March 2002

FINAL

Water Resources Master Plan
City of Avondale

Appendix

Prepared by:

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Appendix A Decision Order Nol. 26-002003

DEPARTMENT OF WATER RESOURCES

BEFORE THE DIRECTOR

IN THE MATTER OF THE APPLICATION OF THE CITY OF AVONDALE FOR A DESIGNATION AS HAVING AN ASSURED WATER SUPPLY	AWS 99-001 DECISION AND ORDER No. 26-002003

On December 27, 1996, the Department of Water Resources (Department) received a complete and correct application from the City of Avondale ("Avondale") requesting that the Department designate Avondale as having an assured water supply pursuant to A.R.S. § 45-576(E) and R12-15-701 et. seq.

After reviewing Avondale's application and relevant information, the Department finds the following:

1. Avondale is a city incorporated in accordance with Article XIII of the Arizona Constitution.
2. Avondale has the authority to deliver water to customers within its service area.
3. Avondale's current demand for calendar year 1998 was 5,523 acre-feet.
4. Avondale's total projected and committed demand for the year 2010 is estimated at 14,211 acre-feet.
5. Avondale has demonstrated the physical, legal and continuous availability of Salt River Project surface water, CAP water, and groundwater in a volume of 14,211 acre-feet per year for a minimum of 100 years, as more fully described in Attachment A.
6. Avondale is currently in compliance with the conservation requirements prescribed in the Second Management Plan for the Phoenix Active Management Area.
7. There are no Water Quality Revolving Fund Sites or sites on the Superfund National Priority List within Avondale's service area.
8. Avondale's proposed water sources meet the water quality standards established by the Arizona Department of Environmental Quality.
9. Avondale has demonstrated the financial capability to construct the necessary delivery system and storage facilities to satisfy its projected demands through 2010.
10. On January 22, 1998, the Central Arizona Groundwater Replenishment District (CAGRD)

notified the Department that Avondale has completed the process for becoming a Member Service Area of the CAGRD.

11. On February 24, 1995, the Director designated that the CAGRD Plan of Operation was consistent with achieving the management goal of the Phoenix Active Management Area. This designation shall terminate on January 1, 2005.

12. As of this date, the CAGRD is currently in compliance with its groundwater replenishment obligation for the Phoenix Active Management Area.

Having reviewed the Findings of Fact, the Department makes the following conclusions of law based on information which was either provided to the Department or obtained independently by the Department prior to the issuance of this Decision and Order:

1. The annual volume of water which is physically, continuously, and legally available to Avondale for a minimum of 100 years as prescribed in R12-15-703, exceeds the projected demand in calendar year 2010.

2. The water sources pledged by Avondale are expected to meet the water quality requirements specified in R12-15-704.

3. Pursuant to A.R.S. § 45-572.01 (B), Avondale's projected use of groundwater, as a member service area of the CAGRD, is consistent with achieving the management goal for the Phoenix Active Management Area.

4. In accordance with the requirements of R12-15-706, Avondale's proposed use of water is consistent with the Second Management Plan requirements for the Phoenix Active Management Area.

5. Avondale satisfies the financial capability criteria prescribed in R12-15-707.

6. Avondale satisfies all requirements for a designation of assured water supply.

Having reviewed the Conclusions of Law, the Department hereby issues this Decision and Order designating Avondale as having an assured water supply, subject to the following conditions:

1. The Department reserves the right under R12-15-709(A) to periodically review and modify the designation as conditions warrant.
2. If the findings of fact or the conclusions of law upon which this designation is based are found to no longer remain valid, the Department reserves the right under R12-15-709(A) to revoke the designation.
3. Avondale shall annually provide to the Department the following information in the manner prescribed in R12-15-711:
   a. The estimated future demand of platted, undeveloped lots which are located in Avondale's service area.
   b. The projected volume of water demand at build-out of customers with which Avondale has entered into a notice of intent to serve agreement in the calendar year.
   c. A report regarding Avondale's compliance with water quality requirements.
   d. The depth-to-static water level of all wells from which Avondale withdrew water during the calendar year.
   e. Any other information required to determine whether to continue Avondale's designated status which is requested by the Director.

IT IS HEREBY ORDERED THAT AVONDALE BE DESIGNATED AS HAVING AN ASSURED WATER SUPPLY:

DATED this 16th day of August, 1999.

Rita P. Pearson

RITA P. PEARSON
Director

A copy of the foregoing
Decision and Order mailed
by certified mail this
_____ day of_____,
1999 to the following:

Mr. Jim Mitchell
City of Avondale
1211 South Fourth Street
Avondale, Arizona 85323

Mr. Roy Tanney
Director of Real Estate Subdivisions
Arizona Department of Real Estate
2910 N. 44th Street
Phoenix, Arizona 85018

DEPARTMENT OF WATER RESOURCES

OFFICE OF ASSURED AND ADEQUATE WATER SUPPLY
PHOENIX ACTIVE MANAGEMENT AREA

City of Avondale Application for a

Designation of Assured Water Supply

Summary Document

DWR #26-002003
August 13, 1999

INTRODUCTION

This report describes demand and supply factors considered in evaluating the City of Avondale's application for a Designation of Assured Water Supply. Avondale's current "deemed" assured water supply status expired at the end of 1997, but a complete and correct application for a designation under the Assured Water Supply Rules was filed on December 27, 1996. This action allows Avondale to maintain their "deemed" status while the application is under review. Avondale's designated status is subject to periodic evaluation to affirm that the conditions for being designated continue to exist. Also, at Avondale's request, the determination may be modified in the future to reflect the availability of additional water supplies.

In general, an entity wishing to obtain a designation of assured water supply must meet five basic regulatory criteria: 1) the water supply pledged must be physically, legally and continuously available for a 100 year period; 2) the supplies must be of adequate quality; 3) the use of the water must be consistent with the management plan conservation requirements for the provider; 4) the use of the water must be consistent with the groundwater management goal of the AMA; and 5) the provider must have the financial capability to construct necessary storage, treatment and distribution systems. The Assured Water Supply Rules, adopted in February 1995, provide detailed criteria for meeting each of these criteria.

Detailed supply and demand figures may be found in the attached charts and spreadsheets. The formal order designating Avondale as having an assured water supply has been established as a separate document.

PART I
DEMAND SUMMARY

1.0 General Information

A provider must demonstrate at a minimum sufficient supplies to cover current demand, committed demand and at least two years of projected growth. For purposes of the re-designation, "current demand " is based on 1995 water use by the provider. Committed demand is defined as the expected water use on recorded but presently undeveloped lots within the water provider's service area. Projected demand is calculated by multiplying population projections and 1994 water use rates for the provider or based on demand projections supplied by the provider.

It should be noted that a committed demand adjustment is not incorporated into the projections, but rather is added only to each year's projected demand. Thus, projected demand reflects expected actual demand for a particular year. Upon the annual re-evaluation of a designated provider's status, committed demand for the prior calendar year will be added to the reported demand for that year together with the next two years of increased demand to determine if the provider will remain designated.

2.0 Demand

2.1 Population Projections

Population projections were provided by the City of Avondale Water Master Plan and the Maricopa Association of Governments 1993 Population Projections through the year 2040.

2.2 Per-Capita Rate

Avondale's 1994 GPCD rate was 151. This rate includes all water withdrawn, diverted or received for delivery, including water that is lost and unaccounted for. Avondale is currently in compliance with the Second Management Plan conservation requirement and thus, meets the consistency with the management plan criteria.

2.3 Projected Demand
Demand projections are based on the projected population supplied by Avondale and the per capita use rate.

2.4 Committed Demand
Committed demand was calculated at 3,440 acre-feet as of the date of this application. This is based on lot estimates and demand assumptions provided by Avondale.

PART II
WATER SUPPLY SUMMARY

1.0 General Information

1.1 Background
Avondale is claiming Salt River Project surface water, CAP water, and groundwater, through the groundwater allowance, incidental recharge and the membership in the Central Arizona Groundwater Replenishment District (CAGRD) as sources for an assured water supply. Avondale is a member service area of the CAGRD, as such the projected groundwater use for Avondale will be considered consistent with the achievement of the goal of the Phoenix AMA, so long as the CAGRD continues to meet the requirements of ARS § 45-576.07(B). These supplies are described in further detail in this report and in Appendix A.

1.2 Financial Capability
Avondale has submitted evidence of financial capability including a copy of the 5-year Capital Improvement Plan (CIP) demonstrating the funding commitment to construct the necessary well facilities and distribution system to provide water within its service area.

1.3 Well Capacity
Avondale currently has a well capacity of 14,291 acre-feet or 13 MGD and a storage capacity of 3.6 MG. The total groundwater deliveries for 1995 were 3,903 acre-feet.

1.4 Water Quality
The Department has not received any deficiencies from the Department of Environmental Quality regarding Avondale's water supply.

1.5 Recharge and Recovery
Avondale has a full-scale water storage permit (No. 73-565257) which allows for the storage of up to 10,000 acre-feet of SRP surface water and CAP at the Avondale Wetlands Recharge and Recovery Project. Avondale has a recovery well permit (No. 74-441135) for recovery of the water it plans to recharge.

2.0 Salt River Project (SRP)

2.1 Background

The SRP delivers surface water originating in the Salt and Verde River watersheds. Water is stored behind several dams on these river systems, and is delivered to lands within the Salt River Valley Water Users Association through a network of canals. Recipients of this water are municipal, industrial and agricultural water users within the SRVWUA who have rights based on the Kent Decree.

For purposes of considering this source in assured water supply determinations for municipal providers, the Department accepted a report prepared by SRP entitled "SRP Assured Water Supply

Study for Salt River Project Member Lands" (November, 1995). This study evaluates the availability of the supply, and allocates it among providers. The allocations are not necessarily indicative of the value or priority of rights within each service area, but are based on projected build-out of "on-project" lands. The available supply may be considered only for demands within that portion of a provider's service area which are "on project" (i.e. unused allocations may not be delivered off project). Some water providers have executed water exchange agreements with Salt River Project that allow them to deliver Salt River Project supplies for off-project demand. However, total SRP deliveries cannot exceed on-project demand. The SRP study confirms the physical, legal and continuous availability of the source to the provider, subject to a provider's demonstrated ability to treat and deliver the supply. The SRP allocation report may be modified periodically to reflect changes in current and projected demands.

2.2 Supply Availability

The supply available to Avondale, based on the SRP study, is 8,463 acre-feet per year. However, this supply may only be used to serve on-project demand. This water may be utilized through the Wetlands Recharge and Recovery Project.

3.0 Central Arizona Project (CAP)

3.1 Background

Central Arizona Project municipal supplies are allocated pursuant to 50 year subcontracts between the United States Bureau of Reclamation and the water provider. Water providers in the Phoenix AMA may access the water directly from the CAP canal or through the SRP system via the interconnect agreement.

For assured water supply purposes, CAP municipal subcontract water is considered physically, continuously and legally available to the subcontractor for 100 years, contingent upon the provider's demonstration of sufficient storage and treatment facilities. For providers operating under the interconnect agreement with SRP, it is assumed that sufficient canal capacity exists to meet demands for direct delivery. Changes to the interconnect agreement or future capacity limitations may trigger a re-evaluation of the designation.

3.2 Supply Availability

Avondale's municipal subcontract is for 4,009 acre-feet per year. Avondale has a water storage permit to store up to 10,000 acre-feet of CAP water at its Wetlands Recharge and Recovery Facility. Thus, the designation for Avondale includes the ability to utilize the CAP allocation for 100 years.

4.0 Groundwater Withdrawals

4.1 Background

The Assured Water Supply Rules set standards for continued pumping of water from wells. These withdrawals may be divided into three primary categories groundwater allowances, which are limited based on the consistency with goal criteria for the AMA, recovery of non-groundwater sources stored in recharge facilities, and exemptions. Projected water withdrawals must meet the physical availability standards of the Rules.

4.2 Groundwater Allowances

The AWS Rules specify three categories of groundwater allowances: 1) a basic groundwater allocation based on a prescribed factor and 1994 demand; 2) an incidental recharge allowance, calculated each year based on the annual demand; and 3) credits from the extinguishment of groundwater rights.

4.2.1 Phase-in Allowance

The rules allow a small quantity of mined groundwater to be pumped to allow providers time to "phase-in" renewable water supplies. The phase-in allowance for Phoenix AMA providers is calculated by multiplying Avondale's 1994 total water demand (3,536 acre-feet) by 7.5. For Avondale, the phase-in allowance is calculated at 265 acre-feet per year when averaged over 100 years (3,536 acre-feet * 7.5 AWS groundwater allocation factor / 100 years).

4.2.2 Incidental Recharge

Incidental recharge consists of water returning to the aquifer after it has been beneficially used. Under the AWS Rules, incidental recharge is calculated by multiplying the provider's total annual demand the 4 percent standard factor for the Phoenix AMA. This figure is an average percentage of incidental recharge based on ADWR research. A higher percentage may be approved by the Department upon a case-specific demonstration.

In order to produce a conservative estimate of incidental recharge for the 100 year Assured Water Supply period, the incidental recharge estimate is based upon a flat-lined demand from 2010. Additionally, the Department has calculated an extra incidental recharge rate for providers, based on turf-related facilities served by the provider. For Avondale, this increases their incidental recharge rate to 4.43 percent per year. The resulting incidental recharge volume for Avondale ranges from 221 acre-feet per year in 1998 to 503 acre-feet per year in 2010 and beyond.

4.2.3 Extinguishment Credits

Extinguishment credits can be obtained through a permanent extinguishment of an Irrigation Grandfathered Right or a Non-Irrigation Grandfathered Right (Type 1 or Type 2). Avondale has not applied for extinguishment credits.

4.3 Physical Availability of Underground Water Supplies

Evaluation of the physical availability of underground supplies must consider both the groundwater allowance and storage credits (existing and anticipated). Applicants were requested to specify the total volume of water to be pumped from each well over the 100 year period. The volumes, which included both groundwater and recovered credits, were inserted into the Department's Salt River Valley Groundwater Model. Also included in the model were any corresponding recharge volumes. If after considering the provider's proposed pumping over 100 years and the expected pumping by other users the depth to water is not expected to be below 1,000 feet, the requested volumes may be authorized to be withdrawn pursuant to the Designation.

Avondale provided a pumping scenario in which pumping is maximized at 14,211 acre-feet per year for 2010 and beyond. Avondale's existing and projected well capacity is adequate for this amount of groundwater demand. Based on the most recent run of the SRV model, Avondale's priority date and the projected demand scenario presented by Avondale, it has been determined that the depth to water criteria are met.

5.0 Central Arizona Groundwater Replenishment District (CAGRD)

5.1 Background

The Assured Water Supply Rules allow providers who do not have enough renewable water supplies available to meet the consistency with management goal criteria a mechanism to replenish excess groundwater use through membership in the Central Arizona Groundwater Replenishment District. Provider's can pay a replenishment tax and have the CAGRD act as an agent to replenish CAP water on behalf of a provider. Because this allows a provider to continue to pump groundwater from within their service area with no assurance that the water will physically be replenished in that area, the physical availability criteria must be met to pledge this source toward an assured water supply.

5.2 Supply Availability

Avondale submitted an application for membership in the CAGRD. The CAGRD and Avondale have entered into an agreement on January 16, 1998 that allows Avondale to replenish excess groundwater through the CAGRD facilities. Beginning in 1999 and for every year thereafter, pursuant

to the amounts illustrated in Table 3.2, below, Avondale will be required to report a minimum amount of excess groundwater use for replenishment or the amount of groundwater in excess of their allowable groundwater use as calculated in Subsection 2.2.1, above, whichever is greater. Pursuant to the physical availability criteria, Avondale provided a pumping scenario in which pumping is maximized at 14,211 acre-feet per year after 2010. This volume includes water pumped pursuant to the recovery of credits earned from the recharge of CAP and SRP surface water, the groundwater allowance and the excess groundwater needed to meet the committed and projected demands through 2010.

TABLE 5.0
CITY OF AVONDALE
PROJECTED AND MINIMUM REPLENISHMENT OBLIGATION

Year	Committed Demand (af)	Projected Demand (af)	Total Demand (af)	Replenishment Factor	Minimum Obligation (af)	Projected Obligation (af)	GW Allowance (af)	GW Incidental Recharge (af)
1998	3,211	5,523	8,734	N/A	N/A	N/A	N/A	N/A
1999	3,134	6,063	9,197	1/15	370	0	265	24[illegible]
2000	3,058	6,603	9,661	2/15	809	0	265	26[illegible]
2001	2,981	7,093	10,074	3/15	1,307	422	265	29[illegible]
2002	2,905	7,583	10,488	4/15	1,868	510	265	31[illegible]
2003	2,828	8,074	10,902	5/15	2,491	599	265	33[illegible]
2004	2,752	8,564	11,316	6/15	3,176	693	265	35[illegible]
2005	2,676	9,054	11,730	7/15	3,925	1,085	265	37[illegible]
2006	2,599	9,627	12,226	8/15	4,779	1,560	265	40[illegible]
2007	2,523	10,200	12,723	9/15	5,705	2,031	265	42[illegible]
2008	2,446	10,772	13,218	10/15	6,703	2,502	265	45[illegible]
2009	2,370	11,345	13,715	10/15	7,069	2,973	265	47[illegible]
2010	2,292	11,918	14,211	10/15	7,433	3,444	265	503

6.0 Summary

In conclusion, the Department has found that Avondale meets the criteria for obtaining a Designation of Assured Water Supply.

- **Physical, Legal and Continuous Availability**
  The volume of water available to Avondale to meet its projected 2010 demand of 14,211 acre-feet is physically, legally and continuously available.

- **Adequacy of Water Quality**
  The supplies available to Avondale have been found to meet State water quality standards.

- **Consistency with the Management Plan of the Phoenix Active Management Area**
  Avondale is in compliance with the Phoenix AMA Second Management Plan conservation requirements.

- **Consistency with the Management Goal of the Phoenix Active Management Area**
  Avondale has demonstrated availability of sufficient non-groundwater supplies to serve projected demand in the year 2010.

- **Financial Capability**
  Avondale has demonstrated finances available for necessary storage, treatment and distribution systems.

Appendix A
City of Avondale Designation Application
Water Source and Supply Review

#	Source	Approved (af/yr)	Treatment Options	Recharge Options	Legal Authority	Comments
1	SRP	8,463	See Recharge Options	Avondale Wetlands Recharge and Recovery Project	SRP Entitlement	Meets On-Project Demands Only
2	CAP	4,099		USF Permit No. 71-565257 Water Storage Permit No. 73-565257	CAP Subcontract	
3	GW-Allowance	273	Treatment not an issue Available well capacity: 14,291 af/yr		Service Area Right #56-002003	7.5% of 1994 total water usage
4	GW-Incidental Recharge	221- 503				IR factor=4% of previous year's demand Demand was held constant at 2010 amount for a conservative IR estimate
5	CAGRD	0 - 3,444			CAGRD contract approved 1/17/98	

Appendix B-1 Underground Storage Facility Permit – Constructed

ARIZONA DEPARTMENT OF WATER RESOURCES

UNDERGROUND STORAGE FACILITY PERMIT

[CONSTRUCTED]

PERMIT NO. 71- 565257

STATE OF ARIZONA)ss.
)
COUNTY OF MARICOPA)

This is to certify that I have determined that Application No. 71- 565257 meets the requirements of Arizona Revised Statutes Title 45, Chapter 3.1, Article 2, for a Constructed Underground Storage Facility Permit. The Director hereby grants authority to the City of Avondale to operate a constructed underground storage facility, subject to the following limitations and conditions:

Permit Limitations

Permittee: City of Avondale
1211 S. 4th Street
Avondale, Arizona 85323

Active Management Area: Phoenix AMA	Subbasin: West Salt River Valley
Location of Facility:	SW¼ of SW¼ Sec. 36, T2N R1W, GSRB&M
Maximum Storage at Facility:	10,000 acre feet per annum
Source Water to be Stored:	Central Arizona Project, SRP
Permit Expiration:	December 31, 2018

Permit Conditions

1. The facility shall be constructed and operated pursuant to the operational plan as specified in the following (which are hereinafter referred to as "hydrologic report"), and are incorporated in and made a part of this permit:

   a. Application Package for an Underground Storage Facility Permit dated, October 21, 1997.

   b. Response to ADWR's letter dated February 6, 1998 for Underground Storage Facility Application Number 71-565257 and Water Storage Permit Application Number 73-565257 dated, April 8, 1998.

   c. Proposed language for City of Avondale USF permit, dated June 29, 1998.

   d. Proposed language for City of Avondale USF permit, dated July 8, 1998.

2. The permittee shall provide all monitoring data in the form of quarterly and/or annual reports as required below:

   a. The permittee shall provide all monitoring data for the first two years of the project in the form of **quarterly** reports which shall be submitted to the Arizona Department of Water Resources (ADWR) within forty-five (45) days of the completed quarterly reporting period. **The permittee shall send three (3) copies of all quarterly data reports to the Groundwater Management Support Section, Arizona Department of Water Resources, 500 North Third Street, Phoenix, Arizona 85004.**

   b. Pursuant to A.R.S. § 45-875.01 the permittee shall submit an **annual** data report to the ADWR no later than March 31 following the end of each completed annual reporting period. The first reporting periods shall be from the issuance date of this

permit through December 31, 1998. Subsequent reporting periods shall be January 1 through December 31. The fourth quarter data report may be combined with the annual data report. **The permittee shall send three (3) copies of all annual data reports to the Records Management Unit, Arizona Department of Water Resources, 500 North Third Street, Phoenix, Arizona 85004.**

The annual reports shall include a descriptive summary and analysis utilizing a narrative description, hydrographs, tables and maps. A description of the operation of the facility, efficiency of the project, total volume of water stored at the facility, and any potential adverse impacts to surrounding land or water users shall be provided.

3. The **quarterly** and **annual** reports shall include all monitoring data pursuant to this permit and as described in the permittee's hydrologic report. The permittee shall provide a written explanation of any deviation of these monitoring requirements. The reports shall include a minimum of, but are not limited to, the following:

a. Water Level(s):

The report shall contain the water level data gathered and reported in accordance with Table 1. The water level data shall be presented using tables and/or hydrographs and shall indicate at a minimum, but not limited to, the following: well identification, ADWR well registration number, cadastral location, measurement date, measuring point description, height of measuring point above (or below) land surface and the water level measurement in 1) feet above mean sea level and 2) feet below land surface.

b. Water Quantity:

The report shall contain the water quantity data gathered in accordance with Table 3. The reports shall contain the following information for the recharge facility: the volume of water discharged to the recharge basin(s), water level measurements and the wetted area shall be compiled daily and aggregated for the month. The information shall be presented in monthly summaries indicating the basin identifier, month, daily volume of water discharged to the recharge basin in acre-feet, daily basin water levels in feet, and daily wetted area of the recharge basin in acres.

c. Infiltration Rates:

i. The permittee shall submit the infiltration rate in feet per day for each wetting cycle for each of the basins listed in Table 2.

ii. The infiltration data shall be presented using tables and shall indicate at a

minimum, but not limited to, the method used, time intervals of the wet/dry cycle, recharge basin identifier, the volume discharged in acre-feet, duration of recharge, the maximum wetted area, and the infiltration rate in feet/day.

d. Water Quality (Groundwater):

The permittee shall report groundwater quality data gathered in accordance with Tables 4 and 5.

e. Water Quality (Source Water):

The permittee shall report source water quality data gathered in accordance with Table 5.

f. Alert Level Exceedance(s):

i. The permittee shall report any water level exceedence in accordance with permit condition 5.a., 5.e., 5.f., 5.g., 5.h., 5.i., and 5.j.

ii. The permittee shall report the exceedance of any and all measuring equipment accuracy requirements and/or failures according to permit condition 5.b.

iii. The permittee shall report the exceedance of any Aquifer Water Quality Standards and any Aquifer Water Quality Alert Levels in accordance with permit condition 5.c. and 5.d.

