

*Plan Implementation and Additional Well
Spacing Criteria*



10.1 INTRODUCTION

This chapter describes the process the Arizona Department of Water Resources (Department) will follow when implementing, determining compliance with, and enforcing compliance with the Third Management Plan requirements. These plan elements will be carried out in accordance with the Department's overall regulatory approach, which is described in the preface to Section II, Regulatory Programs.

As the goal of the Santa Cruz Active Management Area (AMA) is further refined, assured water supply consistency with goal criteria are developed and adopted, and water rights issues are addressed, this plan is expected to be modified. Programs may change and conservation requirements may be revised and renoticed. This chapter is in the plan for the Santa Cruz AMA to ensure that a description of the Department's approach to plan implementation is included. Regardless of the changes made to the programs contained in the plan for the Santa Cruz AMA, the Department will continue to notice water users of their conservation requirements; accept requests for variance and administrative review; provide for plan modification; require water users to properly measure, record, and report their water withdrawals and water use; audit annual water use reports; perform field inspections where water withdrawal, transportation, and use facilities are located; and enforce the provisions of this plan and the Groundwater Code (Code).

The following topics are discussed in the order listed:

- Notice of Conservation Requirements - Compliance Dates
- Variance and Administrative Review Process
- Plan Modification Procedures
- Water Use Reporting Requirements
- Monitoring and Audit Procedures
- Compliance Approach
- Well Spacing Criteria

10.2 NOTICE OF CONSERVATION REQUIREMENTS - COMPLIANCE DATES

Within 30 days of adoption of the Third Management Plan, the Department will mail written notice of the irrigation water duties and conservation requirements established in the plan to the persons required to comply with the requirements. A.R.S. § 45-566(B). The written notice will set forth the final irrigation water duty or conservation requirement that will become effective on January 1, 2010 and any intermediate conservation requirements that must be complied with prior to that time. Two years before the compliance date for an irrigation water duty or conservation requirement established in the Third Management Plan, the Department will give additional written notice of the requirement to the person required to comply. A.R.S. § 45-566(B).

A person who receives notice of an irrigation water duty or conservation requirement established in the Third Management Plan must begin complying with the requirement by the date specified in the notice, unless the person applies for and is granted a variance, as explained in section 10.3. A.R.S. § 45-566(C). The person must continue complying with the requirement until the effective date of any substitute irrigation water duty or conservation requirement established in the Third or Fourth Management Plans. If a person receives notice of a Third Management Plan irrigation water duty or conservation requirement

that replaces an irrigation water duty or conservation requirement established for the person in the Second Management Plan, the person must continue complying with the Second Management Plan irrigation water duty or conservation requirement until the effective date of the Third Management Plan requirement.

The director may give written notice of a conservation requirement at any time to a person with a right or permit to withdraw, distribute, or use water withdrawn from a well or wells that were not in existence when the management plan was adopted. The person given written notice must comply with the conservation requirement not later than the compliance date specified in the notice, unless the person applies for and is granted a variance. A.R.S. § 45-571.01(B) and (C).

10.3 VARIANCE AND ADMINISTRATIVE REVIEW PROCESS

Upon receipt of a notice of a Third Management Plan irrigation water duty or conservation requirement, a person may apply for a variance from or seek administrative review of the water duty or conservation requirement. In general, a variance gives a person additional time to comply with an irrigation water duty or conservation requirement, while an administrative review can result in an adjustment to the requirement for that management period. Each of these processes is described below.

10.3.1 Variance

If a person requires additional time to comply with a new irrigation water duty or conservation requirement, the person may apply for a variance. An application for a variance must be filed within 90 days of the date of the notice of the irrigation water duty or conservation requirement given two years prior to the compliance date for the requirement. A.R.S. § 45-574(A). The director may grant a variance for up to five years upon a showing that “compelling economic circumstances” will prevent the person from complying with the new irrigation water duty or conservation requirement by the compliance date specified in the notice. A person granted a variance must continue complying with any existing irrigation water duty or conservation requirement during the variance period, unless the director establishes a schedule of intermediate water duties or conservation requirements to be reached at specified intervals during the variance period. A.R.S. § 45-574(C).

