RCM to the Substitute RCM List for the Pinal AMA may apply at any time to the director for a modification of the list. The application shall be made on a form prescribed and furnished by the director.*

2. *The director shall review each request for a modification of the Substitute RCM List. The director may request additional information from the applicant and may seek information from other sources as may be necessary to determine whether the list should be modified.*

3. *If the director approves the addition of an RCM to the Substitute RCM List, the director shall place the RCM on a supplemental list that shall be considered an addendum to the Substitute RCM List. The supplemental list shall be available upon request from the Pinal AMA office.*

4. *The director may add an RCM to the Substitute RCM List for the Pinal AMA on the director's own initiative if the director determines that implementation of the RCM, either by itself or in combination with one or more other RCMs on the Substitute RCM List, will result in a water use efficiency for the applicable water use category equivalent to the efficiency that would result from implementation of one or more of the required RCMs for that water use category.*

RCM	*Description*	*Implementation*
	Residential Interior	
Low Flow Plumbing Rebate Program for Existing Residential Customers	*Provider grants a financial rebate to residential homeowners who elect to replace existing high water use toilets, showerheads and faucets with low-flow devices, consistent with the AWEPA.*	*Negotiated and approved by the director.*
Toilet Leak Detection & Repair Program for Existing Residential Customers	*Provider supplies non-toxic dye tablets and instructions to conduct a toilet leak detection analysis and suggestions for leak repairs.*	*Negotiated and approved by the director.*
~~*Landscape Retrofit Program for Existing Residential Customers*~~	~~*Provider grants financial incentives, including rebates, to existing customers for conversion of existing high water use landscapes to low water use landscapes. Provider supplies examples of landscape plans, plant lists, irrigation methods, and information on soil amendments and preparation.*~~	~~*Negotiated and approved by the director.*~~
	Residential Exterior	
Effluent Reuse - Recycled Wastewater for Existing or New Residential Customers	*Provider develops an effluent reuse system for existing or new housing developments and provides incentives for the reuse of effluent at facilities capable of utilizing the resource.*	*Negotiated and approved by the director.*
Low Water Use Ordinance or Condition of New Service for New Residential Customers	*Provider develops conditions of new service or ordinances that limit turf and other water-intensive landscaping in all new developments consistent with the new single family and multifamily residential exterior water use models in the Third Management Plan for the provider's AMA.*	*Negotiated and approved by the director.*
LANDSCAPE RETROFIT PROGRAM FOR EXISTING RESIDENTIAL CUSTOMERS	PROVIDER GRANTS FINANCIAL INCENTIVES, INCLUDING REBATES, TO EXISTING CUSTOMERS FOR CONVERSION OF EXISTING HIGH WATER USE LANDSCAPES TO LOW WATER USE LANDSCAPES. PROVIDER SUPPLIES EXAMPLES OF LANDSCAPE PLANS, PLANT LISTS, IRRIGATION METHODS, AND INFORMATION ON SOIL AMENDMENTS AND PREPARATION.	NEGOTIATED AND APPROVED BY THE DIRECTOR.
	Non-Residential Interior	
	[No change]	
	Non-Residential Exterior	
	[No change]	
	Education	
	[No change]	

RCM	*Description*	*Implementation*
	System-Related Measures	
	[No change]	

"

Reason for Modification: The substitute RCM entitled "Landscape Retrofit Program For Existing Residential Customers" was mistakenly placed in the Residential Interior category of the Substitute Reasonable Conservation Measures list when the Third Management Plan was adopted. This modification removes the substitute RCM from that category and places it in the Residential Exterior category of the Substitute Reasonable Conservation Measures list.

MODIFICATIONS TO CHAPTER 6

INDUSTRIAL CONSERVATION PROGRAM

THIRD MANAGEMENT PLAN

PINAL ACTIVE MANAGEMENT AREA

The following are modifications to Chapter 6, "Industrial Conservation Program," of the management plan for the Pinal Active Management Area for the third management period. References are to Attachment No. 1 to the Final Order of Adoption dated December 13, 1999. Language added to an existing section is shown in upper case letters. Language deleted from an existing section is over stricken. Where no change is made to an existing subsection or paragraph, "No change" is indicated.