4. Monitoring Provisions:

a. Water level monitoring shall be performed in accordance with Table 1.

b. The permittee shall measure, at a minimum, monthly static water levels measured to within an accuracy of one-tenth (0.1) of a foot for the wells listed in Table 1.

For static water levels; if a well is actively being pumped, water level measurements shall be taken 12 hours after the pump has been turned off. If the pump has not had 12 hours to recover, the maximum recovery time shall be used and noted on the data form. It shall be noted on the data log if nearby wells are being pumped at the time of water level measurement. During the first two years of the permit an accurate assessment of the amount of recovery for a given length of recovery time shall be determined and reported to ADWR.

c. The monitor wells listed in Table 4 shall be sampled for water quality in accordance with standard ADEQ QA/QC sampling protocols.

d. Evaporation at the site shall be estimated on an annual basis using the methods of Cooley (1970) utilizing the maximum evaporation rating curve.

5. Alert Levels and Contingencies:

a. For the monitor wells listed in Table 1 the water level shall not rise within twenty (20) feet of the land surface. If the water level in the monitor wells listed in Table 1 rises to within twenty (20) feet below land surface, ADWR shall be notified within 48 hours of the exceedence and the following actions shall be implemented:

i. A report shall be submitted including at a minimum, but not limited to, the amount of the exceedance, date of the exceedance, duration of the exceedance, an explanation of the method(s) used to correct the exceedance, and a determination of any adverse impacts to the facility, land owners and/or water users.

ii. Project inflow shall be reduced and daily monitoring shall continue in order to determine if water levels stabilize.

iii. If water levels remain above the action criteria after two weeks, recharge rates shall be reduced further or stopped until water levels drop to 20 feet below land surface.

b. The monitoring equipment listed in Tables 1 and 3 shall continue to function and accurately quantify flow and water level conditions pursuant to A.R.S. § 45-872.01.

If the measuring devices listed in Table(s) 1 and 3 fails to perform their designated function (A.A.C. R12-15-905 and 906) for more than 72 hours ADWR shall be notified in writing within seven (7) calendar days. The Permittee shall report at a minimum, but not limited to, the monitoring point, type of measuring device, date of the malfunction, amount of time the device failed to properly operate, an explanation of the method(s) used to correct the failure. When the device is a flowmeter, an estimate of the amount of flow, and an explanation of the method(s) used to calculate the estimated amount of flow is required.

c. The source water at the facility shall meet the Numeric Aquifer Water Quality Standards (NAWQS) of the State of Arizona, established in A.A.C. R18-11-406.

Water quality reports documenting any exceedence shall be submitted both to the ADWR and the ADEQ within five (5) days upon receipt of those reports by the permittee. For CAP source water sampling, an alert level shall be set at the NAWQS MCL's for metals, VOC's, herbicides and pesticides. If a constituent is detected above the alert level, a confirmatory sample shall be obtained within 30 days of receipt of the laboratory results. If results are confirmed, the ADWR and ADEQ shall be notified immediately upon receipt of confirmatory results for mutual consideration of possible contingency actions including: 1) additional confirmatory sampling, 2) analysis to determine the probable source of contaminant, and 3) reduction or curtailment of recharge water until the constituent of concern drops below the alert level. The report shall include at a minimum, but not limited to, the sampling point identification, the constituent, level of the constituent(s), date of the exceedance, and results as reported by the laboratory.

d. Groundwater sampled at the monitor wells listed in Table 4 shall meet the NAWQS of the State of Arizona, established in A.A.C. R18-11-406 for those constituents listed in Table(s) 5.

i. If a chemical constituent exceeds the NAWQS and a second sample confirms the exceedence, the permittee shall analyze water quality and water level data and a report shall be prepared to assess the potential for unreasonable harm to nearby groundwater users. The report shall assess the following: 1) the probable cause of the NAWQS exceedence, 2) the potential for unreasonable harm to nearby water users resulting from the exceedence, and 3) additional contingency actions for approval by the ADWR and ADEQ, if it is determined that operation of the facility resulted in the exceedence. The report shall also include at a minimum, but not limited to, the sampling point identification, the constituent, level of the constituent(s), date of the exceedance, and results as reported by the laboratory.

ii. If the NAWQS are not met, then upon direction by ADWR and ADEQ, installation of additional monitor wells down gradient of the point of detection may be required.

e. If the groundwater gradient of the Buckeye waterlogged area is altered such that unreasonable harm may occur the following actions shall be implemented by the permittee:

i. Detailed groundwater flow modeling with current recharge rates shall be conducted to assist in analyzing the problem

ii. The City of Avondale shall pump production wells between the recharge site and the waterlogged area at rates determined by the above modeling to mitigate the impact of the recharge facility.

f. If monitor well P-1 rises to 40 feet below land surface, the groundwater flow model shall be used to determine if the septic tanks at the trailer park are being affected. If it is determined the septic tanks will be affected the City of Avondale shall connect the trailer park to the existing sewer system.

g. If the groundwater rises to 25 below ground surface at monitor well P-1 the amount of inflow shall be reduced at the basins and out of the wetlands until the water level drops below 25 below ground surface at monitor well P-1.

h. If unreasonable harm occurs due to groundwater rises as monitored in well COA 7, in addition to a rise in groundwater at the mining site, the City of Avondale will work with the mining company to mitigate unreasonable harm from the recharge operations.

i. When the static water level in the City of Avondale well #1 rises above 881.5 feet mean sea level (94.5 feet below land surface) or the groundwater gradient at the PGA North sites is altered to cause reduction in the effectiveness of the PGA North remediation program as a result of the recharging at the recharge facility then ADWR shall be notified within seven (7) days of the exceedence and the following actions shall be implemented:

i. A report shall be submitted including at a minimum, but not limited to, the amount of the exceedence, date of the exceedence, a water level contour map using the monitor wells listed in Table 1 plus wells that are measured by ADWR's Basic Data Section to determine the cause of the exceedence.

ii. If ADWR determines this recharge facility is the cause of the exceedence and unreasonable harm could occur the following actions shall be implemented:

1) The City of Avondale will implement a groundwater recovery program at the City of Avondale well #12 and the RID well located at Dysart & McDowell.

2) If the groundwater recovery program is not effective after one month of operation then recharge rates shall be reduced or stopped until water levels drop below the alert level.

j. Monthly inspections of the Agua Fria River bank, adjacent to the recharge basins, shall be conducted to monitor for surfacing of recharge water in the Agua Fria River.

If water is detected and the source is determined to be recharge water the City of Avondale shall mitigate the surfacing of the recharge water. If mitigation is not possible, the amount of water surfacing shall be quantified and subtracted from the recharge credits.

6. Operational Provisions:

a. If operations-related or storm-related problems cause an overflow to occur from recharge basin #3 into the drainage channel at the designated overflow depression the amount of overflow shall be calculated by documenting the beginning and ending time that the overflow occurs, and the flow rate as recorded on the recharge inlet flow meter. The total amount of overflow shall be deducted from the recharge total.

b. Monitor wells shall be sampled with pumps lowered not more than ten (10) feet below the top of the well screen perforations.

c. The source water at the facility shall meet the NAWQS quality standards of the State of Arizona, except for turbidity and bacteria. Any failure to meet those standards shall be immediately reported to the Arizona Department of Water Resources and the Arizona Department of Environmental Quality.

7. General Provisions:

a. In accordance with A.R.S. § 45-814.01(G), the monitoring requirements of this permit may be modified as the Arizona Department of Water Resources finds necessary, depending upon the water storage permits that become affiliated with this storage facility permit and upon other circumstances.

b. The facility shall continue to meet the requirements of A.R.S. § 45-811.01 during operation of the facility.

c. No waters other than those waters specified under the permit limitations are authorized for recharge at this facility.

d. The issuance of this permit does not waive compliance with any federal, state, county or local government statutes, rules or permits.

e. Any changes in the design, operation, and/or monitoring of the facility shall be submitted to the Department for approval prior to implementation.

f. The facility shall be operated only in conjunction with the applicable Water Storage Permit(s) subject to the conditions set forth within those permit(s).

10. If the permittee changes its Arizona statutory agent during the term of this permit, the permittee shall notify ADWR of the name and address of the new agent within 30 days of the change.

11. This permit shall be effective 35 days after the date of signing or upon completion of the administrative appeal process.

Witness my hand and seal of office this 2nd day of December, 1998.

Jim Holway, Assistant Director

Table 1
Water Level Monitoring
(Monitor Wells)

Monitor Point	ADWR Registration Number	Location	Depth (feet bls)	Screened Interval (feet bls)	Measuring Device	Recording Frequency 1st 2 years	Recording Frequency next 18 years	Reporting Frequency 1st 2 years	Reporting Frequency next 18 years	Alert Level (feet bls)
COA 1	55-608731	B(1-1) 10ddb	456	244-264 386-398	electric sounder	weekly	quarterly	quarterly	annual	94.5[1]
COA 7	55-501288	B(2-1) 23ddd	530	320-530	electric sounder	quarterly	annual	quarterly	annual	20
COA 8	55-608730	A(2-1) 32dda	500	187-500	electric sounder	quarterly	annual	quarterly	annual	20
COA 10	55-608792	B(2-1) 36bba	866	309-866	electric sounder	monthly	quarterly	quarterly	annual	20
COA 11	55-608791	B(2-1) 36cba	250	80-250	electric sounder	once every two weeks	quarterly	quarterly	annual	20
COA 12	55-608793	B(2-1) 35daa	867	1-279 539-867	electric sounder	once every two weeks	quarterly	quarterly	annual	20
P1	55-570407	B(2-1) 36ccd	60	48.5-53	electric sounder	twice per day	quarterly	quarterly	annual	20
P2	55-570404	B(1-1) 2abb	60	40-60	electric sounder	once every two weeks	quarterly	quarterly	annual	20
MW 1	55-570405	B(2-1) 36cac	110	60-100	electric sounder	once every two weeks	quarterly	quarterly	annual	20

Monitor Point	ADWR Registration Number	Location	Depth (feet bls)	Screened Interval (feet bls)	Measuring Device	Recording Frequency 1st 2 years	Recording Frequency next 18 years	Reporting Frequency 1st 2 years	Reporting Frequency next 18 years	Alert Level (feet bls)
MW 2	55-570406	B(1-2) 2aad	110	60-100	electric sounder	once every two weeks	quarterly	quarterly	annual	20
RID #1 (McDowell)	55-607157	B(1-1) 2bbb	800	150-800	electric sounder	once every two weeks	quarterly	quarterly	annual	20
RID #2 (Van Buren)	55-607158	B(1-1) 10aaa2	900	100-886	electric sounder	once every two weeks	quarterly	quarterly	annual	20

COA = City of Avondale well

[1] As pursuant to permit condition 5.i.

Table 2
Basin Description

Basin Identifier	Location	Basin Area (Acres)	Max. Water Depth (Feet)
1	see Plate 1[1]	8.9	4
2	see Plate 1[1]	6.9	4
3	see Plate 1[1]	5.0	4
4	see Plate 1[1]	6.3	4

[1] Plate 1 is in the Application Package for an Underground Storage Facility Permits dated, October 22 1998.

Table 3
Basin Monitoring

Monitor Point	Parameter	Location	Measurement Device	Collection Frequency	Recording Frequency	Reporting Frequency 1st 2 years	Reporting Frequency next 18 years
	Total Water Inflow	Attachment H[1]	Totalizing Flow Meter	daily	monthly	quarterly	annual
	Water Inflow	Attachment H[1]	Flow gage	daily	monthly	quarterly	annual
SRP turnout	Water Inflow - Wetlands	107th & Encanto	cippolleti weir			quarterly	annual
Each basin	Wetted Area	Attachment H[1]	Staff Gage	daily	daily	quarterly	annual
Litchfield Park	Precipitation	33 30' - latitude 112 22 W - longitude	Precipitation	monthly	monthly	quarterly	annual

[1] Attachment H, response to ADWR's letter dated February 6, 1998 for Underground Storage Facility Application Number 71-565257 and Water Storage Permit Application Number 73-565257 dated, April 8, 1998.

Table 4
Groundwater Quality Monitoring

Monitor Point	ADWR Registration Number	Location	Depth (feet bls)	Screened Interval (feet bls)	Monitoring Frequency 1st 2 years	Monitoring Frequency next 18 years	Alert Level
MW 1	55-570405	B(2-1) 36cac	110	60-100	monthly	quarterly	Table 5 & 6
MW 2	55-570406	B(1-2) 2aad	110	60-100	monthly	quarterly	Table 5 & 6
COA 10	55-608792	B(2-1) 36bba	866	309-866	quarterly	quarterly	Table 5 & 6
COA 11	55-608791	B(2-1) 36cba	250	80-250	quarterly	quarterly	Table 5 & 6
COA 12	55-608793	B(2-1) 35daa	867	1-279 539-867	quarterly	quarterly	Table 5 & 6

Table 5
Source Water and Groundwater Quality Monitoring
(Inorganics)

Analyte	EPA Analysis Method	NAWQS (mg/L)	NAWQS Alert Level	Sampling Frequency 2018	Reporting Frequency 2018
pH	field/150.1	NA	NA	quarterly	quarterly
Specific Conductance	field	NA	NA	quarterly	quarterly
Temperature	field	NA	NA	quarterly	quarterly
Total Dissolved Solids (TDS)	160.1	NA	NA	quarterly	quarterly
Alkalinity	310.1	NA	NA	quarterly	quarterly
Calcium	200.7	NA	NA	quarterly	quarterly
Manganese	200.7	NA	NA	quarterly	quarterly
Magnesium	200.7	NA	NA	quarterly	quarterly
Sodium	200.7	NA	NA	quarterly	quarterly
Nitrate as Nitrogen	300	10.0	9.5	quarterly	quarterly
Chloride	300	NA	NA	quarterly	quarterly
Sulfate	300	NA	NA	quarterly	quarterly
Antimony	200.9	0.006	0.0057	quarterly	quarterly
Arsenic	200.9	0.05	0.0475	quarterly	quarterly
Barium	200.7	2.0	1.9	quarterly	quarterly
Beryllium	200.7	0.004	0.0038	quarterly	quarterly
Cadmium	200.7	0.005	0.00475	quarterly	quarterly
Chromium	200.7	0.1	0.095	quarterly	quarterly
Copper	200.9	NA	NA	quarterly	quarterly
Fluoride	300	4.0	3.8	quarterly	quarterly
Iron	200.7	NA	NA	quarterly	quarterly
Lead	200.9	0.05	0.0475	quarterly	quarterly
Mercury	245.1	0.002	0.0019	quarterly	quarterly
Nickel	200.9	0.1	0.095	quarterly	quarterly

	EPA Analysis Method	NAWQS (mg/L)	NAWQS Alert Level	Sampling Frequency	Reporting Frequency
Selenium	200.9	0.05	0.0475	quarterly	quarterly
Silver	200.7	NA	NA	quarterly	quarterly
Thallium	200.7	0.002	0.0019	quarterly	quarterly
Zinc	200.7	NA	NA	quarterly	quarterly

Table 5
Source Water and Groundwater Water Quality Monitoring
(Organics)

Organic Analytes	Analysis Method [1]	NAWQS (mg/L)	Sampling Frequency [2]	Reporting Frequency	
Benzene	524.2	0.005	once	once	
Carbon Tetrachloride	524.2	0.005	once	once	
o-Dichlorobenzene	524.2	0.6	once	once	
p-Dichlorobenzene	524.2	0.075	once	once	
1,2-Dichloroethane	524.2	0.005	once	once	
1,1-Dichloroehylene	524.2	0.007	once	once	
cis-1,2-Dichloroethylene	524.2	0.07	once	once	
trans-1,2-Dichloroethylene	524.2	0.1	once	once	
1,2-Dichloropropane	524.2	0.005	once	once	
Ethylbenzene	524.2	0.7	once	once	
Styrene	524.2	0.1	once	once	
Tetrachloroethylene	524.2	0.005	once	once	
Toluene	524.2	1	once	once	
Total Trihalomethanes	524.2	0.1	once	once	
1,2,4-Trichlorobenzene	524.2	0.07	once	once	
1,1,1-Trichloroethane	524.2	0.2	once	once	
1,1,2-Trichloroethane	524.2	0.005	once	once	
Trichloroethylene	524.2	0.005	once	once	
Vinyl Chloride	524.2	0.002	once	once	
Xylenes (total)	524.2	10	once	once	
Pesticides				**1st 2 years**	**next 18 years**
Chlordane	508	0.002	quarterly[3]	quarterly	annual
Dalapon	515.1	0.2	quarterly[3]	quarterly	annual
Dinoseb	515.1	0.007	quarterly[3]	quarterly	annual
2,4- Dichlorophenoxyacetic Acid (2,4-D)	515.1	0.07	quarterly[3]	quarterly	annual
Pesticides				**1st 2 years**	**next 18 years**
Endrin	508	0.002	quarterly[3]	quarterly	annual

Heptachlor	508	0.0004	quarterly[3]	quarterly	annual
Heptachlor Epoxide	508	0.0002	quarterly[3]	quarterly	annual
Lindane	508	0.0002	quarterly[3]	quarterly	annual
Methoxychlor	508	0.04	quarterly[3]	quarterly	annual
Pentachlorophenol	515.1	0.001	quarterly[3]	quarterly	annual
Picloram	515.1	0.5	quarterly[3]	quarterly	annual
2,4,5-Trichlorophenoxypropionic Acid (2,4,5-TP)	515.1	0.05	quarterly[3]	quarterly	annual

1 Permittee may use any EPA Analysis Method for each parameter required under this permit as long as the substituted method provides detection limits that are at or below the NAWQS. In addition, the utilized test method must be recognized as applicable in the ADHS Laboratory Licensure Rules. ADWR reserves the right to determine adequacy of laboratory results bas upon the achieved detection limits.

2 Organic parameters shall be sampled only once if not detected.

3 After one year of operating the facility with no observable adverse water quality impacts, the permittee may request reduction in sampling frequency to semiannual.

Appendix B-2 Water Storage Permit

LTS No. 70-441135

ARIZONA DEPARTMENT OF WATER RESOURCES

WATER STORAGE PERMIT

PERMIT NO. 73-565257

STATE OF ARIZONA)ss.
)
COUNTY OF MARICOPA)

This is to certify that I have determined that Application No. 73-565257 for a Water Storage Permit meets the requirements of Arizona Revised Statutes Title 45, Chapter 3.1, Article 3 for a Water Storage Permit. The Director hereby grants authority to the City of Avondale to store water, subject to the following limitations and conditions:

Permit Limitations

Permittee: City of Avondale
1211 S. 4th Street
Avondale, AZ 85323

PERMIT NO. 73-565257

Storage Facility Name:	City of Avondale Underground Storage Facility
Storage Facility Permit Number:	No. 71-565257
Management Area: PhoenixAMA	Sub-basin: West Salt River Valley
Water To Be Stored:	Central Arizona Project (CAP) water Salt River water
Legal Basis for Acquiring Water To Be Stored:	CAP Subcontract Water Delivery and Use Agreement between Salt River Valley Water Users Association and the City of Avondale
Maximum Permitted Storage:	10,000 acre feet per annum
Permit Expiration:	December 31, 2018

Permit Conditions

1. The quantity of water stored shall be reported to the Records Management Unit, Arizona Department of Water Resources, 500 North 3rd Street, Phoenix, Arizona 85004 in the form of annual data reports. The annual report shall be submitted no later than March 31 following the end of each completed annual reporting period. The first annual reporting period shall be from the date of this permit through December 31, 1998. Subsequent annual reporting periods shall be January 1 through December 31.

2. The Permittee shall continue to meet the requirements of A.R.S. § 45-831.01 during water storage.

3. Recovery of stored water is prohibited unless the permittee obtains a recovery well permit pursuant to A.R.S. § 45-834.01.

4. The permittee shall not recover water in excess of the amount allowed by Title 45, Chapter 3.1, Article 4, Arizona Revised Statutes.

5. The permittee shall report all assignments of long-term storage credits accrued pursuant to this permit to the Arizona Department of Water Resources in accordance with A.R.S. § 45-854.01.

PERMIT NO. 73-565257

6. Water may be stored pursuant to this permit only at Constructed Underground Storage Facility, Permit No. 71-565257.

7. The permittee shall comply with the plan of operation associated with Constructed Underground Storage, Permit No. 71-565257.

8. This permit shall be effectiveupon completion of the administrative appeal process.

Witness my hand and seal of office this 2nd day of December, 1998.