10.3.2 Administrative Review

If a person believes that an error or omission was made in calculating the person’s irrigation water duty or conservation requirement, the person may request an administrative review of the irrigation water duty or conservation requirement. If granted, an administrative review can result in a permanent adjustment to the irrigation water duty or conservation requirement. An application for administrative review must be filed within 90 days of the date of the notice of the irrigation water duty or conservation requirement given within 30 days of adoption of the management plan, if the application is based on circumstances in existence as of the date of the notice. A.R.S. § 45-575(A).

At any time during the third management period, a person may seek administrative review of the person’s irrigation water duty or conservation requirement based on a claim that “extraordinary circumstances not in existence as of the date of notice that was given thirty days after adoption of the management plan” justify revision of the irrigation water duty or conservation requirement. The director may revise the irrigation water duty or conservation requirement based on clear and convincing evidence that extraordinary circumstances not in existence as of the date of notice make it unreasonable to require compliance with the irrigation water duty or conservation requirement. A.R.S. § 45-575(B).

In determining whether extraordinary circumstances exist that render an irrigation water duty or conservation requirement unreasonable, the director will consider among other things whether actual

conditions that came into existence after the date of notice are significantly different from those conditions in effect at the date of notice.

Examples of extraordinary circumstances may include the following situations: changes in water quality that necessitate altering water application rates for irrigation grandfathered rights; changes in technology or economics that are significantly different from the Department's projections or assumptions; and changes in federal, state, and local laws and regulations that prevent compliance with irrigation water duties or conservation requirements.

Additionally, a municipal provider that is subject to the Non-Per Capita Conservation Program (NPCCP) may seek administrative review of a conservation requirement, other than a conservation requirement for an individual user, only if the municipal provider claims at any time that "significant circumstances that did not exist when the municipal provider's application for the NPCCP was approved by the director" justify the modification. The director may modify the conservation requirement upon clear and convincing evidence that significant circumstances that did not exist when the application was approved by the director make it unreasonable to require compliance. A.R.S. § 45-575(C).

10.4 PLAN MODIFICATION PROCEDURES

At any time after the Third Management Plan is adopted, the plan may be modified pursuant to the same public hearing and comment procedures required for adoption of the plan. A.R.S. § 45-572(A). Further, the director may modify an irrigation water duty or conservation requirement established in the plan "only if the director determines that extraordinary circumstances, errors, or mistakes justify the modification." A.R.S. § 45-572(A).

Within 30 days of a modification of an irrigation water duty or conservation requirement, the Department must give written notice of the modification to the person required to comply with the modified requirement. The person may request a variance from or an administrative review of the modified irrigation water duty or conservation requirement within 90 days of the date of the notice. A.R.S. § 45-572(B) and (C).

10.5 WATER USE REPORTING REQUIREMENTS

The Code contains a number of provisions that enable the Department to acquire needed information on water use. This information is used to evaluate compliance with the Code and Department rules, permits, and management plans. The water use monitoring and reporting requirements, which are summarized below, are also designed to give water users the data needed to assess their progress in attaining conservation requirements.

10.5.1 Water Measurement

The Code requires persons withdrawing water from non-exempt wells in AMAs to measure those withdrawals using a water measuring device approved by the director. A.R.S. § 45-604. However, some small irrigation and non-irrigation users are exempt from the measuring device requirements. The Department has adopted rules requiring the use of an approved device, or a combination of devices and methods, for measuring rates and volumes of water withdrawals for the calculation of the total annual volume of water withdrawn. A.A.C. R12-15-901, *et seq.* Persons subject to the measuring device requirements must maintain the accuracy of the device within specific standards.

10.5.2 Records and Annual Reports

The Code requires most persons who own or lease a right or permit to withdraw, receive, or use water withdrawn from wells to file an Annual Water Withdrawal and Use Report with the director for each right or permit they hold. All persons required to file annual reports must maintain current and accurate records of water withdrawn, delivered, received, and used. A.R.S. § 45-632.