Section 6-202

Section 6-202 of the Industrial Conservation Requirements and Monitoring and Reporting Requirements for All Industrial Users in Chapter 6 is modified to read as follows:

"6-202. Conservation Requirements

Beginning on January 1, 2002 or upon commencement of water use, whichever is later, and continuing thereafter until the first compliance date for any substitute conservation requirement in the Fourth Management Plan, an industrial user shall comply with the following requirements:

1. *[No change]*

2. *[No change]*

3. *[No change]*

4. *[No change]*

5. *Do not serve or use groundwater for the purpose of watering landscaping plants planted on or after January 1, 2002 within any publicly owned right-of-way of a highway, street, road, sidewalk, curb, or shoulder which is used for travel in any ordinary mode, including pedestrian travel, unless the plants are listed on the Drought Tolerant/Low Water Use Plant List for the Pinal AMA (Appendix 5I), or any modifications to the list. The director may waive this requirement upon request from the industrial user if ~~a waiver is in the public interest~~* THE INDUSTRIAL USER DEMONSTRATES TO THE SATISFACTION OF THE DIRECTOR THAT PLANTS LISTED IN APPENDIX 5I, DROUGHT TOLERANT/LOW WATER USE PLANT LIST FOR THE PINAL ACTIVE MANAGEMENT AREA, OR ANY SUBSEQUENT MODIFICATIONS TO THE LIST, CANNOT GROW IN THE PUBLICLY OWNED RIGHT-OF-WAY BECAUSE OF HIGH ELEVATION OR LOW LIGHT CONDITIONS, SUCH AS A FREEWAY UNDERPASS. *This requirement does not apply to any portion of a residential lot that extends into a publicly owned right-of-way.*

6. *Do not serve or use groundwater for the purpose of maintaining water features, including fountains, waterfalls, ponds, water courses, and other artificial water structures, installed after January 1, 2002 within any publicly owned right-of-way of a highway, street, road, sidewalk, curb, or shoulder that is used for travel in any ordinary mode, including pedestrian travel. ~~The director may waive this requirement upon request from the industrial user if a waiver is in the public interest~~. This requirement does not apply to any portion of a residential lot that extends into a publicly owned right-of-way."*

Reason for modification – This modification changes the criteria for obtaining a waiver from the landscape requirement for publicly owned rights-of-way. Under the new language a wavier will be granted only upon a demonstration that plants listed on the Low Water Use Plant List will not grow in the right-of-way because of high elevation or low-light conditions. The language allowing an industrial user to obtain a waiver from the provision prohibiting the service of groundwater to new water features in publicly owned rights-of-way if the waiver is in the public interest was deleted because the Department determined that such a waiver would not be appropriate under any circumstances.

Section 6-1001

Section 6-1001 of the Industrial Conservation Requirements and Monitoring and Reporting Requirements for New Large Landscape Users in Chapter 6 is modified to read as follows:

"6-1001. Definitions

In addition to the definitions set forth in Chapters 1 and 2 of Title 45 of the Arizona Revised Statutes and section 6-201 of this chapter, unless the context otherwise requires, the following words and phrases used in sections 6-1002 and 6-1003 of this chapter shall have the following meanings:

1. *[No change]*

2. *[No change]*

3. *[No change]*

4. *"New large landscape user" means a non-residential facility that has a water-intensive landscaped area in excess of 10,000 square feet and that has landscaping planted and maintained after January 1, 1990 or bodies of water, other than bodies of water used primarily for swimming purposes, filled and maintained after January 1, 1990, or both.* THE FOLLOWING FACILITIES ARE EXCLUDED FROM THIS DEFINITION: ~~*Turf related facilities as defined in section 6-301 of this chapter are excluded from this definition*~~ SCHOOLS, PARKS, CEMETERIES, GOLF COURSES, COMMON AREAS OF HOUSING DEVELOPMENTS AND PUBLIC RECREATIONAL FACILITIES.