Jim Holway, Assistant Director

Appendix B-3 2000 Long Term Storage Account Summary

Arizona Department of Water Resources
2000 Long Term Storage Account Summary

Revised: 12/10/01

ACCOUNT INFORMATION	
Long Term Storage Account Holder:	City of Avondale
Long Term Storage Account Number:	70-441135
Balance as of:	December 31, 2000

NOTES

Other Debits: Precipitation that occurs on the wetlands(located prior to basins) must be subtracted from the recharge volume because it is included in the recharge basin discharge volume. Credits cannot be issued for precipitation

ALL UNITS ARE EXPRESSED IN ACRE-FEET

WATER STORAGE PERMIT AND RECOVERY WELL ACTIVITY

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
WSP* Number	Facility Permit Number	Facility Type	Type of Water Stored	Recovery Well Permit Number	Non-Recoverable Water Entering Facility	Total Non-Recoverable Water	Beginning Balance (+)	Recoverable Water Entering Facility (+)	Physical Losses (-)	Annual Recovery (-)	Cut to the Aquifer*** (-)	LTS** Credits Recovered (-)	Other Debits**** (-)	LTS** Credits Transferred Out (-)	2000 WSP* Credit Balance	Current WSP* Credit Balance
73-540417.1	71-540417	expired 12/97	CAP	74-553424	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73-540417.2	71-540417	expired 12/97	Salt/Verde	74-553424	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73-565257	71-565257	Constructed	CAP/Salt-Verde	74-553424	0.00	0.00	6,840.50	10,143.48	100.72	0.00	494.96	0.00	143.48	0.00	9,404.32	16,244.82
					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS					0.00	0.00	6,840.50	10,143.48	100.72	0.00	494.96	0.00	143.48	0.00	9,404.32	16,244.82

CREDITS TRANSFERRED OUT

18	19	20	21	22
WSP* Number	LTS** Account Transferred To	Transfer Recipient	Transfer Date	LTS** Credits Transferred Out (-)
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00
TOTALS				0.00

CREDITS TRANSFERRED IN ACTIVITY

23	24	25	26	27	28	29	30	31	32	33
LTS** Account Received From	Entity Received From	WSP** Number Received From	Transfer Date	Type of Water Received	Recovery Well Permit Number	Beginning Balance (+)	LTS** Credits Transferred (+)	LTS** Credits Recovered (-)	Other Debits**** (-)	Total Transferred In LTS** Credits
						0.00	0.00	0.00	0.00	0.00
						0.00	0.00	0.00	0.00	0.00
						0.00	0.00	0.00	0.00	0.00
						0.00	0.00	0.00	0.00	0.00
						0.00	0.00	0.00	0.00	0.00
						0.00	0.00	0.00	0.00	0.00
						0.00	0.00	0.00	0.00	0.00
						0.00	0.00	0.00	0.00	0.00
TOTALS						0.00	0.00	0.00	0.00	0.00

* WSP=Water Storage Permit

** LTS=Long Term Storage

*** Non Effluent LTS Credits earned were debited 5%. No deduction will be assessed on recovery.

**** Other Debits are listed by type in the notes section above.

34	Total Recoverable LTS** Account Balance	16,244.82

Appendix B-4 Recovery Well Permit

ARIZONA DEPARTMENT OF WATER RESOURCES

RECOVERY WELL PERMIT

[AMENDED]

PERMIT NO. 74-553424.0002

STATE OF ARIZONA)
) ss.
County of Maricopa)

This is to certify that I have examined Application No. 74-553424.0002 for a recovery well permit to recover water stored in a storage facility pursuant to a water storage permit, and I have determined that the application meets the requirements of Title 45, Chapter 3.1, Article 3, Arizona Revised Statutes. The Department hereby grants the City of Avondale authority to operate the recovery well(s) subject to the requirements and limitations set forth in A.R.S. § 45-834.01 and subject to the following limitations and conditions:

Permit Limitations

Permittee: City of Avondale
1211 S. 4th St.
Avondale, AZ 85323

Permitted recovery well(s):

Well Registration Number	Location of Well (All located within GSRB&M)	Design Pump Capacity (GPM)	Well Depth (Feet)	Casing Diameter (Inches)	Maximum Annual Recovery (Acre Feet)
55-578749	NW¼ NW¼ NE¼ Sec. 11 T1N, R1W	600	800	20	970
55-501247	NE¼ NE¼ NE¼ Sec. 26 T2N, R1W	1650	608	18	1500
55-608729	NW¼ NW¼ NW¼ Sec. 15 T1N, R1W	880	400	14	500
55-608732	SW¼ SW¼ SE¼ Sec. 10 T1N, R1W	1200	460	20	500
55-608731	NW¼ SE¼ SE¼ Sec. 10 T1N, R1W	1200	456	16	1000
55-626592	NW¼ SW¼ NE¼ Sec. 18 T1N, R1E	500	538	12	500
55-520499	NE¼ SE¼ SE¼ Sec. 32 T2N, R1E	1750	660	16	500
55-608733	NE¼ SW¼ SE¼ Sec. 15 T1N, R1W	1200	550	16	500
55-501288	SE¼ SE¼ SE¼ Sec. 23 T2N, R1W	1600	530	18	1500
55-608792	NE¼ NW¼ NW¼ Sec. 36 T2N, R1W	1500	866	20	1500
55-608791	NE¼ NW¼ SW¼ Sec. 36 T2N, R1W	1500	618	20	1500
55-608793	NE¼ NE¼ SE¼ Sec. 35 T2N, R1W	3000	458	20	1500
55-583017	SE¼ NW¼ SW¼ Sec. 2 T1N, R1W	1000	800	20	970

Recovered water will be used for: Municipal and Industrial purposes.

Legal description of the land on which recovered water will be used: Within the service area of the City of Avondale.

Permit Conditions

1. In accordance with A.R.S. § 45-875.01(D), an annual report shall be submitted no later than March 31 following the end of each completed annual reporting period. The first annual reporting period shall be from the date of this permit through December 31, 2000. Subsequent annual reporting periods shall be January 1 through December 31.

2. The annual report shall include the following information:

   a. The well registration number and location of the wells used to recover stored water.

   b. The quantity of water recovered from each well, as measured in a manner consistent with the requirements and specifications for water measuring devices adopted pursuant to A.R.S. § 45-872.01.

   c. For all stored water recovered each year, report the Water Storage Permit Number(s) from which the water storage originated, the amount of recovery (in acre feet) attributed to each Water Storage Permit, the source of water originally stored pursuant to each Water Storage Permit, the amount of annual recovery, and the amount of long-term storage credits recovered.

   d. For each recovery well from which water was recovered during the year, whether recovery occurred inside or outside the Area of Impact of the stored water.

3. Production plus recovery for the Well Registration Numbers referenced below shall not exceed specified annual volume limits:

Well Registration Number(s)	Acre Feet per Annum Limit
55-501247	2419.4
55-501288	2419.4

4. Recovery of stored water shall continue to be consistent with the management plan and achievement of the management goal for the Phoenix Active Management Area for the duration of this permit.

5. The City of Avondale may only recover the following:

   a. Water stored by the City of Avondale in the Phoenix AMA pursuant to the City of Avondale's Water Storage Permit(s) 73-565257

   b. Long-term storage credits assigned to the City of Avondale's long-term storage account, 70-441135, pursuant to A.R.S. § 45-854.01.

6. If ownership of the wells listed above changes at any time after the City of Avondale has applied for this recovery well permit, the City of Avondale shall submit to the Department written consent from the new well owner or other legal basis for the permittee to continue

to operate the well as its recovery well.

7. Pursuant to A.R.S. § 45-834.01.G.7, the wells referenced below shall be completed by the following dates. If the wells are not completed within the time frame prescribed, the City of Avondale shall file a new application before proceeding with construction of the wells.

Well Registration Number	Location of Well (All located within GSRB&M)	Latest date for completing the well
55-583017	SE¼ NW¼ SW¼ Sec. 2 T1N, R1W	December 26, 2001
55-578749	NW¼ NW¼ NE¼ Sec. 11 T1N, R1W	August 2, 2001

8. The effective date of this permit shall be one of the following:

a. If an appeal is filed, the effective date shall be upon the conclusion of the administrative process affirming issuance of the permit.

b. If an appeal is not filed, the effective date shall be upon the expiration of the thirty day appeal period specified by A.R.S. § 41-1092.03(B), unless no objections have been filed and a waiver of appeal rights is executed by the City of Avondale, in which case the effective date shall be the date this permit is signed.

WITNESS my hand and seal of office this 27th day of December, 2000.

Jim Holway, Assistant Director

Appendix B-5 Water Delivery and Use Agreement

WATER DELIVERY AND USE AGREEMENT

BETWEEN

SALT RIVER VALLEY WATER USERS' ASSOCIATION

AND

CITY OF AVONDALE, ARIZONA

Execution Original 11/20/1996

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WATER DELIVERY AND USE AGREEMENT

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Water Delivery and Use Agreement

1. PARTIES:

The Parties to this Water Delivery and Use Agreement (Agreement) entered into as of this 17 day of DECEMBER, 1996, are the CITY OF AVONDALE, ARIZONA, (City) and the SALT RIVER VALLEY WATER USERS ASSOCIATION, an Arizona Corporation (Association).

2. RECITALS:

This Agreement is made with regard to the following:

2.1 Certain lands within the Salt River Reservoir District, including Member Lands, Normal Flow Only Lands and Townsite Lands, have rights to waters of the Salt and Verde Rivers. Association is responsible for delivery to said lands of waters developed, controlled or stored by it for the benefit of such lands. Association is the agent for the Salt River Project Agricultural Improvement and Power District, a political subdivision of the State of Arizona, in the operation of the water delivery system of the Salt River Project, a federal reclamation project, pursuant to an agreement dated March 22, 1937, as amended by agreements dated February 28, 1944, and September 12, 1949, and is also the agent of the United States of America in the operation of the federal reclamation project pursuant to a contract dated September 6, 1917.

2.2 City is a municipal corporation which distributes water to lands within its service area. Certain lands within such service area are also within the Salt River Reservoir District and have rights to waters from the Salt and Verde Rivers. City desires to receive and Association desires to deliver to City for said lands within City's Water Service Area, waters developed, controlled or stored by Association to which said lands are entitled.

2.3 City may deliver some of the water it receives from Association to lands that are not entitled to water from the Association. In exchange, City will deliver Municipal Water to Association or directly to lands entitled to water from the Association.

2.4 Association will permit City to connect specific Association wells directly to City's water system

to better enable City to serve lands with rights to water from the Association.

2.5 The Parties desire to enter into this Agreement to specify the terms and conditions under which these actions may occur.

3. AGREEMENT:

In consideration of the mutual covenants herein set forth, the Parties hereto agree as follows:

4. DEFINITIONS:

Certain terms used in this Agreement are defined differently in other documents. The definitions used in this Agreement shall govern the interpretation of this Agreement only. As used in this Agreement the following terms, when capitalized, mean:

4.1 Assessment: The fee fixed by the Association Board and charged against Member Lands to pay the cost of construction, improvement, enlargement, betterment, repairs, operation and maintenance of the irrigation and other works of Association, or of those under its management, operation and maintenance.

4.2 Association Shareholder(s) or Shareholder(s): An owner of Member Land.

4.3 Association Water System: The wells, water storage, transmission and distribution components of the Salt River Reclamation Project operated and maintained by Association.

4.4 Association Board: The Board of Governors of the Association.

4.5 Authorized Representative(s): Representatives of the Parties appointed to administer certain provisions of this Agreement, pursuant to Section 21.1.

4.6 City Water Service Area: The area shown on the map attached as Exhibit 4.6, as it may be amended by the Authorized Representatives.

4.7 Developed Water: Groundwater allotted by the Association Board in accordance with the Association Articles of Incorporation and Bylaws for use on Member Lands and Townsite Lands.

4.8 Dollar Water: Water made available for use on Member Lands, Townsite Lands and other lands identified in the Kent Decree for $1/AF (or other rate as determined solely by Association) when Association forecasts inflows into Association reservoirs greater than the sum of A) the vacant

Association space remaining in, and B) projected water releases from, Association reservoirs.

4.9 Eligible Land(s): Excepting lands receiving water from Association for agricultural uses, Member Lands, Normal Flow Only Lands, Townsite Lands and any other lands entitled to water from Association for which Association Assessments, fees or other charges have been paid and which are within the City Water Service Area. The Eligible Lands are listed on Exhibit 4.9.

4.10 Entitlement Water: Water which Eligible Lands are entitled to receive from Association. Such water may include Developed Water, Dollar Water, Normal Flow Water, Shareholder Water, Special Pump Right Water, Spill Water, Stored Water or Townsite Water.

4.11 Flow Measurement System: A water measuring system for the real-time monitoring of water flows consisting of a flow volume totalizing device, equipped with a detection device that provides a 4 to 20 milliampere/and a pulse output compatible with Association telemetry requirements.

4.12 Kent Decree: The court decree in the case of Hurley v. Abbott, No. 4564, filed March 1, 1910 by District Judge Edward Kent, and all court decrees supplemental thereto.

4.13 Member Land(s): Land within the SRRD, governed by the Association Articles of Incorporation and By-Laws and federal reclamation law, and having water rights appurtenant thereto and entitled to water delivery from Association upon payment to Association of the amounts fixed by the Association Board.

4.14 Municipal Water: Water acceptable for Water Exchanges pursuant to Section 15.3.

4.15 Non-Eligible Land: Land that is not Eligible Land and which is not entitled to Entitlement Water.

4.16 Non-Member Land(s): Land within the SRRD which is not Member Land.

4.17 Normal Flow Water: Water flowing in the Salt and Verde rivers to which certain lands within the SRRD are entitled, as confirmed in the Kent Decree.

4.18 Normal Flow Only Land(s): Non-Member Land having rights to Normal Flow Water.

4.19 Off-Project Land(s): Land outside the SRRD.

4.20 Point(s) of Delivery: The points designated in Exhibit 4.20 at which City diverts Entitlement

Water from the Association Water System.

4.21 Point of Measurement: A point agreed to by the Authorized Representatives where it is necessary to accurately ascertain the total amount of:

4.21.1 Entitlement Water received by City for delivery to Eligible Lands or Non-Eligible Lands, respectively; or

4.21.2 Municipal Water delivered by City to Association or to Eligible Lands for Water Exchange purposes.

4.22 Point(s) of Receipt: The points designated in Exhibit 4.22 for the receipt of Municipal Water either into the Association Water System or on Eligible Land in conjunction with a Water Exchange.

4.23 Shareholder Water: Water which Association Shareholders are entitled to receive from Association. Such water may include Normal Flow Water, Stored Water, Developed Water, Special Pump Right Water, Dollar Water, Spill Water or other water.

4.24 Special Pump Right Water: Water developed by pumps installed in accordance with resolutions of the Association Board.

4.25 Spill Water: Water made available to lands and entities identified on Exhibit 4.25 during or in anticipation of releases over, around or downstream of Granite Reef Diversion Dam.

4.26 SRRD: The area within the boundaries of Salt River Reservoir District set forth in Exhibit 4.26, as such boundaries may be amended by the Association.

4.27 Stored Water: Salt and Verde River water in excess of deliveries of Normal Flow Water, which is captured by the Association reservoir system and is allotted by the Association Board in accordance with the Association Articles of Incorporation and By-Laws.

4.28 Townsite Land(s): Land within the SRRD set apart from the Association for townsite use.

4.29 Townsite Water: Water which Townsite Lands are entitled to receive from Association upon payment of the amounts fixed by the Association Board.

4.30 Water Exchange(s): City delivery of Entitlement Water to Non-Eligible Lands in exchange for

City delivery of Municipal Water directly to Eligible Lands or to the Association Water System, pursuant to Section 15.

5. SCOPE OF SERVICE:

This Agreement shall encompass only the following services or arrangements between the Parties:

5.1 City receipt of Entitlement Water for delivery to Eligible Lands.

5.2 Water Exchanges.

5.3 City use of Association wells for delivery of Entitlement Water.

6. IDENTIFICATION OF ELIGIBLE LANDS:

6.1 Monthly, Association shall review and revise the total acreage of Eligible Lands within the City Water Service Area and provide a copy of the information to City annually in the form of Exhibit 4.9.

6.2 Annually by November 15, owners of Member Lands, Normal Flow Only Lands, Townsite Lands and any other lands entitled to water from Association that are within the City Water Service Area, and for which City did not pay the Assessments, fees or other charges for the current calendar year, shall be notified by Association of the Assessments, fees or other charges due for the following calendar year. If the owner of any such Member Land, Normal Flow Only Land, Townsite Land or other land fails to pay Association the Assessments, fees or other charges due by January 6 of the following calendar year, then immediately upon payment by City of any Assessments, fees or other charges due as provided in Section 8.1, Association shall make the Entitlement Water for such lands available to City.

6.3 If, following payment of the Assessments, fees or other charges, by the owner of any Member Land, Normal Flow Only Land, Townsite Land or any other land entitled to water from Association that is within the City Water Service Area, such owner requests that the Entitlement Water for such land be made available for delivery to City as provided in this Agreement, Association shall make such water available to City immediately upon payment by City of any Assessments, fees or other charges due as provided in Section 8.1.

7. AGENCY:

7.1 City acts as agent for owners of Eligible Lands in accepting Entitlement Water for delivery to such Eligible Lands.

7.2 Association shall deliver to City for use on any Eligible Lands the lesser of: (A) the total amount of Entitlement Water to which such lands, as a group, are entitled pursuant to water rights appurtenant to said Eligible Lands, as a group, less any Entitlement Water Association delivers directly to such lands; or (B) the cumulative water use on such Eligible Lands, as a group, less any Entitlement Water Association delivers directly to such lands.

7.3 The Parties acknowledge the right of owners of Eligible Land to request and receive direct delivery of Entitlement Water from Association.

7.4 The Parties acknowledge there has been and continues to be a change of use of the water rights of owners of Eligible Lands, pursuant to which City receives water from Association as agent of those owners, and that this Agreement does not affect the ownership of such rights.

8. PAYMENT TO ASSOCIATION OF CHARGES; REFUNDS TO CITY:

8.1 City shall pay Association all current and delinquent Assessments, fees or other charges, including delinquency fees, imposed by Association and accrued to date on all lands within the City Water Service Area, with rights to receive water from Association with the following exceptions:

8.1.1 Lands receiving water from Association for agricultural uses.

8.1.2 For those Eligible Lands receiving Entitlement Water directly from Association, City shall pay only such fees and charges associated with the Entitlement Water which City receives from Association for such lands.

The amount owed Association by City through October 31, 1996 pursuant to this Section 8.1, is $136,040.43, inclusive of delinquency fees on Assessments for years prior to 1996 and exclusive of delinquency fees on Assessments for 1996. Delinquency amounts accrued after October 31, 1996 on Assessments for years prior to 1996, and after January 7, 1997 on

Assessments for 1996, will be determined and billed to City after execution of this Agreement.

8.2 No Assessments, fees or other charges paid by City shall be greater than those owners of Member Lands, Normal Flow Only Lands, Townsite Lands and any other lands entitled to water from Association would be required to pay for equivalent services. All current Assessments for Shareholder Water and current fees for the delivery of Normal Flow Water and Townsite Water paid by City, shall be applied to the first Entitlement Water received by City in the calendar year pursuant to this Agreement.

8.3 City shall also pay Association an annual fee of $115.00 for the accounting, administration and auditing associated with Section 15. The fee shall be billed in November of each year for the following year, and may, after consultation between the Authorized Representatives, be adjusted every two (2) years commencing in 1996, to more accurately reflect the reasonably incurred actual cost of performing the accounting, administration and auditing related to Section 15. Any adjusted or changed fee shall remain in effect until next adjusted or changed.

8.4 In the event any owner of Eligible Land requests direct delivery of Entitlement Water from Association, then:

8.4.1 Prior to such direct delivery of Entitlement Water to such parcel of Eligible Land, Association shall collect from said owner of such Eligible Land any Assessments, fees or other charges for the current year which have been paid by City for the Entitlement Water for such Eligible Land.

8.4.2 Upon the sums having been collected in accordance with Section 8.4.1, Association shall credit to City the sum paid by City for such parcel for the current year in accordance with Section 8.1.

8.4.3 Upon such credit being made to City pursuant to this Section 8.4, Entitlement Water available to City pursuant to this Agreement shall be reduced by the amount of water Association delivers directly to such land.

. . .

9. DELIVERY AND DISTRIBUTION:

9.1 Upon City payment of Assessments, fees or other charges referred to in Section 8.1, City shall take delivery of Entitlement Water from the Association and except as provided in Section 15, shall distribute such Entitlement Water to Eligible Lands. City may take Special Pump Right Water at its option.

9.2 City's right to fix or determine the rates or charges imposed by City for service from City's water system shall not be affected by any provisions of this Agreement and such rates or charges shall be within the sole discretion of City.

10. AUTHORIZATION:

In the absence of an express objection from an owner of Eligible Land such landowner shall be deemed to have authorized City to accept from Association and deliver through City's water system the Entitlement Water for said Eligible Land pursuant to Section 7

11. CITY POINTS OF DELIVERY:

Each Point of Delivery shall be subject to reasonable conditions and limitations to be agreed upon by the Authorized Representatives. Upon mutual agreement, the Authorized Representatives may add, delete or change Points of Delivery, and Exhibit 4.20 shall be revised accordingly.

12. CITY USE OF ASSOCIATION WELLS:

12.1 At City's request, Association will make water available directly from certain of its wells for delivery by City to City's water system subject to the terms of this Section 12 and written Association procedures and policies pertinent to this Section 12, including those contained in Exhibit 12.1. In the event of a conflict between this Section 12 and Association policies and procedures, this Section 12 shall govern. Association does not guarantee a continuous water supply from any such wells, and makes no warranty as to the suitability of such water supply for any specific purpose. City's use of Association wells pursuant to this Section 12 is for delivery of Entitlement Water to Eligible Land. This Section 12 does not apply to Association wells pumped solely by Association for discharge into the Association Water System.

12.2 Association will make available for City use pursuant to this Section 12 only those wells which can be directly connected to City's water system. Association wells selected by City for potential direct connection to City's water system shall be subject to approval by Association's Authorized Representative. Designs for proposed City connection to those wells, for all associated facilities and for all subsequent changes thereto shall be subject to review and approval by Association's Authorized Representative. Nothing in this Section 12 shall be construed to create in City any vested right or interest in any Association well or well site, and in accordance with Exhibit 12.1, Association reserves the right to use any Association well to augment the water supply for lands entitled to water from Association. Additionally, should Association decide to discontinue making water available directly from an Association well made available to City pursuant to this Section 12, Association shall give City twelve (12) months notice prior to such discontinuance and shall not arbitrarily object to City's application for a permit to construct a new well or a replacement well at a new location.

12.3 Unless otherwise agreed by the Authorized Representatives, all physical changes and alterations to an Association well and associated equipment necessary to enable City to use the Association well pursuant to this Section 12 will be performed by Association at City's expense. Association's Authorized Representative shall designate the location at which City may connect to Association's well. All materials, equipment, labor, etc. required to connect the Association well and City's water system shall be provided at the expense of City.

12.4 City may locate City equipment necessary for City use of an Association well on the Association well site, subject to agreement by the Authorized Representatives. Such City equipment, and City equipment located on Association well sites as of the effective date of this Agreement, may remain on Association well sites, subject to reasonable needs of Association either to operate and maintain the Salt River Reclamation Project or to comply with law.

12.5 On Association well sites currently being used by City, City equipment listed on Exhibit 12.5 which does not now conform to the requirements of this Section 12 or Exhibit 12.1, shall be

brought into conformance by City. Within six (6) months after execution of this Agreement, the Authorized Representatives shall develop a schedule to bring all City equipment into conformance by December 31, 1997. Association, at its discretion, may terminate City use of any Association well where City equipment has not been brought into such conformance by the date stipulated in the aforementioned schedule.

12.6 City equipment shall be maintained by City in accordance with generally accepted engineering standards and practices. If City fails to do so, upon thirty (30) days written notice to City, Association may perform such maintenance at City expense. If personal safety or equipment damage concerns of an emergency nature exist, the Association may perform such maintenance at City expense without the thirty (30) day written notice.

12.7 At City expense, either City or Association shall install, and Association shall own, maintain and calibrate, a Flow Measurement System to quantify water purged or delivered from each Association well on behalf of City pursuant to this Section 12. Flow measurement errors shall be adjusted in accordance with Section 16.7.

12.8 If City permanently discontinues use of a particular Association well, and plans to remove City equipment from the site, City shall notify Association thirty (30) days prior to removing the City equipment, and shall leave the well site in a condition no worse than existed prior to City's commencement of use of the site.

12.9 Upon request of City, Association will provide well test data and current water, power and energy rates. City shall be billed monthly for charges due pursuant to this Section 12. For such billing purposes, unless otherwise agreed by the Authorized Representatives, City shall provide, unless Association otherwise acquires, the water and power meter readings necessary to administer this Section 12.2.

13. WATER PUMPED OR STORED BY CITY:

13.1 The provisions of this Section 13 do not apply to Water Exchanges authorized by this Agreement or other water exchanges that are agreed to by the Parties.