Persons withdrawing water from exempt wells and most non-irrigation customers of cities, towns, private water companies, and irrigation districts are exempt from record keeping and reporting requirements. Persons receiving water pursuant to a grandfathered right or a water withdrawal permit and persons assigned and noticed of individual user requirements must meet the record keeping and reporting requirements, although certain small right holders are exempted from those provisions.

10.6 MONITORING AND AUDIT PROCEDURES

The Department has the authority to determine compliance with Code, management plan, and rule requirements. This authority is described below.

10.6.1 Measuring Devices

The Department monitors compliance with the measuring device requirements, as required by A.A.C. R12-15-901, *et seq.*, through review of Annual Water Withdrawal and Use Reports, field investigations, and evaluations of energy usage. Before field visits, the Department generally contacts well owners to ask for their cooperation and presence during the inspection. Standardized procedures and equipment are used to test the accuracy of measuring devices. The Department checks a significant percentage of the wells in the Santa Cruz AMA for accuracy each year.

10.6.2 Irrigation Acreage and Water Use Monitoring

The Department monitors irrigated acreage and irrigation water use in the Santa Cruz AMA using annual reports, crop records, energy use records, aerial photography, and satellite-based remote sensing data. These procedures are also used to determine the accuracy of annual water use reports and to detect illegal irrigation. The Department investigates any potential discrepancies or violations identified using these methods.

10.6.3 Annual Report Reviews and Audits

The Department reviews all annual water withdrawal and use reports. This is the Department's primary means for determining compliance with conservation requirements, measuring requirements, and water right or permit limitations.

Each year, the Department conducts official audits of a significant number of annual reports to check the accuracy of the reports and to verify suspected problems. An audit is a detailed review by Department staff of a person's water use records. Each person audited is requested to attend the audit. Audits ensure overall compliance with the Code and the management plan for the Santa Cruz AMA.

10.6.4 Inspections

The Code allows the Department to enter property where facilities are located that are used for the withdrawal, transportation, or use of water from a well. This authority allows the Department to inspect facilities and lands subject to Code provisions and obtain data or access to records relating to the withdrawal, use, or transportation of water from a well. A.R.S. § 45-633.

The Department is generally required to give persons reasonable notice of inspections or investigations unless entry is sought solely to inspect a measuring device. Notice is not required in the rare cases in which there is reason to believe that notice would impede enforcement efforts.

10.7 COMPLIANCE APPROACH

The Department has developed a compliance program approach that includes education, assistance, and flexibility.

10.7.1 Education and Assistance

The Department informs water users of their conservation and reporting requirements as described in section 10.2 of this chapter. The Department also educates water users by explaining how the requirements were derived and how the user can achieve those requirements. This is done through advisory committees, detailed program descriptions contained in reports and issue papers, public presentations, the publication of this management plan, and individual meetings with interested users.

Annual flexibility account balance statements are sent to all affected users allowing them to monitor their compliance status. Irrigation grandfathered right holders who have exceeded the debit limits of their flex accounts or who are close to exceeding them are notified of their status and given the opportunity to reduce water usage or purchase flex credits to avoid an enforcement action. However, irrigation grandfathered right holders regulated under the Historic Cropping Program may not purchase flex credits.

Financial and technical assistance is available to water users to assist them in meeting their conservation requirements. This assistance is more fully described in Chapter 9.

10.7.2 Determination of Compliance

The mandatory conservation programs in the Third Management Plan are designed to achieve reductions in water withdrawn from wells and water use. Consequently, the persons given notice of irrigation water duties and conservation requirements established in the plan are required to comply with those irrigation water duties and conservation requirements only in those years in which they withdraw, distribute, or receive water from a well. The following two sections describe how the Department determines compliance with conservation requirements when water withdrawn from a well is used.