5. *[No change]"*

Reason for modification – When the Third Management Plan was adopted, the Department intended the conservation requirements for new large landscape users to apply only to large commercial and institutional facilities such as industrial parks, hotels and motels, where the restrictions on water-intensive landscaping would not prohibit the intended use of the facility. The Department did not intend the requirements to apply to schools, parks, cemeteries, golf courses, common areas of housing developments and public recreational facilities. This modification excludes these facilities from the definition of "new large landscape user."

MODIFICATIONS TO CHAPTER 9,

WATER MANAGEMENT ASSISTANCE PROGRAM

THIRD MANAGEMENT PLAN

PINAL ACTIVE MANAGEMENT AREA

The following are modifications to Chapter 9, "Water Management Assistance Program," of the management plan for the Pinal Active Management Area for the third management period. References are to Attachment No. 1 to the Final Order of Adoption dated December 13, 1999. Language added to an existing section is shown in upper case letters. Language deleted from an existing section is overstricken. When no change is made to an existing subsection or paragraph, "No Change" is indicated.

9.1 INTRODUCTION

[No change]

9.2 STATUTORY PROVISIONS

[No change]

9.3 SECOND MANAGEMENT PLAN PROGRAM ASSESSMENT

[No change]

9.4 THIRD MANAGEMENT PLAN PROGRAM GOALS AND OBJECTIVES

[No change]

9.5 THE THIRD MANAGEMENT PLAN WATER MANAGEMENT ASSISTANCE PROGRAM

9.5.1 Allocation of Program Funds

The focus of the Third Management Plan Water Management Assistance Program is on allocating funds for augmentation and conservation projects. Allocation of program funds includes fund categories for augmentation and conservation assistance, project selection process and evaluation criteria, and fund allocation methods.

9.5.1.1 Fund Categories

[No change]

9.5.1.2 Project Selection

While any effort that leads to the augmentation or conservation of water resources is to be encouraged and commended, the efforts that should be supported by the augmentation and conservation assistance fund at any particular time will depend on many factors. These factors will determine what portion of the fund should be devoted to augmentation or conservation projects, what portion of the fund should be devoted to each water use sector, what augmentation or conservation projects should be supported within a particular sector, and what portion of the fund should support projects through the Department. The purpose of this section is to discuss the factors or criteria that will guide the selection decisions and the process under which that decision-making will occur during the third management period.

9.5.1.2.1 Selection Process

The decision-making process must allow for a great deal of flexibility. During the third management period, changes may occur in water use patterns, technological advances, social values, institutional constraints, and the economic feasibility of conservation or augmentation projects. In light of this potential for change, it is impractical at this time to determine the types of augmentation or conservation projects that merit funding. The alternative is to develop a project selection process that is flexible, as well as politically and publicly responsive. This is accomplished by creating a process similar to the one used for selecting augmentation and conservation projects during the second management period, a process that involved full participation of the GUAC. The GUAC's regularly scheduled meetings provide an excellent forum for public review and comment on projects and proposals.

THE GUAC AND DEPARTMENT STAFF WILL ANALYZE POTENTIAL PROJECTS USING THE SELECTION CRITERIA SET FORTH IN SECTION 9.5.1.2.2 BELOW AND MAKE A RECOMMENDATION TO THE DIRECTOR. THE DIRECTOR WILL DECIDE WHETHER THE PROJECT WILL BE FUNDED, AND, IF SO, HOW IT WILL BE FUNDED. IF THE PROJECT IS TO BE IMPLEMENTED BY AN ENTITY OTHER THAN THE DEPARTMENT, THE DEPARTMENT WILL FUND THE PROJECT IN ONE OF THE FOLLOWING THREE WAYS: 1) THROUGH AN IGA WITH ANOTHER GOVERNMENTAL ENTITY; 2) THROUGH A CONTRACT PURSUANT TO THE STATE PROCUREMENT CODE; OR 3) THROUGH A GRANT PURSUANT TO THE GRANT SOLICITATION AND AWARD PROCEDURES SET FORTH IN A.R.S. § 41-2702, UNLESS THE PROJECT IS FOR MONITORING AND ASSESSING WATER AVAILABILITY. IF THE PROJECT IS TO BE IMPLEMENTED BY THE DEPARTMENT, THE DEPARTMENT WILL USE MONIES DIRECTLY FROM THE AUGMENTATION AND CONSERVATION ASSISTANCE FUND.