13.2 Association maintains that City is prohibited by law and Association Articles of Incorporation and By-Laws from pumping water either from Member Land for use on Non-Member Land, or from within the SRRD and transporting it for use on Off-Project Land. In the event City disputes such prohibition, both Association and City reserve the unqualified right to seek a declaratory judgment or other judicial relief regarding this prohibition and to assert all defenses in related litigation, including jurisdictional ones. City repayment to Association for water City delivers either from Member Land for use on Non-Member Land or from within the SRRD for use on Off-Project Land pursuant to an exchange shall not constitute a waiver of its right to seek a declaratory judgment or other judicial relief pursuant to this Section 13.2.

13.3 If, prior to a resolution of this issue, City transports water pumped from a well, as defined by Arizona Revised Statutes (A.R.S.) Section 45-402 within the SRRD for use on Off-Project Land, City shall give Association reasonable notice in advance of such transportation and use of such water. If Association ultimately prevails on the merits of the prohibition in litigation to enjoin such transportation and use of such water, City shall repay to Association all water so transported and used and shall complete such repayment within a period of time no longer than the period of time during which such transportation and use occurred.

13.4 Entitlement Water may be stored underground and recovered by City only pursuant to state law. City shall recover the approximate amount of Entitlement Water stored underground during any month, within such month.

13.5 With the exception of Entitlement Water, water City stores underground pursuant to state law may be withdrawn from any location specified in a recovery well permit, and may be used or exchanged in the locations and manner authorized by state law.

13.6 This Agreement does not prohibit City from pumping water from City-owned wells on Non-Member Land for use on Non-Member Land.

14. ASSOCIATION POINTS OF RECEIPT:

Each Point of Receipt shall be subject to reasonable conditions and limitations to be agreed upon by the

Authorized Representatives. Upon mutual agreement, the Authorized Representatives may add, delete or change Points of Receipt, and Exhibit 4.22 shall be revised accordingly.

15. WATER EXCHANGES AND CONDITIONS:

15.1 Pursuant to arrangements between the Authorized Representatives and in accordance with this Section 15, the Parties may engage in Water Exchanges. The maximum amount of water that may be exchanged pursuant to this Agreement in any calendar year is 23,498 acre feet; however, there is no obligation to exchange any specific quantity of water in any calendar year.

15.2 Association shall establish a Water Exchange account for City. Subject to Section 15.4, Association shall debit City's Water Exchange account in the amount of Entitlement Water delivered by City to Non-Eligible Lands and credit City's Water Exchange account in the amount of Municipal Water City delivers to the Association Water System. Except as otherwise agreed by the Authorized Representatives, City's obligation to deliver Municipal Water to the Association Water System in a Water Exchange shall be fulfilled only when such Municipal Water has been transported by Association to the Point of Delivery pursuant to Section 15.4.1. Credits for Municipal Water City delivers directly or causes to be delivered directly to Eligible Lands shall be determined pursuant to Section 15.4.

15.3 Acceptable sources of Municipal Water for Water Exchanges are:

15.3.1 Groundwater City withdraws from Off-Project Lands at well sites identified on Exhibit 15.3.1. Deletions from or additions to Exhibit 15.3.1 must be made by mutual agreement of the Authorized Representatives.

15.3.2 Surface water that is not Entitlement Water.

15.3.3 Water transported through the Central Arizona Project water supply system.

15.3.4 Effluent City delivers directly or causes to be delivered directly to Eligible Lands, as long as no effluent reaches the transmission and distribution components of the Association Water System, except as provided in Section 15.3.5.

15.3.5 Effluent Association accepts into the Association Water System under conditions

agreed to by the Authorized Representatives.

15.3.6 Water other than Entitlement Water stored underground and recovered pursuant to State Law.

15.3.7 Credits for water stored underground pursuant to state law that Association, in its sole discretion, accepts, under conditions agreed to by the Authorized Representatives.

15.3.8 Groundwater City withdraws from Non-Member Lands at well sites identified on Exhibit 15.3.8, up to the amount, on a monthly basis, of the water demand on Non-Member Land within the City Water Service Area. Deletions from or additions to Exhibit 15.3.8 must be made by mutual agreement of the Authorized Representatives.

15.4 Water Exchanges shall be governed by the following additional conditions:

15.4.1 Except as otherwise agreed by the Authorized Representatives, Association transportation of Municipal Water from the Point of Receipt to the Point of Delivery, in conjunction with a Water Exchange, shall be in accordance with the Water Transportation Agreement between Association and City dated September 27, 1991 (WTA); however, the following shall be exempt from the transportation fee set forth in the WTA:

15.4.1.1 Groundwater Association agrees to accept in conjunction with a Water Exchange, except to the extent such groundwater is received by Association through the CAP/SRP Interconnection Facility.

15.4.1.2 Any other water for which City has already paid a transportation fee.

15.4.2 Credits for Municipal Water City delivers directly or causes to be delivered directly to Eligible Land shall be determined as follows:

15.4.2.1 If the Municipal Water City delivers directly or causes to be delivered directly is effluent, City will receive a credit only if the use of the effluent on Eligible Land is for a purpose that would be a permissible use of Entitlement Water under Arizona law.

15.4.2.2 City will receive a credit to use Normal Flow Water only if the Municipal Water City delivers directly or causes to be delivered directly to the Eligible Land is measured in a manner agreed to by the Authorized Representatives.

15.4.2.3 The amount of the credit shall be the lesser of:

A. The amount of Municipal Water City delivers or causes to be delivered directly to the Eligible Land, or

B. The entitlement of the Eligible Land to Stored Water and Developed Water, plus the entitlement of the Eligible Land to Normal Flow Water that has been displaced by Municipal Water.

15.4.3 During a Dollar Water event, Association shall not credit City's Water Exchange account except for Municipal Water that is in transit in the Association Water System when the event is declared.

15.4.4 During a Spill Water event, Association shall not debit or credit City's Water Exchange account; except to the extent that the Entitlement Water City delivers to Non-Eligible Lands is groundwater withdrawn by City from an Association well in accordance with Section 12, in which case Association shall debit City's Water Exchange account in the amount of such groundwater.

15.4.5 Association may refuse, for the following reasons, to credit City's Water Exchange account for Municipal Water City offers to deliver to the Association Water System or delivers to the Association Water System in violation of this Agreement:

15.4.5.1 Canal or water storage capacity limitations;

15.4.5.2 Insufficient demand for water;

15.4.5.3 The marginal quantity of water offered;

15.4.5.4 Water quality; or,

15.4.5.5 Other similar operational considerations.

15.4.6 Association shall not arbitrarily or capriciously refuse to credit City's Water Exchange account pursuant to Section 15.4.5.

15.4.7 Water Exchanges shall be further subject to agreement between the Authorized Representatives regarding the following for each Water Exchange:

15.4.7.1 The Points of Receipt and Points of Delivery of water.

15.4.7.2 The timing for receipt or delivery of water.

15.4.7.3 Other related factors.

15.4.8 Neither Association nor City shall suffer any loss of water due to a Water Exchange, unless the Authorized Representatives agree otherwise.

15.5 Prior to the beginning of each calendar year, the Authorized Representatives shall establish the maximum limits for credit and debit balances for City's Water Exchange account at the end of every month in the calendar year, and whether City's Water Exchange account balance must be reduced to zero by the end of the calendar year. In setting the credit and debit limits, the Authorized Representatives shall consider such factors as: (A) City's ability to repay debits; (B) the amount of water stored in Association reservoirs; (C) the likelihood of spills from storage during the calendar year; and (D) City's record of repaying debits and using credits. If the Authorized Representatives cannot agree to debit and credit limits for the upcoming calendar year, the limits for the current calendar year shall apply until modified by the Authorized Representatives. The monthly debit limit for calendar year 1997 is 500 acre feet. The monthly credit limit for calendar year 1997 is 500 acre feet. The yearly debit limit for calendar year 1997 is 1,000 acre feet.

15.5.1 If, on the thirty-first day after Association mails its month-end water accounting report to City, City's Water Exchange account has a debit balance which exceeds the debit limit established by the Authorized Representatives, when and as requested by Association, City shall provide to Association the amount of Municipal Water necessary to reduce the debit to the monthly debit limit.

15.5.2 If, on the thirty-first day after Association mails its calendar year-end water accounting report to City, City's Water Exchange account has a debit balance, when and as requested by Association, City shall provide to Association the amount of Municipal Water necessary to reduce the debit to the yearly debit limit.

15.5.3 (This section has been left blank deliberately.)

15.5.4 If, when requested by Association pursuant to Section 15.5.1 or 15.5.2, City does not provide Association Municipal Water to reduce City's Water Exchange account balance to the monthly or yearly limit, City may not deliver Entitlement Water to Non-Eligible Lands until City's Water Exchange account balance has been reduced to the current monthly or yearly debit limit.

15.5.5 The deadlines established by this Section 15.5 shall be tolled during any time in which Association refuses to credit City's Water Exchange account for Municipal Water offered by City pursuant to Section 15.4.5.

15.6 Unless otherwise agreed by the Authorized Representatives, Association shall extinguish all credits in City's Water Exchange account on the thirty-second day after Association mails its calendar year-end water accounting report to City.

15.7 At its sole discretion, Association may increase the debit limit for City's Water Exchange Account, and extend the deadline for repayment of any debit balance in such account.

16. FLOW MEASUREMENT:

16.1 Except as provided in Section 12.7 regarding Association wells used by City, City shall, at its sole expense and with the approval of the Authorized Representatives, construct, install and

maintain in accordance with manufacturers' specifications for the specific application, a Flow Measurement System at each Point of Measurement. An electromagnetic Flow Measurement System or its equivalent shall be installed at each Point of Measurement for water that is commonly debris laden, as agreed to by the Authorized Representatives. The Authorized Representatives may waive or reduce the requirements of this Section 16.1 for any Point of Measurement for which they deem the requirements excessive.

16.2 The terms "Flow Measurement System" and "Point of Measurement" as defined in this Agreement, shall not preclude the summation of data from industry approved billing meters installed by City where City delivers water to City customers. Such billing meters shall be exempt from the accuracy and telemetry requirements of this Section 16; however, City shall maintain the meters in accordance with their manufacturer's specifications to industry accepted accuracy standards. The summated data from such meters may be adjusted by a factor agreed upon by the Authorized Representatives to cover any losses occurring in the City water system between the Points of Delivery to City and City points of delivery to its customers.

16.3 At each City water treatment facility (WTF), City shall maintain the accuracy of its Flow Measurement Systems as close to zero error as practical, but in no event shall error exceed plus or minus five percent (5%) of actual flow except when the flow being measured is to a WTF operating at thirty percent (30%) or less of maximum operating capacity. In such circumstances, the accumulated volume delivered to a WTF during the periods of exception in a calendar year shall not exceed six percent (6%) of the total volume delivered to that WTF during that calendar year.

16.4 At all other City Points of Measurement, City shall maintain the accuracy of the associated Flow Measurement System as close to zero error as practical but in no event shall error deviate from actual flow by more than:

A. plus or minus five percent (5%) at the volume totalizing device through calendar year 2004 and two percent (2%) thereafter, unless otherwise agreed by the Authorized

Representatives, and

B. plus or minus five percent (5%) at the detection device.

16.5 City shall prepare and regularly implement testing and recalibration procedures for the Flow Measurement Systems, which procedures must be approved by the Authorized Representatives. At least once every six (6) months at each City WTF, and at least once every twelve months at all other City Points of Measurement, unless otherwise agreed by the Authorized Representatives, City shall recalibrate its Flow Measurement Systems as close to zero error as practical, but in no event shall error exceed the accuracy standard in Section 16.3 or Section 16.4, whichever is applicable. City shall orally or in writing notify Association's Authorized Representative of when such recalibration is planned so that Association may observe the procedure. Association may at reasonable times, at its sole expense and after reasonable notice to City, test or have tested the Flow Measurement System to determine its accuracy.

16.6 If upon the effective date of this Agreement City cannot attain the flow measurement accuracy required in Sections 16.3 and 16.4, then the Authorized Representatives of Association and City shall determine within six (6) months thereafter, how the required flow measurement accuracy can be obtained. Within twelve (12) months of the effective date of this Agreement, City's Authorized Representative shall submit written plans to Association's Authorized Representative providing for installation, reinstallation, or modification of a Flow Measurement System that will achieve the required flow measurement accuracy. Within thirty (30) months of the effective date of this Agreement, City shall comply with the accuracy requirement of Sections 16.3 and 16.4 or have in place a plan approved by the Authorized Representatives stipulating the date of compliance.

16.7 In the event that water accounting records or any routine or special test of the Flow Measurement System discloses an annual volume, or a flow measurement error, that exceeds the limits provided in Sections 16.3 and 16.4, all bills and water accounting affected by such

limits having been exceeded may be adjusted by Association based on the best available data, subject to Sections 23 and 29. However, adjustments arising from other than annual volume limits shall not encompass more than the elapsed time since the last preceding test.

17. REQUEST FOR WATER DELIVERIES, AND DIVERSIONS BY CITY:

Subject to Section 18, water deliveries by Association to City shall be made upon City's request. City requests for delivery shall be made with the designated Association office in conformance with procedures established and revised by Association from time-to-time. The amount of water for which City will be charged and deemed to have received shall be the greater of the actual amount diverted, as measured pursuant to Section 16, or the amount ordered, except that if the amount ordered is greater than the amount diverted and Association, at its discretion, elects to divert any portion of the difference to another beneficial use, City shall not be charged for or deemed to have received the portion diverted to another beneficial use. City shall exercise reasonable efforts to limit its diversions to the amount of water ordered. Association will exercise reasonable efforts in making available a sufficient amount of water reasonably required to meet City's needs that from time to time, exceed City's water order.

18. INTERRUPTIONS OR REDUCTIONS IN DELIVERY:

Water delivered to City shall be in accordance with City's request pursuant to Section 17, except for (A) interruptions or reductions in deliveries due to (1) Association water supply or water delivery facility limitations, or (2) uncontrollable forces as defined in Section 25, or (B) interruptions or reductions which are reasonably necessary or desirable for the purposes of maintenance, repairs, replacements, installations, investigations and inspections of Association's equipment, irrigation works, and facilities; provided that Association, except in case of emergency, will give City reasonable, advance notice of temporary interruptions or reductions and will attempt to remove the cause thereof with diligence.

19. WATER TREATMENT:

When City receives Entitlement Water from Association, City may delay distribution of such water to Eligible Lands for the sole and specific purpose of treating such water to make it suitable for end uses on such lands. City has the exclusive discretion to select the treatment method for the water, including

underground treatment. Unless pursuant to a Water Exchange with Association pursuant to Section 15, City shall deliver to Eligible Lands the Entitlement Water City receives from Association, or water "deemed" by Arizona law to be the Entitlement Water City received from Association. City shall deliver to Eligible Lands, on a monthly accounting basis, the same amount of Entitlement Water it receives from Association for that purpose, as determined by the accounting procedures.

20. WATER QUALITY:

20.1 Association acknowledges the changing uses of the water it delivers pursuant to this Agreement, and the concomitant need for attention to the quality of that water. Association will devote resources for remediation of water quality degradation which are reasonable and prudent, in recognition of such changes in end use. Association neither warrants nor guarantees the quality of water it delivers pursuant to this Agreement.

20.2 Association shall cooperate with appropriate state and federal regulatory agencies in their enforcement of water quality related regulations against persons or entities whose actions have resulted in degradation of Association water supplies.

20.3 Association shall comply with all federal and state laws, rules and regulations relating to water quality, that are applicable to Association. Provided Association is in compliance with such laws, rules and regulations that are material and related to the liability-causing situation or event, and excepting liability resulting from Association's negligence or wrongful act, City releases Association from liability for City claims related to water quality.

21. APPOINTMENT/DUTIES OF AUTHORIZED REPRESENTATIVES:

21.1 Association and City shall each appoint an Authorized Representative and an alternate, to administer the provisions of this Agreement assigned to the Authorized Representatives. The alternate shall act only in the absence of the Authorized Representative. All decisions and agreements of the Authorized Representatives shall be in writing and be signed by both Authorized Representatives.

21.2 In addition to any other responsibilities assigned to the Authorized Representatives in this

Agreement, the Authorized Representatives:

21.2.1 Shall make available for review and comment any operating procedures developed by Association or City to implement or administer the provisions of this Agreement.

21.2.2 Shall agree to Points of Measurement, pursuant to Section 4.21.

21.2.3 May amend City Water Service Area as shown on Exhibit 4.6, pursuant to Section 4.6.

21.2.4 Shall consult regarding adjustment of the annual fee for accounting, administration and auditing associated with Section 15, pursuant to Section 8.3.

21.2.5 May add, delete or change Points of Delivery and Points of Receipt, pursuant to Section 11 and 14 respectively, and shall agree upon reasonable conditions and limitations for each Point of Delivery and Point of Receipt, pursuant to Section 11 and 14 respectively.

21.2.6 May agree that physical changes and alterations to an Association well and associated equipment necessary to enable City to use the well will be performed at City expense by a party other than Association, pursuant to Section 12.3.

21.2.7 Shall approve locating City equipment necessary for City use of an Association well on the Association well site, pursuant to Section 12.4.

21.2.8 Shall develop a schedule of when City equipment at each Association well site used by City shall be brought into conformance by City to the requirements of Section 12 and Exhibit 12.1, pursuant to Section 12.5.

21.2.9 In accordance with Section 12.9, shall agree to other arrangements to provide Association the water and power meter readings necessary to administer Section 12.

21.2.10 Shall make arrangements for Water Exchanges, in accordance with Section 15, including:

21.2.10.1 May agree to delivery/transportation of Municipal Water to

Association at other than the Point of Delivery, pursuant to Section 15.2.

21.2.10.2 May delete or add well sites on Off-Project Lands from or to Exhibit 15.3.1, pursuant to Section 15.3.1.

21.2.10.3 Shall agree to conditions under which Association will accept effluent into the Association Water System, pursuant to Section 15.3.5.

21.2.10.4 Shall agree to conditions under which Association will accept credits for water retained underground, pursuant to Section 15.3.7.

21.2.10.5 May delete or add well sites on Non-Member Lands from or to Exhibit 15.3.8, pursuant to Section 15.3.8.

21.2.10.6 May agree to transport Municipal Water in conjunction with a Water Exchange, other than in accordance with the Water Transportation Agreement between Association and City, pursuant to Section 15.4.1.

21.2.10.7 Shall agree to the manner in which to measure Municipal Water City delivers directly to Eligible Land, pursuant to Section 15.4.2.2.

21.2.10.8 Shall agree upon the following for each Water Exchange, pursuant to Section 15.4.7:

A. The Points of Receipt and Points of Delivery of water.

B. The timing for receipt or delivery of water.

C. Other related factors.

21.2.10.9 May agree to a loss of water in conjunction with a Water Exchange, pursuant to Section 15.4.8.

21.2.10.10 Shall establish maximum limits for the monthly credit and debit balance for City's Water Exchange Account, and shall determine

whether any such balance must be reduced to zero by the end of the calendar year, pursuant to Section 15.5.

21.2.10.11 May agree not to extinguish all credits in City's Water Exchange account, pursuant to Section 15.6.

21.2.11 Shall approve City's Flow Measurement Systems, and the construction, installation and maintenance thereof, or waive or reduce the requirements to install such Flow Measurement Systems, pursuant to Section 16.1.

21.2.12 May adjust summated data from City customer billing meters by a factor to cover any losses, in accordance with Section 16.2.

21.2.13 May agree to accuracy standards other than those provided in Section 16.4A, pursuant to Section 16.4A.

21.2.14 Shall approve City testing and recalibration procedures for City Flow Measurement Systems and any changes in the required frequency of such testing and recalibration, pursuant to Section 16.5.

21.2.15 Shall determine how the required flow measurement accuracy can be obtained, submit/receive written plans to achieve the required flow measurement accuracy, and approve any City plan to comply with the flow measurement accuracy requirement, pursuant to Section 16.6.

21.2.16 Shall approve the manner of access to the premises, right of way and easements of a Party when such access is required by the other Party, pursuant to Section 27.

21.2.17 Shall arrange for the requesting Party to audit the books, records and documents of the other Party directly pertaining to the billings and water accounting data required to administer this Agreement, pursuant to Section 28.1.

21.2.18 Shall respond to any notification of an exception taken as a result of an audit, pursuant to Section 28.2.

21.2.19 Shall arrange for the owing Party to return water owed as a result of an audit,

pursuant to Section 28.2, or upon final resolution of a dispute, pursuant to Section 30.

21.2.20 Shall determine costs for extraordinary services to be performed by Association when such services are to be paid for by City.

21.2.21 Shall annually review and confirm the appropriateness of Association's and City's water accounting procedures and procedures for the determination of the quantities of Entitlement Water, Municipal Water, and water demand/use pertinent to this Agreement, including Water Exchanges.

21.2.22 Shall review and develop procedures to resolve maintenance issues surfaced by either Party regarding service under this Agreement.

21.2.23 Shall meet at least once every three (3) months, unless they otherwise agree, to carry out the duties assigned to them by this Agreement and to discuss additional matters of common concern to Association and City, including all requests known to them by landowners within City's Water Service Area for water from Association for any use other than application to two or more acres of land to produce plants or parts of plants for sale, human consumption, or feed for livestock, range livestock or poultry.

21.3 Association's Authorized Representative shall:

21.3.1 Approve Association wells selected by City for potential direct connection to City's water system, pursuant to Section 12.2.

21.3.2 Review and approve designs for proposed City connections to Association wells, for all associated facilities and for all subsequent changes thereto, pursuant to Section 12.2.

21.3.3 Designate the location at which City may connect to Association's well, pursuant to Section 12.3.

21.4 If the Authorized Representatives disagree as to any action to be taken or decision to be made,

or as to the need for taking any action or making any decision, or as to whether any matter is within the scope of the Authorized Representatives' responsibilities hereunder, the question or questions at issue may be referred by either Party to arbitration pursuant to Section 29.

21.5 Each Party shall notify the other Party in writing within thirty (30) days after execution of this Agreement of the designation of its Authorized Representative and alternate and shall promptly notify the other Party of any subsequent changes in such designation.

21.6 The Authorized Representatives shall have no authority to modify, amend or supplement this Agreement, other than as expressly provided in this Section 21.

22. ACCOUNTING FOR ENTITLEMENT WATER AND EXCHANGE WATER:

City shall report the quantities of water measured during each month pursuant to Section 16, and water supply/demand data and other supportive information necessary to implement this Agreement, on or before the eighth business day of the following month, to the Association department designated by Association and based on the Water Accounting Terms and Data Descriptions attached hereto as Exhibit 22. Association may revise Exhibit 22 as needed to implement this Agreement.

23. BILLING AND PAYMENT:

23.1 Association shall bill City and City shall pay Association for the Assessments, fees and other charges for Eligible Land as set forth in Section 8.1 in accordance with the Association Articles of Incorporation and By-Laws and rules and regulations to implement those Articles and By-Laws. Except as otherwise provided in this Agreement, Association shall submit bills for other charges set forth in this Agreement to City on or before the twenty-fifth day of each month (or if such day is not a business day, on the next succeeding business day) immediately following the month during which the charges were incurred. Such bills may include adjustments or corrections to bills previously submitted by Association to City.