10.7.2.1 Maximum Annual Water Allotments and Gallons Per Capita Per Day Requirements

The Third Management Plan establishes maximum annual water allotments for irrigation grandfathered rights, turf-related facilities, and other industrial users. Municipal providers regulated under the Total GPCD Program and the Alternative Conservation Program are required to comply with gallons per capita per day (GPCD) requirements. The requirements are similar to maximum annual water allotments in that they limit the amount of water that may be used during a year to a predetermined amount. A person's compliance with a maximum annual water allotment or GPCD requirement is generally determined by comparing the total amount of water used by the person during the year with the amount of water allowed by the allotment or GPCD requirement. However, the use of water in excess of the allotment or GPCD requirement during a year does not necessarily mean that the person is out of compliance for the year. To account for weather variations and other factors that may result in the use of more water in some years than others, the Department determines compliance through the operation of a flexibility account.

Flexibility accounts are used to determine compliance for municipal providers subject to GPCD requirements, turf-related facilities, and irrigation grandfathered rights. The total water use reported by the user for the year is compared with the amount of water the user was entitled to use during the year.

Generally, if the total amount of water used during the year is less than the allotment for the year, the flexibility account is credited with the difference. If the water use exceeds the allotment, the flexibility account is debited with the difference. A user is out of compliance with its allotment or GPCD requirement in any year in which its flexibility account is debited with an amount of water that causes the account balance to exceed the maximum negative balance allowed for the use.

If an irrigation grandfathered right, turf-related facility, or municipal provider uses water during a year in an amount which causes its flexibility account to exceed its maximum negative account balance, a violation occurs but only to the extent that water withdrawn from a well is included in excess. The majority of water users in the Santa Cruz AMA withdraw water from wells along the Santa Cruz River. This water may at times be shallow water moving just below the land surface. Effluent is also discharged into the Santa Cruz River and some portion of water withdrawals in the area of discharge and downstream may be made up this source of supply. Groundwater may also be withdrawn from wells along the river. The legislature recognized this intermingling of different sources when it created the Santa Cruz AMA in 1994. Because this intermingling of separate sources combines to fill the storage capacity of the Younger Alluvium of the river, the Department considers all water withdrawn from wells, other than stored water, in determining compliance with conservation requirements in the management plans for the Santa Cruz AMA. However, should an irrigation grandfathered right, turf-related facility, or municipal provider use water from a source other than a well, such as a direct diversion of surface water flow or the direct delivery of effluent through a distribution line separate and distinct from a potable distribution system, the water withdrawn from wells would be “stacked” on top of the water from any other source. This is known as the process of “stacking.”

Under the stacking process, water from all sources used by a person during a year, with certain exceptions, is counted when comparing the person’s water use to the maximum annual water allotment or GPCD requirement. This process counts last the water withdrawn from a well or wells. Because water withdrawn from wells is counted last, the amount of any water used by a person in excess of its allotment or GPCD requirement will be comprised, at least partially, of water withdrawn from wells.

10.7.2.2 Specific Conservation Measures

Municipal providers regulated under the NPCCP are required to comply with specific conservation measures instead of GPCD requirements. Sand and gravel facilities and new large landscape users are required to comply with conservation measures specific to their type of use instead of maximum annual water allotments. For these municipal providers and industrial users, compliance will be determined by ascertaining whether they implemented their specific conservation measures in the manner required by the management plan rather than by comparing their water use to a volumetric allotment. They are out of compliance if they fail to implement the conservation measures in the required manner.

All industrial users, including those subject to maximum annual water allotments, are required to comply with the conservation measures established for All Industrial Users in section 6-202 of Chapter 6. These conservation requirements include general requirements to avoid waste and make efforts to recycle water. They also include more specific requirements relating to low water use landscaping, landscaping and water features in publicly-owned rights-of-way, single pass heating and cooling, and low flow plumbing fixtures. In addition to these requirements, section 6-602 of Chapter 6 requires that all new large industrial users submit a water conservation plan to the director.

10.7.3 The Enforcement Process

When the Department’s monitoring program identifies a potential violation or when third party complaints are received about the activities of another user, an investigation is conducted to obtain the facts.