~~Each year, the Department will provide notice to water users within the Pinal AMA of the procedures that will be used for submitting project proposals to be considered for funding. The notice may include an identification of the categories or types of projects that the Department would like to see funded during the year. Following this notice, proposals will be solicited from water users. The Department may also submit its own projects for consideration. Using the evaluation criteria set forth below, the proposals will be reviewed by the AMA staff and GUAC, who will grade the proposals as to their relative merits. The GUAC will then recommend projects for funding to the director. If the GUAC recommends a project proposed by the Department, the GUAC will also recommend whether the project should be implemented by the Department or another entity based on an evaluation of efficiency, effectiveness, and short term and long term benefits to the AMA. The director will then consider the GUAC and AMA staff recommendations and determine which projects should be funded.~~

9.5.1.2.2 ~~Evaluation~~ PROJECT SELECTION Criteria

For the third management period, the ~~evaluation~~ criteria that will be used by the GUAC and AMA staff in recommending projects to receive monies from the augmentation and conservation assistance fund are designed to provide maximum flexibility in satisfying the program goals and objectives. This approach, unlike the one used for the Second Management Plan, is not restricted by specific program areas or fund categories that may not meet changing needs and priorities in the future. NINE ~~Ten evaluation~~ criteria will be used in selecting both conservation and augmentation projects, and all of the criteria will be assigned the same weight.

1. Compliance with applicable federal, state, and local regulations.

2. Cost-effectiveness of the project.

3. Compatibility with current Department programs and policies, and consistency with the AMA's water management goal and objectives.

4. Need for and likelihood of community support for the project.

5. Extent to which the type of project has previously been proven feasible and effective, or extent to which implementation of the project will provide information on feasibility and effectiveness if not previously proven.

6. Demonstrated need for the project.

7. Promotion of efficient use of water supplies.

~~8. Past performance of project proponent with regard to implementing augmentation or conservation projects.~~

~~9.~~ 8. Ability ~~of the project proponent~~ to obtain matching or additional funds.

~~10~~. 9. Duration of project benefits.

In addition to using the above evaluation criteria, the GUAC may also choose to give special preference points to specific fund categories and/or types of projects. For example, preference points may be given to those augmentation projects that increase the use of CAP supplies or to those conservation projects that benefit the water use sector that provides the majority of the program funds. These special categories may change from year to year. The number of extra preference points given will be subject to the discretion of the GUAC.

9.5.1.3 Fund Allocation Methods

Once an augmentation or conservation project has been selected to receive monies from the fund, the method that will be used to allocate monies for the project will depend on the type of entity chosen to implement the project. If the project is to be implemented by a private entity, the Department will either allocate the money through a grant contract ~~to the entity proposing the project~~ PURSUANT TO THE GRANT SOLICITATION AND AWARD PROCEDURES SET FORTH IN A.R.S.§ 41-2702, or seek requests for proposals (RFPs) from private contractors under the provisions of Arizona's Procurement Code~~.~~, A.R.S. § 41-2501, *et seq*. If RFPs are sought, all of the RFPs received by the advertised deadline will be evaluated by the Department. A contract will then be executed with that entity whose RFP best meets the applicable contract guidelines. If the project is to be implemented by a public agency, board, or commission, the Department will either allocate the money to the entity through a grant contract, IF THE PUBLIC AGENCY IS SELECTED FOR A GRANT AWARD THROUGH THE GRANT SOLICITATION AND AWARD PROCESS, or execute an intergovernmental agreement (IGA) pursuant to A.R.S. § 11-952. If the project is to be implemented by the Department, monies will be withdrawn from the fund for payment of the costs of the project as they accrue. The Department may also select a contractor through the RFP process to perform specific services in accordance with Arizona's Procurement Code.