23.2 City shall pay Association in good funds on or before the thirtieth day following the date on which the bill was postmarked, or if such day is not a business day, on the next succeeding business day. Bills which are not paid by this date shall be delinquent and thereafter accrue an interest

charge equal to A) The penalty applicable to Association Shareholders pursuant to Association's Articles of Incorporation and By-Laws, or if none is so prescribed B) the prime rate of interest as established by the Bank of America on the last business day of the month following the month for which the bill was submitted, plus two percent (2%) per annum, prorated by days, of the unpaid principal, computed daily until payment is received. Any payment received shall first be applied to any interest charges owed, and then to the charges for services rendered.

23.3 If City disputes any portion of any bill, City shall pay the disputed amount under protest when due and include with its payment a written statement indicating the basis for the protest. If the protest is found to be valid, Association shall refund to City any overpayment plus interest, accrued at the rate applicable pursuant to Section 23.2, prorated by days from the date payment was credited to City to the date the refund check is mailed.

23.4 If City does not pay any delinquent amount within thirty (30) days after receipt by City of written notice by Association to City of the delinquency and the remedies available to Association under this Agreement if the delinquent amount is not paid, Association may use any available legal remedy to collect the delinquent amount.

24. GENERAL LIABILITY:

Each Party shall assume liability arising out of its action or inaction, whether negligent or intentional, and shall indemnify the other against any damages the non-responsible Party incurs as a result of the responsible Party's action or inaction.

25. UNCONTROLLABLE FORCES:

Neither Party shall be considered to be in default in the performance of any of its obligations hereunder (other than obligations of City to make payment for service hereunder) when a failure of performance shall be due to uncontrollable forces. The term "uncontrollable forces" shall mean any cause beyond the control of the Party unable to perform such obligation, including, but not limited to, failure of or threat of failure of facilities, flood earthquake, storm, fire, lightning and other natural catastrophes, epidemic, war, riot, civil disturbance or disobedience, strike, labor dispute, labor or material shortage, sabotage,

government priorities and restraint by court order or public authority, and action or nonaction by, or failure to obtain the necessary authorizations or approvals from, any governmental agency or authority, which by exercise of due diligence such Party could not reasonably have been expected to avoid and which by exercise of due diligence it shall be unable to overcome. Nothing contained herein shall be construed to require either Party to settle any strike or labor dispute in which it is involved.

26. GILA RIVER BASIN WATER RIGHTS ADJUDICATION:

26.1 Association and City agree to support in the General Stream Adjudication of the Gila River Basin:

26.1.1 The continued validity of the water rights pursuant to which City receives water from Association pursuant to this Agreement.

26.1.2 The continued ability of City to receive water from Association pursuant to this Agreement.

27. ACCESS TO PREMISES AND FACILITIES:

Each Party grants to the other Party, its employees and agents the right of access to the Party's premises, rights of way and easements, at reasonable times agreed to by the Party and after reasonable notice from the requesting Party, for purposes of ascertaining compliance with this Agreement. Right of access under this Section 27 shall be in a manner approved by the Authorized Representatives.

28. AUDIT:

28.1 Upon reasonable written notice to the Authorized Representative of the other Party, either Party at its expense shall have the right, at all reasonable times, to review and audit the books, records and documents of the other Party directly pertaining to the billings and Water Accounting data required to administer this Agreement. Any audit hereunder may be conducted by an employee of or independent accountant or other suitable professional person designated by the auditing Party. The Party being audited agrees to fully cooperate with any such audit. The right to audit shall extend for a period of three (3) years following the date of each payment under this Agreement. The Parties agree to retain all necessary records and documentation

during this audit period. The foregoing shall not be construed to permit either Party to conduct a general audit of the other Party's records. Information obtained by either Party's representatives in examining the other Party's applicable records to verify such billings and Water Accounting data shall not be disclosed to third parties without prior written consent of the audited Party, unless such disclosure is in response to compulsory judicial or regulatory process or required by state law including the public records law. The Party required to disclose information to a third party shall give the other Party written notice of the disclosure as much in advance as possible.

28.2 The audited Party's Authorized Representative shall be notified in writing of any exception taken as a result of an audit and shall respond to such notification within thirty (30) days. Upon resolution of any exception, A) as to payment of any money due, the owing Party shall directly remit the amount of any exception to the other Party within thirty (30) days, with a penalty determined in accordance with Section 23 and computed from the date of the original billing to the date of payment by the Party owing as a result of the audit; B) as to any water due, the Authorized Representatives shall arrange for the owing Party to return the amount owed as soon as practicable.

29. RESOLUTION OF DISPUTES:

29.1 Any Party having a dispute under this Agreement that cannot be resolved by the Parties, may submit the dispute to arbitration. Arbitration shall be subject to the following provisions:

29.1.1 Arbitration shall be binding only upon the consent of the Parties.

29.1.2 A Party wishing to submit a dispute to arbitration shall provide thirty (30) days written notice to the other Party of its intent to pursue arbitration and shall name one arbitrator at that time. Within fifteen (15) days of receiving this notice, the other Party to the dispute shall name one arbitrator and give written notice to the other Party of its selection. The two selected arbitrators shall, within five (5) days of selection of the second arbitrator, jointly select a third arbitrator.

29.1.3 Within thirty (30) days from the selection of the third arbitrator, the arbitrators shall

hold a hearing. Within thirty (30) days from the conclusion of the hearing the arbitrators shall render a decision on the dispute.

29.1.4 Arbitration shall be subject to the Arizona Arbitration Act, Arizona Revised Statutes, Title 12, Chapter 9, Article 1. In the event of a conflict between this Agreement and the Act, the provisions of this Agreement shall prevail.

29.2 Any Party that is dissatisfied with the results of non-binding arbitration may pursue any other legal or equitable remedy not expressly provided for in this Section 29 and available to resolve the dispute.

30. ACTION PENDING RESOLUTION OF DISPUTES:

Pending the resolution of a dispute pursuant to Section 29, the Parties shall make payments and otherwise perform, to the extent legally permissible, in a manner consistent with this Agreement. Amounts paid by a Party pursuant to this Section 30 during the pendency of such dispute shall be subject to refund and adjustment upon a final resolution of any dispute involving an amount due. Upon such final resolution, A) money due shall be billed and remitted in accordance with Section 23, and B) as to any water due, the Authorized Representatives shall arrange for the owing Party to return the amount owed as soon as practicable.

31. CONTRACT REOPENER:

This Agreement may be modified at any time by written agreement signed by the Parties. Additionally, either Party may request that this Agreement be modified by providing written notice to the other Party no later than one (1) year prior to any ten (10) year anniversary of this Agreement. Upon such a request the Parties shall negotiate in good faith to reach a reasonable and equitable modification of this Agreement. If the Parties fail to agree on modifications by such tenth anniversary, the Party who requested the modification may submit the matter to arbitration in accordance with Section 29, on the following issue only: whether circumstances relevant to this Agreement and affecting the obligations of one or both Parties have changed beyond the reasonable contemplation of the Parties, such that a modification of this Agreement is necessary to restore the reasonable expectations of the Parties.

32. NOTICES:

Any notice, demand or request provided for in this Agreement shall be in writing and delivered in person, or sent by registered or certified mail, postage prepaid, to:

Salt River Valley Water Users' Association
c/o Corporate Secretary, PAB 215
PO Box 52025
Phoenix, AZ 85072-2025

Reference: Water Delivery and Use Agreement

(With a copy to Association's Authorized Representative.)

City Manager
City of Avondale
525 North Central Avenue
Avondale, AZ 85323

(With a copy to City's Authorized Representative.)

33. WAIVER:

The waiver by either Party of any breach of any term, covenant or condition herein contained shall not be deemed a waiver of any other term, covenant or condition, or any subsequent breach of the same or any other term, covenant or condition herein contained.

34. GOVERNING LAW:

This Agreement is made under, and shall be governed by, the laws of the State of Arizona.

35. HEADINGS:

Title and paragraph headings herein are for reference only and are not part of this Agreement.

36. ASSOCIATION, SRPAI&PD (DISTRICT) ASSIGNS AND SUCCESSORS:

For purposes of this Agreement, the District or any Assignee or Successor of Association shall be entitled to the rights and benefits and be bound by the obligations of this Agreement the same as Association.

37. ENTIRE AGREEMENT:

The terms, covenants and conditions of this Agreement constitute the entire Agreement between the Parties within the scope of services set forth in Section 5 and no understandings or obligations not

herein expressly set forth shall be binding upon them. This Agreement may not be modified or amended in any manner unless in writing and signed by the Parties.

38. EFFECTIVE DATE AND TERM OF AGREEMENT:

38.1 This Agreement shall be effective as of January 1, 1997 upon execution by both Parties and shall remain in effect through December 31, 2101.

38.2 Upon termination of the Agreement, City's rights to receive delivery of water from Association pursuant to this Agreement shall also expire and Association may terminate the delivery of Entitlement Water to City pursuant to this Agreement; provided however, that Association and City hereby agree to negotiate in good faith an extension of this Agreement prior to its termination, on terms agreed upon by the Parties.

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IN WITNESS WHEREOF, this Agreement was executed by the Parties on the date first hereinabove written.

SALT RIVER VALLEY WATER USERS' ASSOCIATION

ATTEST AND COUNTERSIGN:

William K. Oneal
Secretary

By William P. Schrader
President

APPROVED AS TO FORM AND WITHIN THE POWER AND AUTHORITY GRANTED UNDER THE LAWS OF THE STATE OF ARIZONA TO THE SALT RIVER VALLEY WATER USERS' ASSOCIATION

12/16/96

CITY OF AVONDALE, a municipal corporation,
Thomas F. Morales, Mayor

By Thomas F. Morales, Jr.

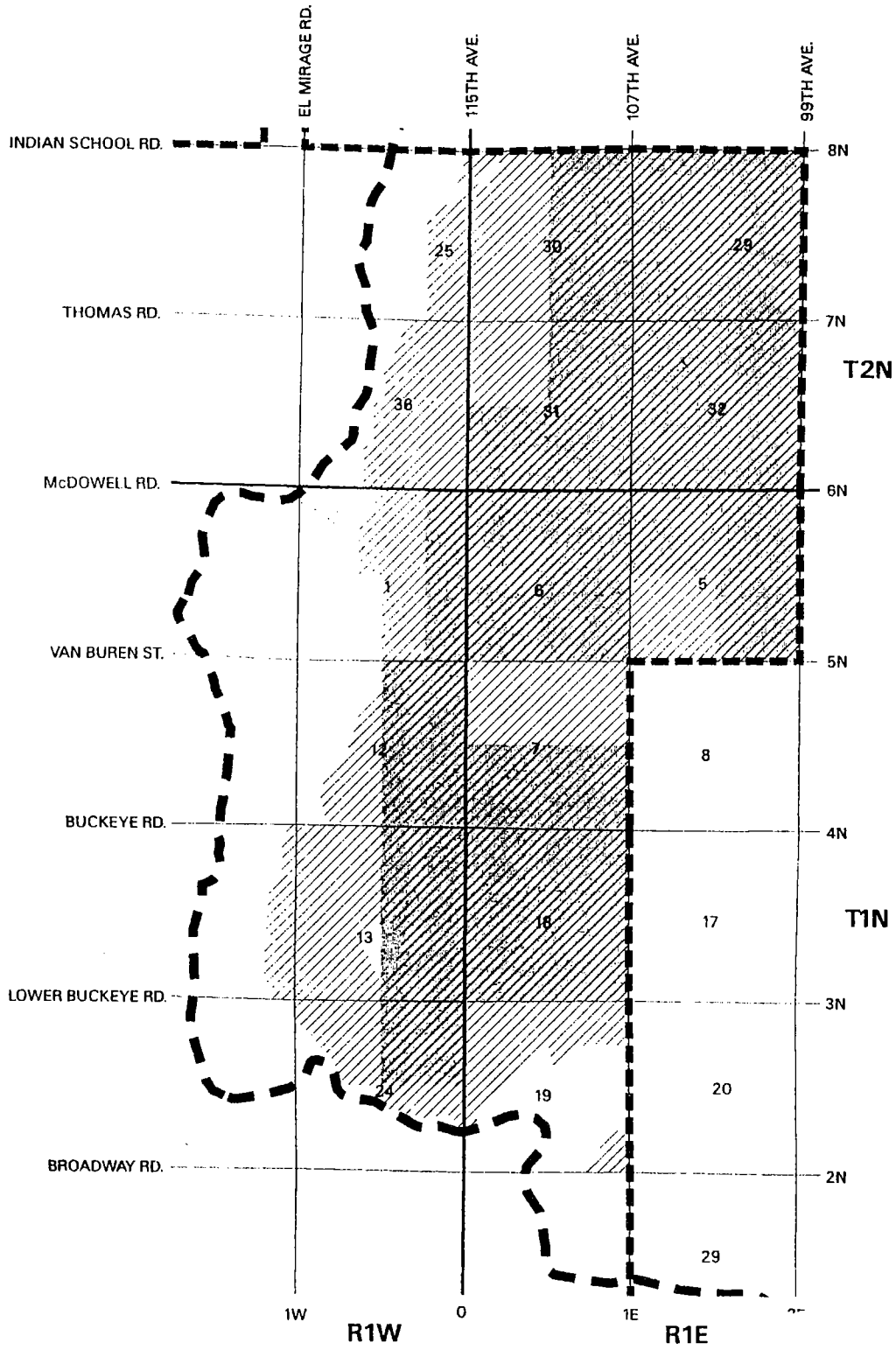
ATTEST:

City Clerk

APPROVED AS TO FORM AND WITHIN THE POWER AND AUTHORITY GRANTED UNDER THE LAWS OF THE STATE OF ARIZONA TO THE CITY OF AVONDALE

City Attorney

EXHIBIT 4.6



CITY OF AVONDALE

- Class A Lands[1]
- SRVWUA Member Lands
- Townsite Lands
- Major Canal
- Salt River Reservoir District Boundary
- City of Avondale City Water Service Area

[1] Lands decreed a water right to the normal flow of the Salt River and its tributaries by Judge Edward Kent in *Patrick T. Hurley v. Charles F. Abbott,* Case No. 4564, 3rd Judicial District, Territory of Arizona, March 1, 1910 and supplemental decrees dated March 26, May 28 and December 13, 1910 (Kent Decree).

1 inch = 1 mile

Scale in Feet

0 2000 6000 10,000

City of Avondale Eligible Lands
As of Oct. 31, 1996

LEGAL		
05	1N	1E
06	1N	1E
07	1N	1E
18	1N	1E
19	1N	1E
01	1N	1W
12	1N	1W
13	1N	1W
14	1N	1W
24	1N	1W
29	2N	1E
30	2N	1E
31	2N	1E
32	2N	1E
25	2N	1W
36	2N	1W
	1,157.85	**Acs.**

WATER DELIVERY AND USE AGREEMENT
BETWEEN
SALT RIVER VALLEY WATER USERS' ASSOCIATION
AND
CITY OF AVONDALE

EXHIBIT 4.20

City Points of Delivery

A. City Water Treatment Plants -

None

B. Association Wells Connected to City's Water System -

None

C. Other Points of Delivery -

City Name	Location	Association Coordinates
Avondale Wetlands Project:		
Location #1	10901 W. Thomas Rd.	7.0N-3/4E*
Location #2	10711 W. Encanto Blvd.	6.5N-1.0E**

* Association gate 2-23-30

** Association gates 2-23-53 and 2-23-54

11/14/1996

WATER DELIVERY AND USE AGREEMENT
BETWEEN
SALT RIVER VALLEY WATER USERS' ASSOCIATION
AND
CITY OF AVONDALE

EXHIBIT 4.22

Association Points of Receipt

City Name/#	Location	Association Coordinates
Well #8	2290 N. 99 Ave.	6 1/2N-2.0E
Well #9	11043 W. Pima St.	3 3/4N-7/16E

11/14/1996

EXHIBIT 4.25

PERSONS AND LANDS ELIGIBLE TO USE SPILL WATER[1]

- Lands within the Salt River Reservoir District
- Buckeye Irrigation Company/Buckeye Water Conservation and Drainage District
- City of Avondale water service area
- City of Chandler water service area
- Town of Gilbert water service area
- City of Glendale water service area
- City of Mesa water service area
- City of Peoria water service area
- City of Phoenix water service area
- City of Scottsdale water service area
- City of Tempe water service area
- City of Tolleson water service area
- Fort McDowell Indian Community[2]
- Salt River Pima-Maricopa Indian Community
- Phelps Dodge Corporation
- Roosevelt Water Conservation District
- Roosevelt Irrigation District
- St. John's Irrigation District
- Rio Verde Utilities, Inc.

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[1] Order of listing should not be construed as implying any priority.

[2] The Community is located on the Verde River upstream of the Salt River so it can divert Spill Water only from the Verde River.

10/21/94 TJK

EXHIBIT 12.1

City Use of Association Wells

PURPOSE

To standardize connections, charges and operational procedures for Association wells which are directly connected to City's water system and to implement the provisions of Section 12 of the Water Delivery and Use Agreement.

POLICY

1. The City shall have in effect with Association a "Water Delivery and Use Agreement".

2. Request for connection after the effective date of the Water Delivery & Use Agreement shall be in writing to the Association Authorized Representative appointed pursuant to the Water Delivery and Use Agreement. The request for connection shall include information about City's intent for use of the well including: purpose (feed City's pressurized system or a water tank, peaking, etc.), months and number of hours of operation, frequency of off-on cycling of the well, etc. Association's Authorized Representative shall obtain approval from appropriate Water Group managers prior to approving each City connection to an Association well.

3. All Association wells used by a City shall be operated in accordance with the Water Delivery and Use Agreement and the following procedures. Any deviation must be approved in writing by the Association's Authorized Representative.

4. Connection of Association wells to City facilities is to be in accordance with Drawing No. B-37-87, entitled Typical City Hookup to WUA Well Site. (see Attachment A)

5. City shall advise Association's Authorized Representative 3 months in advance of any planned changes in City's operation or use of an Association well from that on which City's use of the well was originally based and permitted by Association.

CONNECTIONS:

1. The City shall install and maintain a separate electrical control panel and power meter for all City equipment, unless otherwise agreed by the Authorized Representatives and the electric utility entitled to serve the equipment. The City's electrical feed to any equipment located within the Association's well site shall be equipped with a disconnect, operable and lockable by the City and the Association that will enable all such City equipment to be de-energized.

2. Unless otherwise approved by the Authorized Representatives: A. City shall install industry approved devices necessary to protect the Association pump and related equipment against abnormal pressures during starting, stopping or any malfunction in City's or Association's system, and B. All such devices shall be installed and maintained in conformance to the manufacturer's specifications.

3. City shall reimburse Association for all costs Association incurs to install a " wye", a "tee" or a "cross" and a suitable shut off valve in the Association well discharge pipe. City, at it's option and cost, may furnish the shut off valve for installation by Association. Association shall maintain ownership of this equipment.

4. Association shall install, maintain and own the pumphead, the discharge pipe from the pump to the Association's irrigation system, the associated "wye", "tee", or "cross" and the high pressure shut-off valve. Association shall also own and maintain the meters measuring water flows to City and Association.

5. City shall install, maintain and own the discharge pipe from the "wye", "tee", or "cross": A. To City's water system, including shut-off valve, check valve, and air and vacuum valve, and B. The extension of such discharge pipe to Association's irrigation system, including the associated automatic pump control valve and high pressure shut-off valve.

6. For all new City connections to Association wells requested by the City, the installation of SCADA will be required at City's expense. Installation of SCADA at Association wells currently used by City shall be in accordance with separate arrangements between City and Association.

CHARGES:

1. Labor charges in excess of base hourly rates and associated collective bargaining agreement overtime expenses, such as meals, incurred by Association for repairs requested by City to Association wells used by City shall be billed to and paid by the City.

2. All costs, (labor, materials, supplies, etc.) of mechanical or electrical repairs performed by Association related to equipment installed to enable City use of Association wells shall be billed to and paid by City.

3. Water purged from an Association well for city test purposes or to obtain water suitable for delivery to City's water distribution facilities, and power and energy consumed to operate the Association well during the purge and test cycle, shall be billed to and paid by the City. For such billing purposes, Association shall establish the procedures necessary to determine the amount of water produced and power and energy consumed during the purge cycle. The charge for purged water shall be determined in conformance to "WC" as defined in section 6 below, and the charge for power and energy shall be determined in conformance to "R" as defined in section 5 below.

4. Association will test its wells used by City in accordance with accepted engineering standards and practices to determine water production and power and energy consumption with and without the connection to City's water system in effect. Any additional power and energy and reduced water production resulting from City's use of Association wells will be determined from these tests. The costs of such additional power and energy and reduced water production shall be billed to and paid by City. Such costs shall be in addition to Association's normal charges for water provided to City.

5. The cost of additional power and energy required by Association wells to pump against additional pressure induced by City's water system as well as reduced capacity shall be determined pursuant to the following formula:

   $(X-Y) \times AF = KWH$

   $(KW \& KWH) \times R =$ Power and Energy Charge

   Where;

   X = Energy (KWH) consumed per acre foot of water produced during operation of the Association well for delivery to City.

Y = Energy (KWH) consumed per acre foot of water produced during operation of the Association well for delivery to Association.

AF = Acre feet of water delivered from the Association well to City.

KW = Additional demand (pressure discharge equivalent) during operation of the Association well for delivery of water to City.

R = Salt River Project's E-35 Standard Electric rate schedule for general service, or applicable successor rate schedule.

6. The quantity and value of water losses attributed to reduced water production from the Association well when pumping against the additional pressure induced by the City water system shall be determined pursuant to the following formula;

$$\frac{(A - B)}{B} \times AF \times WC = \text{Reduced water Production Charge}$$

Where;

A = Gallons of water per minute produced by the Association well when pumping for Association.

B = Gallons of water per minute produced by the Association well when pumping for the City.

AF = Gallons of water produced for City divided by 325,851.

WC = Water cost established by Association for the applicable category of water delivered to member land; i.e., Assessment, Normal Flow, Stored and Developed, Special Pump Right, etc.

Attachment B contains an example of the computations and charges described in the above sections, 5 and 6.

OPERATIONAL PROCEDURES

1. Scheduling, operation and switchover of well status from Association to City and the scheduling of outages by City shall be arranged through the Association Dispatch Center (ADC) at 236-5296.

2. Requests to switch status of well producing to Association system over to City shall be made by 1300 hours to become effective the following day (normally after 0800).

3. Outages of wells shall be scheduled with 24 hour prior notification through ADC. Lockout/tagout of wells is required for safety during maintenance as per confined space and OSHA lockout/tagout regulations.

4. Changing well status from Association to City or restarting well after testing or maintenance:

   City shall contact ADC to request Zanjero.

   City and Association meet at well site.

. . .

Association will:

Set City/Association switch to City.

Close valves to Association system.

Set turnout gates to accept purge water.

Notify ADC of status change.

City will:

Open valves to City system.

Operate well per this policy.

Accept responsibility for proper valve positioning.

Notify ADC of start/stop times by 0600 of the day after operation.

5. Changing well status from City to Association or restarting well after testing or maintenance:

Contact ADC to request well from City.

City and Association meet at site.

Association will:

Set City/Association switch to Association.

Open valves to Association system.

Notify ADC of status change.

City will:

Close valves to City system.

6. When well is in City mode, the City must contact ADC prior to purging water to Association's system. City must notify ADC prior to stopping the purge.