An investigation may involve a field inspection by Department staff or an audit at the Department's office after notice to the potential violator. The Department may request that the individual produce relevant records for the inspection or audit. Based on the investigation, the Department will determine whether there has been a violation and, if so, what course of action to take.

Where the violation is minor and does not require corrective action, the Department may bring the compliance action to a close with an advisory letter upon discontinuance of the violation. For more serious violations where there is reason to believe a person is violating or has violated a statute, permit, rule, or management plan provision, enforcement action will be taken by the Department.

During the first and second management periods, the Department took a non-traditional approach to enforcement. Given the recent introduction of the Code and management plans, a high level of tolerance was employed. Fines were set at low levels and probationary provisions and advisory notices were widely used. Usually, for unintentional violations of management plan requirements such as GPCD limits and maximum turf or irrigation grandfathered right allotments, the Department deferred any monetary penalties. Instead, it allowed the violator to develop or expand conservation measures designed to help the violator reduce water use. The Department felt that the long-term benefits of a properly designed and implemented conservation program, tightly structured and closely monitored, would exceed the benefits of a traditional monetary penalty program.

For a management plan violation, the violator was given the following options:

- Contest the enforcement action by requesting a hearing; or
- Pay a predetermined monetary penalty, generally based on the amount of water used in excess of the requirement; or
- Negotiate a mitigation program with the Department designed to develop or expand conservation programs intended to assist the violator in achieving future compliance.

The results of this enforcement strategy have been mixed. Some mitigation programs developed under this approach have been successful in increasing water use efficiency, while others have been less effective. In most cases, significant and sometimes disproportionate amounts of time and resources have been invested by both the violators and the Department.

The Third Management Plan approach to enforcement will exercise flexibility on a more limited scale. The arguments of "newness and complexity" will be less compelling in this management period. Previous violations will be considered in determining the appropriate compliance approach. In addition, the Department may consider new compliance approaches during the management period for Code and management plan violations. One possible provision would employ a replenishment option. This may involve storage of effluent or other water not withdrawn from a well that is designated as nonrecoverable, as defined by A.R.S. § 45-833.01. The volume replenished would compensate for the violation. A related approach may allow the purchase and extinguishment of long-term storage credits to offset a violation. The result of these approaches is a penalty that compensates for a violation and results in a positive water resource activity. If a water user anticipates a violation and informs the Department of this expectation before receiving a notice of noncompliance, the director may consider this voluntary disclosure to be a mitigating factor in determining the appropriate enforcement action.

The Department may consider a more aggressive level of compensation for certain violations as part of its forthcoming "critical area strategy." The portion of the water management goal for the Santa Cruz AMA requiring the prevention of long-term declines in local water table levels may result in more stringent compliance in these areas of the AMA. Such areas might be defined as critical areas through a management plan modification.

Additional enforcement mechanisms are generally reserved for violators not amenable to the previously mentioned approaches. They include contested hearings, cease and desist orders, and civil penalties of up to \$10,000 per day for violations directly related to illegal withdrawals, transportation, or use of water. A.R.S. §§ 45-634 and 45-635.

Extremely serious cases may also be referred for criminal prosecution if persons knowingly violate or refuse to comply with the Code or with a permit, rule, or order issued or adopted under the Code.

10.8 WELL SPACING CRITERIA

The Department evaluates applications to drill new “non-exempt” wells or replacement “non-exempt” wells in new locations through general well spacing rules. A non-exempt well is a well with a capacity to pump greater than 35 gallons of water per minute. The purpose of the general well spacing rules is “to prevent unreasonably increasing damage to surrounding land or other water users from the concentration of wells.” A.R.S. § 45-598(A). These general rules apply to all AMAs including Santa Cruz.

The general well spacing and well impact rules, R12-15-830, pertain to all well permits applications submitted pursuant to A.R.S. § 45-559. The statute requires such applications be approved only if the director of the Department determines that the proposed well “. . . will not unreasonably increase damage to surrounding land or other water users from the concentration of wells.”