LEGISLATION ENACTED IN 1999, A.R.S. §§ 41-2701, ET SEQ., HAS RESULTED IN CHANGES TO THE DEPARTMENT'S GRANT SOLICITATION AND AWARD PROCESS DURING THE THIRD MANAGEMENT PERIOD. THE LEGISLATION ESTABLISHES PROCEDURES THAT A STATE AGENCY MUST FOLLOW IN SOLICITING AND AWARDING GRANTS. THE LEGISLATION REQUIRES THAT A SOLICITATION FOR GRANT APPLICATIONS CONTAIN SPECIFIC INFORMATION, INCLUDING A DESCRIPTION OF THE PROJECT, THE SCOPE OF

WORK TO BE PERFORMED BY AN AWARDEE, THE CRITERIA UNDER WHICH APPLICATIONS WILL BE EVALUATED FOR AWARD, THE RELATIVE IMPORTANCE OF EACH CRITERIA AND THE DUE DATE FOR SUBMITTAL OF APPLICATIONS. A.R.S. § 41-2702(B). GRANT APPLICATIONS MUST BE EVALUATED BY AT LEAST THREE EVALUATORS WHO ARE PEERS OR OTHER QUALIFIED INDIVIDUALS, AND THE EVALUATORS MUST REVIEW EACH APPLICATION BASED SOLELY ON THE EVALUATION CRITERIA SET FORTH IN THE REQUEST FOR GRANT APPLICATIONS. A.R.S. § 41-2702(F) AND (G). ALL INFORMATION IN A GRANT APPLICATION, EXCEPT THE NAME OF THE APPLICANT, MUST REMAIN CONFIDENTIAL DURING THE PROCESS OF EVALUATION. A.R.S. § 41-2702(E). THE EVALUATORS ARE REQUIRED TO MAKE AWARD RECOMMENDATIONS TO THE HEAD OF THE STATE AGENCY, WHICH MAY INCLUDE THE ADJUSTMENT OF THE BUDGETS OF THE APPLICANTS INDIVIDUALLY OR COLLECTIVELY. A.R.S. § 41-2702(H). THE HEAD OF THE STATE AGENCY MAY AFFIRM, MODIFY OR REJECT THE EVALUATORS' RECOMMENDATION IN WHOLE OR IN PART. A.R.S. § 41-2702(I).

BECAUSE OF THE REQUIREMENT THAT MOST INFORMATION IN A GRANT APPLICATION REMAIN CONFIDENTIAL DURING THE EVALUATION PERIOD, GRANT APPLICATIONS WILL NO LONGER BE REVIEWED OR DISCUSSED AT GUAC MEETINGS. HOWEVER, THE GUAC WILL CONTINUE TO PLAY AN IMPORTANT ROLE IN THE GRANT PROCESS BY ASSISTING THE DEPARTMENT IN SELECTING PROJECTS FOR FUNDING PRIOR TO THE SOLICITATION OF GRANT APPLICATIONS. THE GUAC WILL RECOMMEND PROJECTS TO THE DIRECTOR USING THE SELECTION CRITERIA DESCRIBED IN SECTION 9.5.1.2.2.

9.5.2 Fund Accounting

[No change]

9.6 THE DEPARTMENT'S ROLE IN PROGRAM ACTIVITIES

[No change]

9.7 FUTURE DIRECTIONS

[No change]

Reason for Modification: These modifications conform Chapter 9 to legislation enacted in 1999 (A.R.S. §§ 41-2701 through 41-2706) requiring state agencies to follow specific procedures in soliciting and awarding grants. Those procedures include: 1) publishing notice of a request for grant applications which includes a description of the nature of the grant project, the scope of work to be performed by an awardee, and the criteria under which applications will be evaluated; 2) appointing at least three peers or other qualified individuals to evaluate the applications; and 3) keeping all information in the applications confidential until the grants are awarded. The grant process described in the chapter as originally adopted did not conform with these procedures because it allowed the Department to notify potential applicants of the general categories for which grants will be considered, rather than specific grant projects for which grants will be awarded, and it required the grant evaluators to consult with the Groundwater User's Advisory Council when evaluating applications.