7. Upon written approval by Association's Authorized Representative, hereunder, wells which are connected in accordance with the approved hookup policy may be operated without a Zanjero or City representative present once in City mode. Starting and stopping these pumps may be done by remote control provided by the City. Periodic inspections by Association will be made to ensure automatic valving and control equipment is operating properly. Any damages incurred due to City use shall be paid for by the City.

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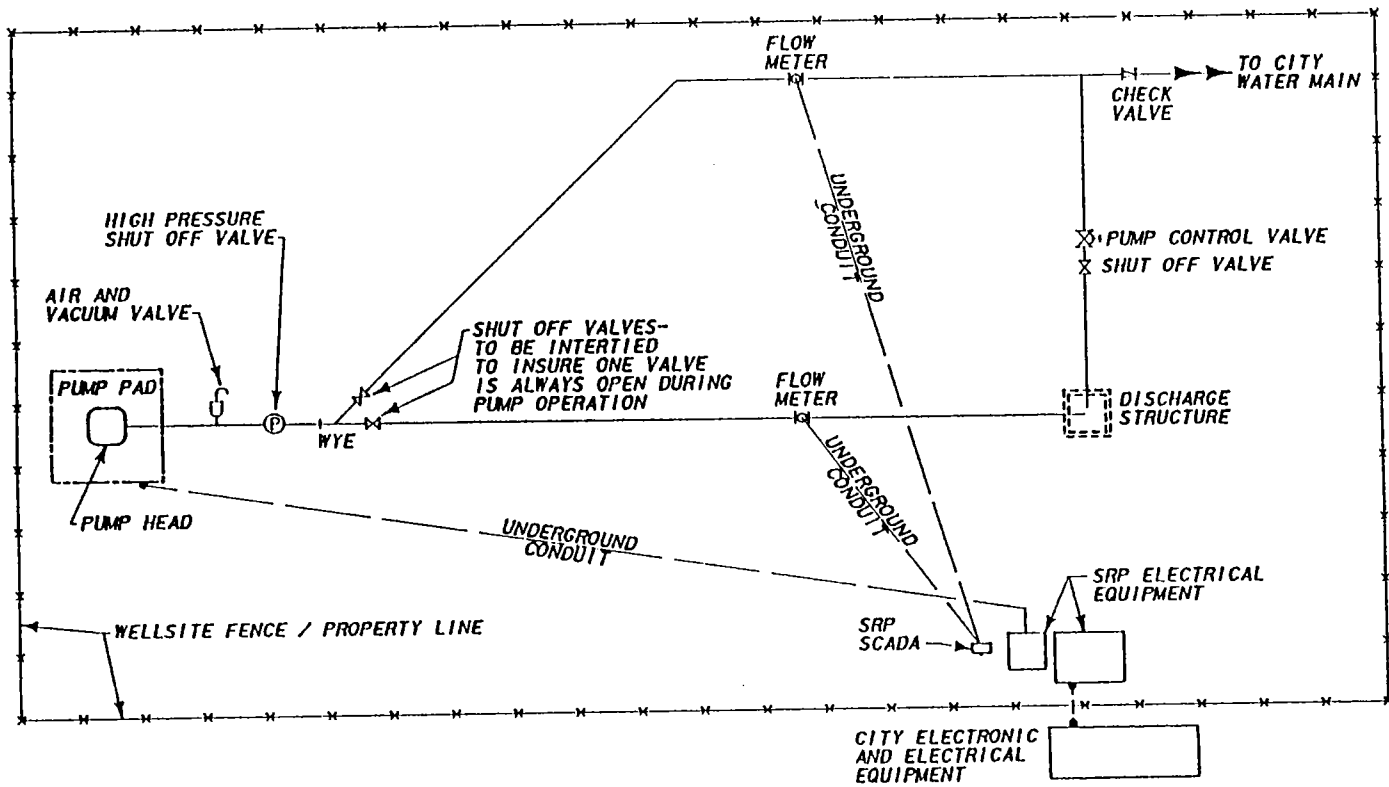
. . .

ATTACHMENT A



THIS DRAWING IS SHOWN AS A SCHEMATIC.
ACTUAL PIPE ARRANGEMENT WILL VARY
DEPENDING ON INDIVIDUAL WELLSITE.

NOTES!

INSTALLATION AND MAINTENANCE OF CITY CONNECTION EQUIPMENT SHALL BE ACCORDING TO THE "WATER DELIVERY AND USE AGREEMENT" WITH THE CITY AND SRP'S POLICY "CITY USE OF ASSOCIATION WELLS".

5

REVISED DRAWING & TITLE, REDRAWN ON CAD									
1	1-200-11-4	09-94	JB	SEE					
ORIGINAL ISSUE									
0		12-80	JB	GT	GAN				
REV NO.	JOB NO.	DATE	DSGN ENGR	DFTR	CHKR	ENGR CHK.	SUPV APPD	ISSUE AUTH	

SALT RIVER PROJECT
GROUNDWATER ◇ PHOENIX, ARIZONA

I-LINE PIPE SCHEMATIC
TYPICAL CITY HOOK-UP
TO WUA WELL SITE

TC

SCALE: -NTS-			DWT:B3787.DGN
SUBJ CODE	DISTR CODE	DWG SIZE	B-37-87
WS	Y5A	11X17	

Attachment B

Sample Computations of Power and Energy Charge and Reduced Water-Production Charge

An example of the computations for the "Reduced Water-Production Charge" and the "Power and Energy Charge" is provided below. Typical values are used for pumping conditions when an Association deep well is connected to a City potable water distribution system.

DATA

Metered gallons delivered to City	58,000,000
Flow rate when delivering to City	1,500 GPM
Flow rate when delivering to Association	1,800 GPM
KWH/AF when delivering to City	750
KWH/AF when delivering to Association	600
Incremental KW Demand (pressure discharge equivalent) when delivering to City	36

REDUCED WATER-PRODUCTION CHARGE COMPUTATION:

AF Delivered	=	Metered Gallons / Gallons per AF	=	58,000,000 / 325,851	=	178

GPM (Association)	1,800	
Less GPM (City)	1,500	
Difference GPM	300	= 0.20 Delivery Factor
Divided by GPM (City)	1,500	

[0.20] Delivery Factor	x	[178] AF Delivered	x	[$10.00] Water Rate	=	$356.00	Reduced Water-Production Charge

Power and Energy Charge Computation:

Energy consumed when pumping to City	750	KWH/AF
Less Energy consumed when pumping to Association	600	KWH/AF
Energy consumed to provide City pressure	150	KWH/AF
178 Acre Feet x 150 KWH/AF =	26,700	KWH Consumed
KW Demand (pressure discharge equivalent)	36	
Less Minimum allowed in E-35 rate	5	
KW Demand for computing Service Charge	31	

E-35 GENERAL SERVICE RATE COMPUTATION: (Rate effective 1/1/92)

	Summer May 15 to October 14			Winter October 15 to May 14		
Fuel Adjustment: (Rate effective 12/1/92)						
26,700 KWH @($0.0014)/KWH	=	(37.38)	@	($0.0014)/KWH	=	(37.38)
Energy Charge:[1]						
1st Block 3,000 KWH @ $0.0932/KWH	=	$ 279.60	@	($0.0690/KWH	=	$ 207.00
2nd Block 7,200 KWH @ $0.0793/KWH	=	570.96	@	$0.0601/KWH	=	432.72
3rd Block 16,500 KWH @ $0.0564/KWH	=	930.60	@	$0.0496/KWH	=	818.40
4th Block[2] ——— KWH @ $———/KWH	=	———	@	$0.0383/KWH	=	0.00[3]
Subtotal of Energy Charges:		$ 1,781.16				$ 1,458.12
Service Charge: 31 KW @ $3.87/KW	=	119.97	@	$1.81/KW	=	56.11
Customer Charge: @ $8.36/month		8.36	@	$8.36/month	=	8.36
Total Power, Energy & Customer Charges (Exclusive of applicable taxes):		$ 1,872.11				$ 1,485.21

1 Actual usage varies monthly. Refer to the E-35 Standard Electric Rate Schedule for determination of KWH per rate block.

2 The Summer rate currently has only three rate blocks. The Winter rate currently has four rate blocks.

3 The amount of KWH consumed in this example is 26,700, which only reaches the 3rd block.

COST SUMMARY:

	Summer May 15 to October 14	Winter October 15 to May 14
Reduced Water-Production Charge	$ 356.00	$ 356.00
Power, Energy and Customer Charges	1,872.11	1,485.21
Cost to City for operating an Association well when it is providing water for delivery to a City potable water distribution system:	$ 2,228.11	$ 1,841.21

NOTE: In addition to the above charges, City is subject to the appropriate water rate charges applicable to all Association shareholders.

WATER DELIVERY AND USE AGREEMENT
BETWEEN
SALT RIVER VALLEY WATER USERS' ASSOCIATION
AND
CITY OF AVONDALE

EXHIBIT 12.5

Non-Conforming City Equipment on
Association Well Sites

None. City currently is not connected to any Association wells.

WATER DELIVERY AND USE AGREEMENT
BETWEEN
SALT RIVER VALLEY WATER USERS' ASSOCIATION
AND
CITY OF AVONDALE

EXHIBIT 15.3.1

City Well Sites on Off-Project Lands

City Name/#	Location	Association Coordinates
Well #1	531 E. Riley Dr.	4 1/4N-2 1/4W
Well #2	109 E. Hill Dr.	4 1/16N-2 7/16W
Well #4	519 W. Western Ave.	4.0N-2 7/8W
Well #5	200 E. Mountain View Dr.	3 1/4N-2 3/8E
Well #6	3850 N. El Mirage Rd.	7 7/8N-1.0W
Well #7	1W 8 1/8 N. El Mirage Rd.	8.0N-1.0W
Well #10	12105 W. Thomas Rd.	7.0N-7/8W
Well #11	12139 W. Cambridge Ave.	6 3/4N-15/16W
Well #12	2316 N. 123 Ln.	6 1/2N-1.0W

WATER DELIVERY AND USE AGREEMENT
BETWEEN
SALT RIVER VALLEY WATER USERS' ASSOCIATION
AND
CITY OF AVONDALE

EXHIBIT 15.3.8

City Well Sites on Non-Member Lands

City Name/#	Location	Association Coordinates
Well #B1	3420 S. 123 Circle	2.3/8N-1 1/16W
Well #B2	12304 W. Elwood St.	2 1/2N-1.0W

Water Accounting Terms and Data Descriptions

1. Descriptions are generic and all categories may not apply to all cities.

2. City will provide data in a hard copy format. An electronic transfer of data may be possible in the future.

3. This list may be modified as needed and appropriate for each City.

City will provide:

1. All information in:

   - acre feet to the hundredths decimal point (e.g., 1,525.25 acre feet). The following conversions may be used: million gallons x 3.06889 equals one acre foot, 325,851 gallons = one acre foot.

   - acres will be listed to the hundredths decimal point.

   - utility meters will be listed as whole numbers.

2. All information in the order as shown on this list of descriptions and using the underlined titles. Cities are listed within parentheses if that category applies to them. If a category does not apply to the city then skip to the next appropriate section.

Abbreviations used in list:

ASR	=	Annual Storage and Recovery
CAP	=	Central Arizona Project
SR	=	Storage and Recovery
SRRD	=	Salt River Reservoir District

Descriptions:

City Off-Project Wells: City Exchange to City Closed System
(Chandler, Gilbert, Glendale, Mesa, Phoenix, Scottsdale)

Wells and/or meter connections owned by City and located outside the SRRD and connected to the City system. Production by these wells may be applied to City Off-Project use of Association water.

List each City well individually with its monthly groundwater pumped. Sum quantities of all wells. If applicable, City may use this category to report ASR or SR wells. List ASR or SR sites by permit number. [1] List the amount of groundwater pumped for each ASR or SR site. Sum groundwater pumped as ASR or SR.

City Non-Member Wells: City Exchange to City Closed System
(Phoenix, Scottsdale, Tempe)

Wells owned by City and located on Non-Member Land within Association boundaries and connected to the City system. Overproduction by these wells may be applied to City Non-Member use of Association water.

List each City well individually with its monthly groundwater pumped. Sum quantities of all wells. If applicable, City may use this category to report ASR or SR wells. List ASR or SR sites by permit number.1 List the amount of groundwater pumped for each ASR or SR site. Sum groundwater pumped as ASR or SR.

City Off-Project Wells: City Exchange to Association Water Delivery System
(Chandler, Gilbert, Glendale, Phoenix, Scottsdale)

Wells owned by City and located outside the SRRD, which pump directly into the Association Water Delivery System. These wells are used by City to repay Association for Entitlement Water that is used Off-Project.

List each City well individually with its monthly groundwater pumped. Sum quantities of all wells. If applicable, City may use this category to report ASR or SR wells. List ASR or SR sites by permit number.1 List the amount of groundwater pumped for each ASR or SR site. Sum groundwater pumped as ASR or SR.

[1] The permit number is assigned by the Arizona Department of Water Resources upon application and approval for ASR or SR.

City Non-Member Wells: City Exchange to Association Water Delivery System
(Phoenix, Scottsdale, Tempe)

Wells owned by City and located on Non-Member Land within Association boundaries, which pump directly into the Association Water Delivery System. These wells are used by City to repay Association for Entitlement Water that is used on Non-Member Land.

List each City well individually with its monthly groundwater pumped. Sum quantities of all wells. If applicable, City may use this category to report ASR or SR wells. List ASR or SR sites by permit number.1 List the amount of groundwater pumped for each ASR or SR site. Sum groundwater pumped as ASR or SR.

City On-Project Wells
(Gilbert, Glendale, Phoenix, Scottsdale, Tempe)

Wells owned by City and located on Member Land inside SRRD. Monthly pumping from these wells is used by Association for internal reporting, planning, and water resource management purposes.

List total number of all wells and provide sum of monthly groundwater pumped. If applicable, City may use this category to report ASR or SR wells. List ASR or SR sites by permit number.1 List the amount of groundwater pumped for each ASR or SR site. Sum groundwater pumped as ASR or SR.

Association Wells Used by City
(Chandler, Gilbert, Glendale, Peoria, Phoenix, Mesa, Scottsdale, Tempe)

Association well delivers directly to municipal system. Quantity pumped is charged to Member Land use. City reports monthly flow data to Association for Member Land Accounting. City is billed monthly for municipal pump charge and reduced production charge.

List each well individually with City and Association locations, and the well's beginning and ending meter reads. List each well with its monthly groundwater pumped. Sum quantities of all wells. If applicable, this section may also be used for ASR and SR. Provide the total amount by well pumped as ASR or SR.

Annual Storage and Recovery of Association Water
(Chandler, Gilbert, Glendale, Peoria, Phoenix, Mesa, Scottsdale, Tempe)

City will provide a monthly total of Association water stored underground (credit). City will provide monthly total of water recovered from well(s) (debit) for delivery to member land.

By site, list project name and permit number, the amount of groundwater recovered during the month. Provide site data for measured, losses, injection credit, recovery debit, and balance.

Measured = amount delivered for recharge,
Losses = evaporation,
Injection/Infiltration Credit = delivery minus transportation/evaporation,
Recovery Debit = amount recovered (pumped),
Balance [2] = credit minus debit.

Treatment Plant - City Diversions of Water From Association Water System
(Glendale, Mesa, Phoenix, Scottsdale, Tempe)

City diverts water from Association Water System at water treatment plant. Association requires a standard +/- 5 % accuracy for the measurement device at the head of the treatment plant. City reports daily diversions.

Provide daily and monthly total for each water treatment plant site.

Non-Member - Turf Facility (By Site)
(Scottsdale, Tempe)

Some cities have agreements with Association to deliver water to turf facilities located partially on or entirely on Non-Member Land. Cities have agreed to provide the payback supply for the facility.

List each turf facility site and its total monthly use. Total quantities of all sites.

Off-Project - Turf facility (By Site)
(Phoenix)

Some cities have agreements with Association to deliver water to turf facilities located partially on or entirely on Off-Project Land. Cities have agreed to provide the payback supply for the facility.

List each turf facility site and its total monthly use. Total quantities of all sites.

[2] Balance does not reflect amount available for recovery, as cut-to-acquifer loses need to be calculated.

Member Use - Turf Facility (By Site)
(Scottsdale)

Some cities have arrangements for Association to deliver water to an Off-Project or Non-Member turf facility that also includes member land. Water is reported to Association to be deducted from Non-Member turf use.

List each turf facility site and it total monthly use. Total quantities of all sites.

Number of New Meters in City's Water Service Area
(Chandler, Gilbert, Glendale, Mesa, Peoria, Phoenix, Scottsdale, Tempe)

For Association water planning and resource management purposes, Association is interested in new meter installations to determine growth patterns and water demand. (This information will prevent Association from requesting unnecessary audits).

Provide monthly and year-to-date total of new meters for the following categories:

1) Eligible Lands,
2) Non-Member,
3) Off-Project Lands.

A two-month lag in reporting this data is acceptable. For instance, the December report will present the October data, the January report will present November data, etc.

Off-Project - Groundwater Production Within City's Water Service Area
(Chandler, Glendale, Phoenix)

Wells pumping on Off-Project Land and providing water for City Off-Project use. This category will help the Association determine if any Off-Project water production can be used to off-set City use of Association water on Off-Project/Non-Member Lands. For this purpose, Association needs to know all City Off-Project water production and use.

Provide monthly total for City Off-Project well production and use.

CAP Treatment Plant Diversions Within City's Water Service Area
(Chandler, Glendale, Mesa, Phoenix)

Report CAP diversions on Off-Project Land that provide water for City Off-Project use. This category will help the Association determine if any Off-Project water production can be used to off-set City use of Association water on Off-Project/Non-Member Lands. For this purpose, Association needs to know all City Off-Project water production and use.

Provide monthly CAP diversion total.

City Closed System Use Within City's Water Service Area
(Chandler, Gilbert, Glendale, Mesa, Peoria, Phoenix, Scottsdale, Tempe)

City is required to monthly measure and report to Association Off-Project and Non-Member water use. This category will help the Association determine if any City use of Association water on Off-Project/Non-Member Lands is subject to water exchange provisions between City and Association.

Provide metered use for Non-Member and/or Off-Project Lands. Sum the totals.

Effluent Use - City Location (By Site)
(Chandler, Glendale, Mesa, Phoenix, Tempe)

The use of effluent by City for exchange purposes is dependent on a comparison of water actually delivered to a turf facility and the entitlement of the facility. Exchange credit cannot exceed Association water entitlement. (Number of acres establishes the limit of the right and assists Association in comparing account acreage to turf acreage.)

Report daily deliveries of effluent for each site. Provide the total number of acres for each site.

Appendix B-6 CAP/SRP Interconnection Facility and Lease Agreement

CAP/SRP INTERCONNECTION FACILITY

LEASE AGREEMENT

BETWEEN

SALT RIVER VALLEY WATER USERS' ASSOCIATION

AND THE

CITY OF AVONDALE, ARIZONA

EXECUTION ORIGINAL

11/14/1996 TJK/rmh

CAP/SRP INTERCONNECTION FACILITY LEASE AGREEMENT

TABLE OF CONTENTS

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CAP/SRP INTERCONNECTION FACILITY

LEASE AGREEMENT

1. PARTIES:

This Lease Agreement (Lease) is made and entered into the 17 day of DECEMBER 1996 by and between the SALT RIVER VALLEY WATER USERS' ASSOCIATION, an Arizona corporation, (hereinafter referred to as "Association") and the City of Avondale, Arizona, an Arizona Municipal corporation, (hereinafter referred to as "City").

2. RECITALS:

2.1 Association owns capacity in the CAP/SRP Interconnection Facility (CSIF) which interconnects the CAP Canal with Association's Water Delivery System for the delivery of water from the CAP Canal operated by the Central Arizona Water Conservation District (CAWCD). Association operates the CSIF on behalf of the owners of the CSIF.

2.2 Association operates and maintains its Water Delivery System for the transportation of water to its shareholders and others.

2.3 City intends to purchase CAP water to supplement its normal supply of other water.

2.4 City desires to lease Association capacity in the CSIF for the delivery of CAP water to City via the Association's Water Delivery System, and

2.5 Association is willing to lease such capacity to City for such purpose.

3. LEASE AGREEMENT:

In consideration of the foregoing, payments hereinafter to be paid by City, and the covenants and agreements contained herein to be kept and performed by City, and other good and valuable consideration, Association and City agree as follows:

4. TERM OF LEASE:

This Lease shall become effective when executed by both Parties, and shall remain in effect until its expiration on January 1 of 2006. Upon written confirmation by Association, this Lease may be extended for additional terms of ten (10) calendar years each by written notice from City to

Association by January 1 of the last year of the then current term of the Lease. Association shall confirm or reject extension of the Lease within sixty (60) days after receipt of such written notice from City. This Lease may be terminated as provided herein.

5. DEFINITIONS/ACRONYMS:

As used in this Lease, the following terms, when capitalized, have the following meanings:

5.1 ANNUAL INDEX: The number calculated by dividing the U.S. Department of Commerce's final estimate of the chain type annual weights price index for Gross Domestic Product, or successor index, for the most recently completed year by the value of that same quantity for the calendar year immediately prior thereto. The Annual Index shall be determined each year commencing in 1997.

5.2 CENTRAL ARIZONA PROJECT (CAP): The water delivery works of the CAP including, but not limited to, the CAP canal, its turnout structures and associated measuring devices.

5.3 CSIF IGA: The CAP/SRP Interconnection Intergovernmental Agreement dated the 26th day of July, 1989, as subsequently amended or supplemented.

5.4 PARTY/PARTIES: Either one or, in the plural, both of the parties (Association and City) to this Lease.

5.5 POINT OF DISCHARGE: The point where water flowing through the CSIF discharges into the Water Delivery System.

5.6 UNCONTROLLABLE FORCES: Any cause beyond the control of the Party affected, including but not restricted to failure of or threatened failure of facilities, flood, earthquake, storm, fire, lightning, epidemic, war, riot, civil disturbance or disobedience, labor dispute, labor or material shortage, sabotage, restraint by court order or public authority, and action or non-action by or failure to obtain the necessary authorizations or approvals from any governmental agency or authority not a Party to this Lease, which by exercise of due diligence such Party could not reasonably have been expected to avoid and which by exercise of due diligence it shall be unable to overcome.

5.7 WATER DELIVERY SYSTEM: The canal system, including canals, gates, and measuring devices, but excluding laterals and drain ditches, operated and maintained by Association to deliver water.

6. LEASED CAPACITY CHARGES:

6.1 For use of the CSIF, Association shall bill City and City shall pay Association $8.79 for each acre foot of water received by Association on behalf of City at the Point of Discharge. This charge per acre foot shall be adjusted by the Annual Index each April. The adjusted charge shall be effective as of April 1, and remain in effect until next adjusted.

6.2 For purposes of this Section 6, "adjusted by the Annual Index" means that the per unit rate for the previous calendar year is multiplied by the Annual Index.

6.3 If, as a result of the service provided to City pursuant to this Lease, Association becomes liable to a governmental authority, other than the Salt River Project Agricultural Improvement and Power District, for any tax, tariff, duty, toll, fee, impost, charge or other exaction, or any increase thereof, pursuant to Section 9, Association shall bill City and City shall pay Association the amount for which Association is liable.