The well impact analysis required for new wells drilled pursuant to A.R.S. § 45-559 requires a hydrologic study of projected declines in water levels due to the operation of the proposed well or wells. In appropriate cases, including when the proposed well is to be located in an area of known land subsidence or poor quality water, the director may require the applicant to submit hydrologic studies or data relating to these considerations.

In addition to the general well spacing rules, the statutes require the Santa Cruz AMA to include in its management plan for the third management period “criteria for the location of new wells and replacement wells in new locations consistent with the management goal of the active management area.” A.R.S. § 45-566(A)(11).

The Department’s objective in including these additional well spacing criteria in the Santa Cruz AMA Third Management Plan is to avoid negative impacts from the drilling of new wells or replacement wells in new locations under safe-yield conditions and to avoid long-term declines in local water table levels. Although many are non-exempt wells requiring a notice of intention to drill or a groundwater withdrawal permit, it should be understood that certain types of wells, such as mineral exploration wells, geotechnical wells, monitor wells, and piezometers, are excluded from these well-spacing rules. These types of wells do not pump significant volumes of water and are, therefore, excluded from the well impact rules.

Any non-exempt well proposed to be drilled within the Santa Cruz AMA during the third management period must demonstrate that it will not result in long-term declines in local water table levels. Applicants are strongly encouraged to contact the Department’s Hydrology Division prior to submitting an application to drill a new non-exempt well or a replacement well in a new location to discuss the information required to be included in a hydrologic study.

The Department evaluated existing hydrologic data in the preparation of the Third Management Plan for the Santa Cruz AMA. The available information is sufficient to include well spacing criteria for the AMA at this time. Exempt wells have the capacity to pump 35 gallons of water per minute or less and may pump no more than a total of 10 acre-feet per year. Exempt wells are not regulated for water conservation, are not required to measure and report withdrawals, and are not subject to the Department’s well spacing criteria or the additional well spacing criteria included in this management plan.

The Department will evaluate all new wells and replacement wells in new locations based on the hydrologic impact analysis submitted by the applicant and the most recent hydrologic data for the local area. If at any time until the management plan well spacing criteria are further refined and adopted through a modification of the plan the Department determines that a proposed well will have a negative effect on the maintenance of local water table levels and safe-yield conditions, the Department may refuse to issue the permit.

10.9 WELL SPACING REQUIREMENTS

Within the Santa Cruz AMA, any person proposing to drill a new well, non-exempt well, or a non-exempt replacement well in a new location must include with the application a hydrologic study demonstrating that withdrawals from the proposed well will not result in local water tables experiencing a long-term decline.

10.10 IMPACT OF THE SANTA CRUZ AMA THIRD MANAGEMENT PLAN ON THE TUCSON AMA

The Third Management Plan for the Santa Cruz AMA must include “an evaluation of the potential impact of the plan on the Tucson active management area.” A.R.S. § 45-566(A)(12). Completion of the Department’s hydrologic model for the Santa Cruz AMA will provide an understanding of potential impacts. Potential impacts are likely to evolve during the third management period as augmentation, recharge and distribution projects are developed, constructed, and utilized. Well spacing and local water management are likely to encourage higher water table levels in the Santa Cruz AMA, which could also benefit the Tucson AMA. One potential augmentation project which would capture and store water in the Santa Cruz AMA that might otherwise have entered the Tucson AMA as flood flow may reduce flood flow into the Tucson AMA. (Chapter 8 discusses potential augmentation strategies.) However, this idea, along with all augmentation strategies, will need to be developed further during the third management period prior to construction and implementation of any projects. Many legal issues would need to be resolved before a project could be constructed to retain flood flow. Because demand is increasing as growth occurs in the Santa Cruz AMA, increased efficiency associated with the implementation of conservation measures would reduce any possible impact on the Tucson AMA compared to growth at less efficient use rates. The Tucson AMA may be positively impacted by the Department’s continuing negotiations with Mexico to secure effluent flow to the NIWWTP. The role of the Department and the Santa Cruz AMA area director in the facilities planning process creates the potential for the continuation of the availability of this supply. The creation of a water district or other entity in the Santa Cruz AMA may stabilize the water resource conditions within the Santa Cruz AMA.