7. ASSOCIATION OPERATIONS:

7.1 Association shall have the sole discretion in determining whether a curtailment or stoppage of water flows to or from the CSIF, as described in Section 15.4, is made necessary by circumstances existing at any time; and shall assume no liability to City for such curtailment or stoppage.

7.2 Association shall retain sole responsibility and authority for decisions relating to the CSIF operating and maintenance practices, including maintenance scheduling and the selection of periods when maintenance will be done.

7.3 Whenever practicable, Association shall inform City ninety (90) days in advance of any matter which may substantially affect the CSIF, the rights of City, and of any actions to be taken by Association related thereto.

7.4 Except as otherwise provided in this Lease, Association shall schedule and divert water to and from the CSIF as requested by City pursuant to Section 10 and applicable operating procedures.

8. TRANSPORTATION OF WATER:

Association will transport water through the Water Delivery System on behalf of City only in accordance with the Water Transportation Agreement between City and Association, dated September 27, 1991, as subsequently amended or supplemented.

9. BILLING AND PAYMENT:

9.1 Bills for service provided to City shall be submitted by Association to City on or before the twenty-fifth (25th) day of each month (or if such day is not a business day, on the next succeeding business day) immediately following the month during which City has incurred charges for such service. Such bills may include adjustments or corrections to bills previously submitted by Association to City.

9.2 Payment by City to Association shall be made by any method that provides available funds on or before the thirtieth (30th) day following the date on which the bill was postmarked, or if such day is not a business day, on the next succeeding business day. Bills not paid by this date shall be delinquent and thereafter accrue an interest charge at the prime rate of interest as established by the Bank of America on the last business day of the month following the month for which the bill was submitted, plus two (2) percent per annum, prorated daily from the date due to the date payment is received. Any payment received shall first be applied to any interest charges owed, and then to any bills owed for service rendered.

9.3 In the event any portion of any bill is disputed, the disputed amount shall be paid when due but may be paid under protest, in which case the payment shall be accompanied by a written statement indicating the basis for the protest. If the protest is found to be valid, City shall be refunded any overpayment plus interest, accrued at the rate set forth in Section 9.2, prorated daily from the date payment was credited to City to the date the refund check is mailed.

9.4 In the event any delinquent amount remains unpaid more than sixty (60) days after its due date, Association shall have the right, without liability of any kind, to refuse to provide service under this Lease so long as said amount remains unpaid, and may terminate this Lease after thirty (30) days prior written notice to City. In any event, City shall remain obligated to pay for service provided under this Lease, whether billed or yet to be billed. Nothing in this Section 9 shall limit the rights of Association to use any other available legal remedy to effect collection of said amounts.

10. CSIF SCHEDULING AND OPERATION:

10.1 Delivery of water to and from the CSIF is subject to this Lease and the CSIF operating procedures. If water scheduled for delivery through a component of the CSIF must be reduced, the reduction shall be pro-rata based on the CSIF owners' entitlements in the CSIF component affected. Any water in the affected CSIF component scheduled for delivery to the Granite Reef Underground Storage Project will be reduced first.

10.2 Discrepancies between scheduled and actual water flows shall be resolved by the Parties in a mutually agreeable manner.

11. WATER MEASUREMENT AND ACCOUNTING:

11.1 Association shall base its accounting for water delivered to and from the CSIF on actual measurements, or in the event of measurement failure or errors, on generally accepted accounting and engineering practices.

11.2 Association shall maintain a flow measurement system to measure the amount of water diverted from the CAP canal into the CSIF. Association shall test and maintain the accuracy of this system within plus or minus five (5) percent of actual flows.

11.3 Association shall prepare a monthly water accounting report of water scheduled and delivered to and from the CSIF for City.

11.4 Water accounting reports prepared pursuant to this Section shall be retained by Association for at least three (3) years and be made available for City's inspection upon written request.

12. WATER QUALITY:

12.1 Except as otherwise provided in Section 15.1, City shall indemnify and hold harmless Association, other parties to the CSIF IGA, and other CSIF capacity lessees against and from any claims, liabilities or damages resulting from degradation of water controlled by Association, caused by the commingling of water diverted from the CAP canal and delivered through the CSIF on City's behalf with other water controlled by Association. Further, City shall waive any claim on its own behalf, against Association, other parties to the CSIF IGA, and other CSIF capacity lessees for water quality degradation arising out of such commingling.

13. AUTHORIZATIONS AND APPROVALS:

City shall be responsible for obtaining, at its own expense, any authorizations and approvals required for its use of the CSIF or its performance under this Lease, and City shall keep Association informed of its applications therefor and authorizations issued in connection therewith.

14. INSURANCE:

14.1 During the term of this Lease, unless otherwise agreed in writing by Association, City shall procure and maintain in force or cause to be procured and maintained in force, Commercial General Liability Insurance naming Association and the other parties to the CSIF IGA as additional insureds, including bodily injury, personal injury, and property damage, wrongful death, automobile liability, and contractual liability with a minimum limit of $5,000,000 per occurrence.

14.2 Any insurance carried by Association or other parties to the CSIF-IGA shall be excess and not contributory insurance to any insurance afforded hereunder. Proof of insurance satisfactory to Association shall be submitted to Association prior to use of the CSIF by City. Such proof of insurance shall be in the form of a certificate stating the coverage provided and that such insurance is in force and that such insurance shall not be canceled until after thirty (30) days prior written notice thereof shall have been given to Association.

14.3 With written approval of Association, City may self-insure or combine the coverages required by this Lease with coverages outside the scope of that required by this Lease.

14.4 Required insurance coverages shall be written with deductibles and limits approved by Association. Association may, at any time, change the policy limits, add or eliminate coverage(s), and shall determine appropriate deductibles or retentions.

14.5 If City fails to acquire, provide or continue the insurance coverages required, Association may terminate this Lease immediately upon written notice to City.

15. LIABILITY:

15.1 Each Party shall assume liability arising out of its negligent or intentionally wrongful actions or inactions, and shall indemnify the other Party against any damages such other Party incurs as a result of such action or inaction, including costs of defending against related claims.

15.2 Except as otherwise provided in this Lease, City shall indemnify and hold harmless Association, its directors, officers and employees against and from any liability for death, injury, loss or damage incurred by any customer, citizen, employee or agent of City as a result of any performance pursuant to this Lease.

15.3 The obligation to indemnify under Section 12 and this Section 15 shall extend to the indemnitee's share of any deductibles under any applicable insurance coverage.

15.4 Neither Association nor the other parties to the CSIF IGA shall assume any liability to City for claims of damage resulting from Association's decision or the decision of CAWCD to curtail or stop water flows to or from the CSIF in accordance with the requirements of CAWCD and/or Association water operations, or to terminate deliveries of water to or from the CSIF solely in accordance with the requirements of Association.

15.5 The provisions of this Section 15 shall not be construed so as to relieve any insurer providing insurance coverage pursuant to Section 14.1 of its obligation to pay any insurance proceeds in accordance with the terms and conditions of valid and collectible insurance policies.

15.6 In the event any third party institutes an action against Association, other parties to the CSIF

IGA, City or other lessees of CSIF capacity, for claims arising from the activities undertaken pursuant to this Lease, the parties named in the action shall meet to coordinate the procurement of legal counsel and the steps necessary to defend against the action.

16. DEFAULTS:

In the event of a default by City or Association of any obligation herein, then, within thirty (30) days following notice of such default by the non-defaulting Party, the defaulting Party shall remedy such default by advancing the necessary funds and/or rendering the necessary performance. Such notice shall specify the existence and nature of such default. If such default is not remedied within the time specified, the non-defaulting Party may terminate this Lease upon twenty four (24) hours written notice.

17. REVISION OF THIS LEASE:

Upon agreement by the Parties, this Lease may be amended or supplemented to conform to an amended or supplemented CSIF IGA; provided that, if the Parties cannot agree within ninety (90) days after written notice from Association to City to amend or supplement this Lease pursuant to this Section, either Party may terminate this Lease with ten (10) days prior written notice to the other Party.

18. UNCONTROLLABLE FORCES:

No Party shall be considered in default in the performance of any of its obligations under this Lease (other than obligations of said Party to pay costs and expenses) when a failure of performance is due to Uncontrollable Forces. Nothing contained in this Lease shall be construed so as to require a Party to settle any strike or labor dispute in which it is involved. Any Party rendered unable to fulfill any of its obligations under this Lease by reason of an Uncontrollable Force shall give prompt written notice of such fact to the other Party and shall exercise due diligence to remove such inability.

19. GOVERNING LAW:

This Lease shall be governed by the laws of the State of Arizona.

. . .

20. BINDING OBLIGATIONS:

All of the obligations set forth in this Lease shall bind Association and its successors and assigns. This Lease shall not be assigned by City or accrue to City 's successor, nor shall City's CSIF capacity use rights hereunder be used by another party.

21. NOTICES:

21.1 Any notice, demand or request provided for in this Lease shall be in writing and shall be deemed properly served, given or made if delivered in person or sent by registered or certified mail, postage prepaid, to the persons specified below:

Salt River Valley Water Users' Association
c/o Corporate Secretary, PAB 215
PO Box 52025
Phoenix, AZ 85072-2025
Reference: CSIF Lease

City Manager
City of Avondale
525 North Central Avenue
Avondale, AZ 85323

21.2 A Party may, at any time, by notice to the other Party, designate different or additional persons or different addresses for the giving of notices hereunder.

22. THIRD PARTY BENEFICIARIES:

This Lease shall not be construed to create rights in, or to grant remedies to, any third party as a beneficiary of this Lease or of any duty, obligation or undertaking established herein.

23. WAIVER:

The waiver by either Party hereto of any breach of any term, covenant or condition herein shall not be deemed a waiver of any other term, covenant or condition or any subsequent breach of the same or any other term, covenant or condition herein.

24. HEADINGS:

Title and paragraph headings herein are for reference only and are not part of this Lease.

. . .

25. ENTIRE LEASE:

The terms, covenants and conditions of this Lease constitute the entire Lease between the Parties relative to the leasing of CSIF capacity and no understandings or agreements not herein expressly set forth shall be binding upon them. This Lease shall not be modified or amended unless in writing and signed by the Parties.

IN WITNESS WHEREOF, this Lease is executed by the Parties hereto.

SALT RIVER VALLEY WATER USERS' ASSOCIATION

Attest and Countersign:

William K. O'Neal
Secretary

By: William P. Schrader

Title: President

Approved as to form and within the Power and Authority granted under the laws of the Territory of Arizona to the Salt River Valley Water Users' Association

12/16/96

CITY OF AVONDALE,
a municipal corporation,
Thomas F. Morales, Mayor

Attest:

Linda M. Gee
City Clerk

By: Thomas F. Morales, Jr.

Title: Mayor

Approved as to form and within the Power and Authority granted under the laws of the State of Arizona to the City of Avondale.

City Attorney

Appendix B-7 Water Transportation Agreement

WATER TRANSPORTATION AGREEMENT

BETWEEN

SALT RIVER VALLEY WATER
USERS' ASSOCIATION

AND

CITY OF AVONDALE

EXECUTION COPY
September 5, 1991
TJK/gs

WATER TRANSPORTATION AGREEMENT

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WATER TRANSPORTATION AGREEMENT

1. PARTIES:

The Parties to this Water Transportation Agreement (Agreement) made and entered into as of this 27th day of SEPTEMBER, 1991, are CITY OF AVONDALE (City) and SALT RIVER VALLEY WATER USERS' ASSOCIATION, an Arizona corporation (Association).

2. RECITALS:

This Agreement is made with regard to the following:

2.1 The Colorado River Basin Project Act of 1968 (82 Stat.885) provides, among other things, that for the purposes of furnishing irrigation water and municipal and industrial water supplies to water deficient areas in Arizona and Western New Mexico through direct diversion or exchange of water, control of floods, conservation, development of fish and wildlife resources, enhancement of recreation opportunities and for other purposes, the Secretary of Interior for the United States of America (Secretary of Interior) shall construct, operate and maintain the Central Arizona Project (CAP).

2.2 Shareholders of Association are owners of land within the Salt River Reservoir District, having valid appropriative rights to waters of the Salt and Verde Rivers. Association is responsible for

delivery to said lands of waters developed, controlled or stored by it for the benefit of such lands. Association is the agent of the Salt River Project Agricultural Improvement and Power District (District), a political subdivision of the State of Arizona, in the operation of the water delivery system of the Salt River Project, a federal reclamation project, pursuant to an agreement dated March 22, 1937, as amended by agreements dated February 28, 1944, and September 12, 1949, and is also the agent of the United States of America (USA) in the operation of said federal reclamation project pursuant to contract dated September 6, 1917. Association, in distributing water developed by Salt River Project works and facilities, is governed by the decree in Hurley v. Abbott, filed March 10, 1910, and all supplemental decrees thereto, all commonly referred to as the "Kent Decree"; the Articles of Incorporation and By-laws and rules and regulations of Association; contracts now in effect and hereafter executed between the Association, the District and the USA; rules and regulations promulgated by the Secretary of Interior, pursuant to the provisions of an Act of Congress, approved June 17, 1902 (32 stat. 388), and acts amendatory thereof and supplementary hereto, all of which are

commonly known and referred to as Federal Reclamation Law; and by applicable laws of the State of Arizona.

2.3 City, in distributing water within its water service area, is governed by, among other things, its Charter and ordinances adopted pursuant to its Charter.

2.4 Association operates and maintains the water delivery system on behalf of and for the primary benefit of its shareholders, who hold rights to water developed by the Salt River Project, and to whom Association is obligated to deliver such water.

2.5 City has valid rights to the City Water to be transported, has existing contracts to transport such water through the CAP and the Interconnection Facility and has the right pursuant to an existing contract to subcontract to third parties any part or all of its share of capacity in such Interconnection Facility.

2.6 City is in need of a link between the Interconnection Facility and its facilities; therefore, City desires to transport City Water through the Association Water Delivery System for use by City and/or its subcontractors, and has the authority to enter into this Agreement for transportation of such water.

2.7 Association does not as a rule make its water delivery system available to all water users potentially served by it and does not operate for profit. However, as an accommodation to City and for the incidental benefit to Association shareholders, Association will transport City Water for City and its subcontractors as an incident to its primary function; provided that the transportation of such water shall not in any way disrupt or interfere with the operation of the Association Water Delivery System on behalf of Association shareholders and pursuant to existing decrees and existing contracts; and provided further that this Agreement will not affect the responsibilities of Association and City with respect to waters developed, controlled or stored by Association and delivered to City pursuant to rights of Association shareholders and existing decrees and existing contracts. (see Exhibit C-1)

2.8 As Association limits the use of the Association Water Delivery System to the transportation and delivery of water to its shareholders and those entities with specific entitlements to such delivery service, to the exclusion of the general public, this Agreement is necessary for Association to transport City Water for City and its subcontractors.

3. AGREEMENT:

In consideration of the premises and mutual covenants and agreements herein set forth, the Parties hereto agree as follows:

4. DEFINITIONS:

As used in this Agreement the following terms, when capitalized, have the meanings indicated:

4.1 Annual Index: The number calculated by dividing the Association Acreage Assessment for the current calendar year (commencing with 1992) by the Association Acreage Assessment for the previous calendar year. The Annual Index shall be determined in January of each year commencing in 1992. The Annual Index shall be calculated to four (4) decimals and rounded to three (3). Rounding shall be done by dropping the fourth (4th) decimal when it is less than five (5) or by increasing the third (3) decimal by one (1) when the fourth (4th) decimal is five (5) or greater.

4.2 Association Acreage Assessment: The fee charged against Association assessed land to pay the cost of construction, improvement, enlargement, betterment, repairs, operation and maintenance of the irrigation and other works of Association, or of those under its management, operation and maintenance.

4.3 Association Water Delivery System: Association's

canal system, including canals, gates and measuring devices; but excluding laterals and drain ditches.

4.4 Authorized Representative(s): Those representatives of the Parties appointed to administer the provisions of this Agreement pursuant to Section 10.1.

4.5 City Water:

a) City's share of the water resulting from City's funding of CAP Plan 6 modifications to Roosevelt Dam and reservoir.

b) City's share of any water resulting from City's funding of acquisition of a water supply alternative to that which was expected to have been provided by the now cancelled Cliff Dam feature of CAP Plan 6.

c) Water discharged for City into the Association Water Delivery System from the Interconnection Facility.

d) Any other water as agreed to by the Authorized Representatives.

4.6 Evacuated Water: Water released from the Association Water Delivery System:

a) As a result of excess storm runoff and under emergency conditions.

b) In the event of the discovery of contaminated water in the Association Water Delivery System.

4.7 Interconnection Facility: The facility located adjacent to the Granite Reef Diversion Dam which interconnects the CAP Canal with the Association Water Delivery System and the Salt River Bed.

4.8 Point(s) Of Delivery: The points designated in Exhibit A, hereto, at which City Water is diverted from the Association Water Delivery System for delivery to City or its subcontractors. Points of Delivery may be added or deleted upon mutual agreement of the Authorized Representatives. Association shall revise Exhibit A accordingly.

4.9 Point(s) Of Receipt: The points designated in Exhibit B, hereto, where the Interconnection Facility discharges into the Association Water Delivery System and, for City Water set forth in 4.5a, where Granite Reef Dam diverts such water into the Association Water Delivery System. Points of Receipt may be added or deleted upon mutual agreement of the Authorized Representatives. Association shall revise Exhibit B accordingly.

4.10 Transportation Losses: The amount of water lost through seepage, evaporation or other causes while being transported within the Association Water Delivery System from the Point of Receipt to the Point of Delivery. Transportation Losses shall not include Evacuated Water.

4.11 Water Accounting: The general determination of the quantity of City Water transported by Association hereunder.

5. SCOPE OF SERVICE:

This Agreement is limited to transportation of City Water in the Association Water Delivery System from the Point of Receipt to the Point of Delivery.

6. TERM:

This Agreement shall become effective on the date provided in Section 21 and shall remain in effect through June 30, 2041 unless otherwise terminated in accordance with the provisions of this Agreement.

7. RATES, FEES, AND CHARGES:

7.1 Association shall bill City and City shall pay Association at the following stepped rates for each acre foot (AF) of City Water or fractional AF received at the Points of Receipt whether or not City accepted or used such City Water:

7.1.1 Commencing with the effective date of this Agreement through 1995, $7.50 adjusted by the Annual Index each January for calendar years 1992 through 1995.

7.1.2 Commencing January 1, 1996, $9.50 as this rate would have been adjusted by the Annual Index each January for calendar years 1992 through 1996 had the rate been in effect

during and since 1991. This adjusted rate shall itself be adjusted by the Annual Index each January for calendar years 1997 through 2000.

7.1.3 Commencing January 1, 2001, $10.25 as this rate would have been adjusted by the Annual Index each January for calendar years 1992 through 2001 had the rate been in effect during and since 1991. This adjusted rate shall itself be adjusted by the Annual Index each January for calendar years 2002 through 2005.

7.1.4 Commencing January 1, 2006, $11.00 as this rate would have been adjusted by the Annual Index each January for calendar years 1992 through 2006 had the rate been in effect during and since 1991. This adjusted rate shall itself be adjusted by the Annual Index each January for calendar years 2007 through 2041. Additionally, in calendar year 2016 and thereafter, the then current rate shall be subject to the rate reopener provisions of Section 7.7.

7.2 Association shall also bill City and City shall pay Association an annual administration fee of $1,725 which shall cover both the first Point of Delivery

and first Point of Receipt listed on Exhibits A and B respectively, and $310 for each additional Point of Receipt or Point of Delivery, whether separate or in common with that of another contractor or subcontractor. Commencing January 1, 1992, and in each January thereafter, the fees shall be adjusted by the Annual Index. Such fees shall be billed when service is commenced, and in each January thereafter, and paid in accordance with Section 8. The fees shall be prorated for those partial years of service resulting from initiation or permanent termination of service at Points of Receipt or Points of Delivery.

7.3 For purposes of this Section 7, "adjusted by the Annual Index" means that the rate or the annual administration fee for the previous calendar year is multiplied by the Annual Index. The rate and annual administration fee shall be calculated to three (3) decimals and rounded to two (2). Rounding shall be done by dropping the third (3rd) decimal when it is less than five (5) or by increasing the second (2nd) decimal by one (1) when the third (3rd) decimal is five (5) or greater.

7.4 Exhibit D hereto is an example calculation of the application of the requirements of Sections 7.1, 7.2 and 7.3 of this Agreement based on the assumptions

identified in Exhibit D. Exhibit D is provided for illustrative purposes only, and the example rates and fees are not intended to be binding on either Party.

7.5 Association shall consider the Interconnection Facility and Granite Reef Dam as one Point of Receipt when determining the rates and fees which shall be billed to City.

7.6 If Association discontinues the Acreage Assessment or if the Parties determine the purpose/components of it have drastically changed, the most recent two (2) consecutive October values of the Consumer Price Index shall be substituted for the Association Acreage Assessment in the Annual Index to adjust the rates and fees under this Agreement during its remaining term absent superseding provisions pursuant to Sections 7.7 and 31.

7.7 Beginning in calendar year 2016 and thereafter, Association may change the rate or rate structure hereunder no more frequently than five year intervals, based on changed circumstances beyond the control of Association and which have increased the cost of providing the service hereunder beyond those increases in costs reflected by the Annual Index.

7.7.1 Association must provide City with written notice of the new rate and rate structure and

documentation to substantiate the changed circumstances and the increased cost sixty (60) days before the new rate and rate structure become effective.

7.7.2 If City is not willing to pay the new rate/rate structure, City may terminate this Agreement by giving written notice to Association before the new rate and rate structure become effective.

7.7.3 If City gives notice pursuant to Section 7.7.2, this Agreement shall remain in effect for a period of three (3) years from the date of City's notice, unless otherwise agreed to by the Parties. During this period, City shall pay the rate determined pursuant to Section 7.1.4.

7.8 If, as a result of the services provided to City pursuant to this Agreement, Association becomes liable to a governmental authority other than District for any tax, tariff, duty, toll, fee, impost, charge or other exaction, or any increase thereof, pursuant to Section 8, Association shall bill City and City shall pay Association the amount for which Association is liable.

8. BILLING AND PAYMENT:

8.1 Bills for services provided to City shall be

submitted by Association to City on or before the twenty-fifth (25th) day of each month (or if such day is not a business day, on the next succeeding business day) immediately following the month during which City has incurred charges for such services. Such bills may include adjustments or corrections to bills previously submitted by Association to City.

8.2 Payment by City to Association shall be made in good funds on or before the thirtieth (30th) day following the date on which the bill was postmarked or if such day is not a business day, on the next succeeding business day. Bills which are not paid by this date shall be delinquent and thereafter accrue an interest charge at the prime rate of interest as established by the Bank of America on the last business day of the month following the month for which the bill was submitted, plus 2% per annum, prorated by days of the unpaid principal, computed daily until payment is received. Any payment received shall first be applied to any interest charges owed, and then to any bills owed for service rendered.

8.3 In the event any portion of any bill is disputed, the disputed amount shall be paid under protest when due and shall be accompanied by a written statement indicating the basis for the protest. If the

protest is found to be valid, City shall be refunded any overpayment plus interest, accrued at the rate set forth in Section 8.2, prorated by days from the date payment was credited to City to the date the refund check is mailed.

8.4 In the event any delinquent amount is not paid by City within thirty (30) days after receipt by City of written notice by Association to City of the delinquency and the remedies available to Association under this Agreement if the delinquent amount is not paid, Association shall have the right, without liability of any kind, to refuse to transport City Water so long as the said amount remains unpaid and may terminate this Agreement. Nothing herein shall limit the rights of Association to use any other available legal remedy to effect collection of said amounts.

9. WATER ACCOUNTING:

9.1 Association will provide daily Water Accounting of City Water received for City at the Points of Receipt. Such Water Accounting shall be retained by Association for at least three (3) years and be made available for City's inspection upon written request.

9.2 City shall provide a monthly report of the total amounts of water received each day during the month

as measured at each Point of Delivery in accordance with operating procedures prepared by Association. Such report shall be submitted to Association by the sixth (6th) business day following the month end, pursuant to such operating procedures.

9.3 Association shall prepare a monthly Water Accounting report based on the daily Water Accounting provided under Section 9.1. It shall also include the daily water deliveries as reported by City pursuant to Section 9.2. Such Water Accounting report may be combined with other existing Association reports to City and shall include City Water delivered to each Point of Delivery, Transportation Losses, and Evacuated Water during that month.

10. APPOINTMENT/DUTIES OF AUTHORIZED REPRESENTATIVES:

10.1 Association and City shall each appoint an Authorized Representative and an alternate to administer Sections 10.1.1 through 10.1.9. The alternate shall act only in the absence of the Authorized Representative. All decisions and agreements of the Authorized Representatives shall be documented by a writing signed by both Authorized Representatives. The Authorized Representatives:

10.1.1 Shall review the operating procedures as developed by Association for implementing the provisions herein.

10.1.2 May add or delete Points of Delivery or Points of Receipt pursuant to Sections 4.8 and 4.9.

10.1.3 May agree to transportation in the Association Water Delivery System of City Water specified in Section 4.5d and shall establish any water quality or other limitations on the transportation of such water. Priority for transportation of such water is "Fourth", in accordance with Exhibit C.

10.1.4 May change the proportioning of City Water to City's multiple Points of Delivery pursuant to Section 15.2 hereof.

10.1.5 Shall approve City's flow measurement systems, test procedures and adjustment frequency therefor, and the communication interfaces required pursuant to Section 17 or waive or reduce the requirements to install such flow measurement systems and communication interfaces pursuant to Section 17.

10.1.6 Pursuant to Section 17.3, shall determine by December 31, 1991 how the required flow measurement accuracy can be obtained, submit/receive written plans by July 1,

1992 to achieve the required flow measurement accuracy, and approve any plan of City to comply later than in 1993 with the flow measurement accuracy requirement.

10.1.7 Shall approve the manner of access pursuant to Section 18.

10.1.8 Shall arrange for the return of water by the owing Party pursuant to Section 23.2.

10.1.9 May agree to impair the transportation of City Water under this Agreement pursuant to Exhibit C-1.

10.2 If the Authorized Representatives disagree as to any action to be taken or decision to be made, or as to the need for taking any action or making any decision, or as to whether any matter is within the scope of the Authorized Representatives' responsibilities hereunder, the question or questions at issue may be referred by either Party to arbitration pursuant to Section 29.

10.3 Each Party shall notify the other Party in writing within thirty (30) days after execution of this Agreement of the designation of its Authorized Representative and alternate and shall promptly notify the other Party of any subsequent changes in such designation.

10.4 The Authorized Representatives shall have no

authority to modify, amend or supplement this Agreement, other than as expressly provided in this Section 10.

11. WATER QUALITY:

11.1 Association neither guarantees nor warrants the quality of water transported through the Association Water Delivery System to City pursuant to this Agreement, and City assumes all responsibility for purifying or otherwise treating City Water received at City's Points of Delivery to meet applicable water quality standards established by federal, state or local authorities. Nothing in this Agreement shall be construed so as to require that Association receive or transport water from any source when such receipt or transportation is likely to result in a violation of then existing federal, state or local laws or regulations regarding water quality.

11.2 Except for Salt and Verde River water that is not stored underground, City shall indemnify Association against all losses to third parties resulting from water quality degradation due to commingling of City Water in the Association Water Delivery System, and shall defend Association against all claims for such losses.

11.3 If Association coincidentally introduces water into

the Association Water Delivery System through the Interconnection Facility, or other causes contribute to the losses of third parties, City will indemnify and defend only for those losses to third parties attributable to commingling of City Water in the Association Water Delivery System.

11.4 Association shall cooperate fully with City in the defense of all claims of third parties for losses under this Section 11 and shall provide City with all information, expert witnesses and records necessary for City to defend against such claims.

11.5 City's obligation to indemnify under this Section 11 shall encompass only:

11.5.1 The payment of losses to third parties that have been determined by mutual agreement of City and Association, arbitration or a court to have resulted from water quality degradation due to commingling of City Water in the Association Water Delivery System.

11.5.2 All costs of defending against claims by third parties for such losses and all costs incurred by Association in cooperating with City under Section 11.4 in the defense of such claims.

. . . .

12. TRANSPORTATION LOSSES:

City shall be assessed Transportation Losses at the rate of 0.19 percent per AF per mile between the Point of Receipt and the Point of Delivery. Using the water balance of supply and delivery, a procedure similar to the loss calculation used in standard reporting to the Arizona Department of Water Resources and the United States Bureau of Reclamation, Association shall review and adjust such Transportation Loss rate annually in April based on annual average Association Water Delivery System losses during the preceding five (5) years. Such adjusted rate shall remain in effect until next adjusted.

13. PRIORITY OF SERVICE:

13.1 City Water may be transported under this Agreement only to the extent that such transportation does not impair nor prejudice the transportation and delivery of water to Association shareholders or pursuant to existing decrees and existing contracts between Association and City or between Association and any third party. (see Exhibit C-1)

13.2 Association shall transport water, as among all contractors for such service from Association, according to the capacity of the Association Water Delivery System as determined by Association, and the priority set forth in Exhibit C hereto.

13.3 The Parties agree to work together and make all

reasonable efforts in any settlement of an Indian tribe's water rights claims to acquire federal funding to expand Association Water Delivery System capacity, should such capacity be inadequate to satisfy the water transportation needs of either Association, City, the Indian tribe, or a third party as a result of such settlement; provided that a failure to acquire such funding shall not preclude Association from entering into the Indian settlement agreement.

14. RIGHT TO CONTRACT OR SUBCONTRACT:

14.1 Subject to Exhibit C, Association retains the right to contract directly with other entities desiring transportation of water in the Association Water Delivery System.

14.2 City may subcontract services provided to it by Association under this Agreement, provided that City shall cause any such subcontract to be subject to the terms and provisions of this Agreement the same as if such services were being provided directly to City, unless otherwise agreed in writing by Association. City shall be responsible for and pay Association the rates, fees and charges set forth in Section 7 to provide transportation service to City's subcontractors the same as if such services were provided directly to City. City shall not

subcontract transportation services provided by this Agreement for an overall charge greater than that charged City by Association for the same service, except to the extent necessary to recover any additional expenses incurred by City as a result of the subcontract.

15. DISTRIBUTION:

15.1 Association's obligations and responsibilities to City under this Agreement shall commence at the Point of Receipt and shall terminate at the Point of Delivery. City shall be responsible and assume full liability for the further distribution of City Water received at the Point of Delivery, including, but not limited to, all operation and maintenance costs for delivery to City's end users.

15.2 If City has multiple Points of Delivery on the Association Water Delivery System, City Water will be transported to each Point of Delivery in proportion to total water orders for those Points of Delivery. If City factually documents the proportions of on-Project and off-Project deliveries at each of its Points of Delivery, then upon mutual agreement of the Authorized Representatives, Association will transport City Water according to those proportions.

. . . .

16. INTERRUPTIONS OR CURTAILMENTS IN DELIVERY:

16.1 Transportation of City Water shall be in accordance with City's requests as set forth in Section 20 of this Agreement, and shall be subject to:

16.1.1 Interruptions and curtailments in the capability of Association to transport City Water due to emergencies, canal dry up, operational constraints and necessary maintenance and repairs of the Association Water Delivery System, all as determined solely by Association.

16.1.2 Interruptions, evacuations and curtailments because of excessive storm runoff entering the Association Water Delivery System, as determined solely by Association, or because Association determines that significant degradation of water quality in the Association Water Delivery System likely to result in substantial liability is occurring or may occur as a result of introduction of City Water, contamination or contaminated water in the Association Water Delivery System.

16.1.3 No obligation on the part of Association to replace any portion of City Water evacuated from the Association Water Delivery System.

16.1.4 Availability of City Water at the Points of Receipt, as determined by Association.

16.2 Transportation service interruptions, curtailments, and evacuations addressed in Section 16.1.1 and 16.1.2 shall be allocated in accordance with Exhibit C.

17. FLOW MEASUREMENT:

17.1 City shall, at its sole expense and with the approval of the Authorized Representatives, construct, install and maintain in accordance with manufacturers' specifications for the specific application, a flow measurement system and communications interface at each Point of Receipt and each Point of Delivery compatible with Association telemetry requirements. The Authorized Representatives may waive or reduce the requirements of this Section 17.1 for any Point of Receipt or Point of Delivery for which they deem the requirements excessive with respect to the quantity of water to be taken at that Point of Receipt or Point of Delivery.

17.2 City shall maintain the accuracy of its flow measurement systems (flow measurement device and detection device) as close to zero error as practical, but in no event shall error exceed plus or minus five percent (5%) of actual flow except

when the flow being measured is to a City water treatment plant (WTP) operating at thirty percent (30%) or less of maximum operating capacity. In such circumstances, the accumulated volume delivered to a WTP during the periods of exception in a calendar year shall not exceed six percent (6%) of the total volume delivered to that WTP during that calendar year. City shall prepare and regularly implement testing and recalibration procedures for the flow measurement systems, which procedures must be approved by the Authorized Representatives. At least once every six months, unless otherwise agreed by the Authorized Representatives, City shall recalibrate its flow-measuring system as close to zero error as practical, but in no event shall error exceed plus or minus five percent (5%) of actual flow except as provided above in this Section. City shall notify Association of when such recalibration is planned so that Association may observe the procedure. Association may at reasonable times, at its sole expense and after reasonable notice to City, test or have tested the flow-measuring system to determine its accuracy. Association may discontinue service to City hereunder during any period of noncompliance with this Section unless City agrees to accept Association's billing and

water accounting pursuant to Section 17.4.

17.3 If City at the time of the signing of this Agreement cannot attain the flow measurement accuracy required in Section 17.2, then the Authorized Representatives of Association and City shall determine by December 31, 1991, how the required flow measurement accuracy can be obtained. City's Authorized Representative shall submit written plans to Association's Authorized Representative no later than July 1, 1992 providing for installation, reinstallation, or modification of a flow-measuring system that will achieve the required flow measurement accuracy. By the end of calendar year 1993, the City shall comply with the accuracy requirement of Section 17.2 or have in place a plan approved by the Authorized Representatives stipulating the date of compliance.

17.4 In the event that water accounting records or any routine or special test of the flow measurement system discloses an annual volume, or a flow measurement error, that exceeds the limits provided in Section 17.2, all bills and water accounting affected by such limits having been exceeded may be adjusted by Association based on the best available data as determined by Association. However, adjustments arising from other than annual volume

limits shall not encompass more than the elapsed time since the last preceding test.

17.5 City bears responsibility and cost for any flow-measurement system and communications interface required for all future Points of Receipt and Points of Delivery.

18. ACCESS TO PREMISES AND FACILITIES:

City grants to Association, its employees and agents the right of access to the premises identified on Exhibits A and B, at reasonable times and after reasonable notice from Association, for such purposes as installing, connecting, reading, testing, repairing, adjusting, disconnecting, removing or inspecting meters, measuring devices, communications equipment, data devices and other apparatus and equipment pertinent to the provision of or accounting for services under this Agreement. Right of access under this Section shall be in a manner approved by the Authorized Representatives.

19. FUTURE FACILITIES:

City bears responsibility and cost for any facility needed at a future Point of Receipt or Point of Delivery to effect service under this Agreement.

20. NOTICE OF WATER DELIVERIES:

City shall provide adequate notice to Association of City's water orders and any subsequent order changes, in accordance with operating procedures established by

Association. Operating procedures established by Association shall provide that, in the event of a pending canal capacity curtailment, Association shall give City as much notice as reasonably practicable of the pending curtailment and give City the maximum flexibility reasonably attainable to adjust or change the source, as between water identified in Sections 4.5a and 4.5b, of its pro rata share of the total amount of this water that has been ordered by all cities. Association shall schedule, transport and account for City Water. Transportation of City Water shall be subject to operational and maintenance constraints common to all parties served by the Association Water Delivery System. The amount of City Water requested by City, less Transportation Losses, shall be delivered by Association to the Point of Delivery, subject to the provisions of Section 15.2 and 16. Association shall schedule and monitor the transportation of City Water so as not to in any manner whatsoever interfere with the operation and maintenance of the Association Water Delivery System.

21. EFFECTIVE DATE:

This Agreement shall be effective as of SEPTEMBER 27, 1991 _____ upon execution by both Parties.

22. GENERAL LIABILITY:

Each Party shall assume liability for its own negligence and shall indemnify the other against any damages the non-

negligent Party incurs as a result of the negligent Party's action or inaction.

23. AUDIT:

23.1 Upon reasonable written notice, either Party at its expense shall have the right, at all reasonable times, to review and audit the books, records and documents of the other Party directly pertaining to the billings and Water Accounting data required to administer this Agreement. Any such audit may be conducted by an employee of or independent accountant designated by the auditing Party. The Party being audited agrees to fully cooperate with any such audit. This right to audit shall extend for a period of three (3) years following the date of each payment under this Agreement. The Parties agree to retain all necessary records and documentation during this audit period. The foregoing shall not be construed to permit either Party to conduct a general audit of the other Party's records. Information obtained by either Party's representatives in examining the other Party's applicable records to verify such billings and Water Accounting data shall not be disclosed to third parties without prior written consent of the audited Party, or unless in response to compulsory judicial or regulatory process or state law and

after giving the other Party written notice as much in advance as possible.

23.2 The audited Party's Authorized Representative shall be notified in writing of any exception taken as a result of an audit and shall respond to such notification within thirty (30) days. Upon resolution of any exception, 1) as to payment of any monies due, the owing Party shall directly remit the amount of any exception to the other Party within thirty (30) days, with interest calculated at the rate set forth in Section 8.2. Interest shall be computed from the date of the original billing to the date of payment by the Party owing as a result of the Audit, 2) as to any water due, the Authorized Representatives shall arrange for the owing Party to return the amount owed as soon as practicable.

24. UNCONTROLLABLE FORCES:

Neither Party shall be considered to be in default in the performance of any of its obligations hereunder (other than obligations of City to make payment for service hereunder) when a failure of performance shall be due to uncontrollable forces. The term "uncontrollable forces" shall mean any cause beyond the control of the Party unable to perform such obligation, including, but not limited to, failure of or threat of failure of facilities, flood, earthquake, storm, fire, lightning and other

natural catastrophes, epidemic, war, riot, civil disturbance or disobedience, strike, labor dispute, labor or material shortage, sabotage, government priorities and restraint by court order or public authority, and action or nonaction by, or failure to obtain the necessary authorizations or approvals from, any governmental agency or authority, which by exercise of due diligence such Party could not reasonably have been expected to avoid and which by exercise of due diligence it shall be unable to overcome. Nothing contained herein shall be construed to require either Party to settle any strike or labor dispute in which it is involved.

25. NOTICES:

Any notice, demand or request provided for in this Agreement shall be in writing and delivered in person, or sent by registered or certified mail, postage prepaid, to:

Salt River Valley Water Users Association
c/o Secretary
P. O. Box 52025
Phoenix, AZ 85072-2025
Reference: Water Transportation Agreement
(With a copy to Association's Authorized Representative.)

City Manager
City of Avondale
525 North Central
Avondale, AZ 85323
(With a copy to City's Authorized Representative.)

26. WAIVER:

The waiver by either Party of any breach of any term, covenant or condition herein contained shall not be deemed

a waiver of any other term, covenant or condition, or any subsequent breach of the same or any other term, covenant or condition herein contained.

27. HEADINGS:

Title and paragraph headings herein are for reference only and are not part of this Agreement.

28. RECLAMATION REFORM ACT:

In no event shall Association's performance of obligations established herein subject Association or its shareholders to provisions of the Reclamation Reform Act of 1982 (RRA), 43 USC 390bb (1), as amended, and regulations attendant thereto, to which Association would not otherwise have been subjected. Further, in the event a change of legislation, future federal agency determination or other administrative or judicial action subjects or purports to subject Association to the RRA as a result of Association's performance of obligations established herein, Association shall be relieved of any further obligations hereunder, and this Agreement shall be voidable at Association's discretion.

29. RESOLUTION OF DISPUTES:

29.1 Any Party having a dispute under this Agreement that cannot be resolved by the Parties, may submit the dispute to arbitration. Arbitration shall be subject to the following provisions:

29.1.1 Arbitration shall be binding only upon the

consent of the Parties.

29.1.2 A Party wishing to submit a dispute to arbitration shall provide thirty (30) days written notice to the other Party of its intent to pursue arbitration and shall name one arbitrator at that time. Within fifteen (15) days of receiving this notice, the other Party to the dispute shall name one arbitrator and give written notice to the other Party of its selection. The two selected arbitrators shall, within five (5) days of selection of the second arbitrator, jointly select a third arbitrator.

29.1.3 Within thirty (30) days from the selection of the third arbitrator, the arbitrators shall hold a hearing. Within thirty (30) days from the conclusion of the hearing the arbitrators shall render a decision on the dispute.

29.1.4 Arbitration shall be subject to the Arizona Arbitration Act, Arizona Revised Statutes, Title 12, Chapter 9, Article 1. In the event of a conflict between this Agreement and the Act, the provisions of this Agreement shall prevail.

29.2 Any Party that is dissatisfied with the results of

non-binding arbitration may pursue any other legal or equitable remedy not expressly provided for in this Section 29 and available to resolve the dispute.

30. ACTION PENDING RESOLUTION OF DISPUTES:

Pending the resolution of a dispute pursuant to Section 29, the Parties shall proceed, to the extent legally permissible, in a manner consistent with this Agreement, and shall make payments required in accordance with the applicable provisions of this Agreement. Amounts paid by a Party pursuant to this Section 30 during the pendency of such dispute shall be subject to refund and adjustment upon a final resolution of any dispute involving an amount due. Upon such final resolution, the owed amounts shall be remitted in accordance with the remittance procedures/arrangements contained in Section 8.

31. CONTRACT REOPENER:

31.1 Either Party may request that this Agreement be modified because of extraordinary circumstances that were not reasonably foreseeable by the Parties, were outside of the control of the Parties and have resulted in a substantial change in the benefits or obligations under the Agreement of the Party requesting modification.

31.2 This Section 31 is intended to apply to events such as changes in legislative authority, enactment of

new environmental requirements, destruction of canals, changes in water rights and changes in technology.

31.3 If a Party requests that this Agreement be modified pursuant to this Section 31, the Parties agree to negotiate in good faith to reach a reasonable and equitable modification of this Agreement. If the Parties cannot agree, the Party requesting the modification may submit the matter to arbitration in accordance with Section 29.

31.4 The Party requesting the modification has the burden of showing that the event causing the request for modification meets the requirements of Sections 31.1 and 31.2 and that the modification requested is reasonable and equitable to both Parties.

31.5 This Section 31 does not preclude the Parties from modifying this Agreement by mutual consent for reasons that do not meet the requirements of Sections 31.1 and 31.2.

31.6 This reopener shall be applicable to Section 7 of this Agreement only through calendar year 2015.

32. GOVERNING LAW:

This Agreement is made under, and shall be governed by, the laws of the State of Arizona.

33. PERMITS:

City shall be responsible for obtaining any permits

required to discharge City Water into the Association Water Delivery System; except that if any permits are required to discharge City Water from Association-owned or operated facilities into the Association Water Delivery System, Association and City shall be jointly responsible for obtaining the permits. Denial of any necessary permit shall not result in liability of either Party to the other.

34. NO THIRD PARTY BENEFICIARIES:

This Agreement is solely for the benefit of the Parties, and does not create nor shall it be construed to create rights in any third party. No third party may enforce the terms and conditions of this Agreement.

35. ENTIRE AGREEMENT:

The terms, covenants and conditions of this Agreement constitute the entire Agreement between the Parties and no understandings or obligations not herein expressly set forth shall be binding upon them. This Agreement may not be modified or amended in any manner unless in writing and signed by the Parties.

. . . .

. . . .

. . . .

. . . .

. . . .

. . . .

IN WITNESS WHEREOF, this Agreement was executed by the Parties on the date first hereinabove written.

SALT RIVER VALLEY WATER USERS' ASSOCIATION

Attest and Countersign

William L. O'Neal
Secretary

By John R Sasser

APPROVED AS TO FORM AND WITHIN THE POWER AND AUTHORITY GRANTED UNDER THE LAWS OF THE STATE OF ARIZONA TO THE SALT RIVER VALLEY WATER USERS' ASSOCIATION

9/25/91

CITY OF AVONDALE, a municipal corporation

RAYMOND W. BEDOYA
Mayor

By Raymond W Bedoya

ATTEST:

Linda M Gler
City Clerk

APPROVED AS TO FORM AND WITHIN THE POWER AND AUTHORITY GRANTED UNDER THE LAWS OF THE STATE OF ARIZONA TO THE CITY OF AVONDALE

City Attorney

FORM 62-7530
REV 6 83

WATER TRANSPORTATION AGREEMENT
BETWEEN
SALT RIVER VALLEY WATER USERS' ASSOCIATION
AND
CITY OF AVONDALE

EXHIBIT A

Points of Delivery for City of Avondale and Its Subcontractors

NONE

Date: September 5, 1991

WATER TRANSPORTATION AGREEMENT
BETWEEN
SALT RIVER VALLEY WATER USERS' ASSOCIATION
AND
CITY OF AVONDALE

EXHIBIT B

Points of Receipt for City of Avondale and Its Subcontractors

NONE

Date: September 5, 1991

Water Transportation Agreement
Between
Salt River Valley Water Users' Association
And
City of Avondale

Exhibit C

WATER TRANSPORTATION PRIORITY

Priority for transportation of water is:

First - Water delivered: (The sequence within this "First" category is not intended to imply a priority)

a. Pursuant to rights of Association shareholders from any existing and future sources, including water exchanged for shareholder use and water used to augment or replace shareholder supplies.

b. Pursuant to existing Association water delivery contracts and existing decrees. (see Exhibit C-1)

c. Pursuant to rights of District to CAP allocation for electric power generation.

d. To an Indian tribe as a result of a settlement of the tribe's water rights claims, in the event that Association pledges to deliver such water at this priority.

Second - Water set forth in Sections 4.5a and 4.5b of this Agreement. During any Association Water Delivery System capacity curtailment, this water will be delivered pro rata to Cities that have ordered it based on each City's share of the combined amount of this water ordered by all Cities entitled to it. (All water in this second priority is of equal priority).

Third - Water discharged into the Association Water Delivery System from the Interconnection Facility, excluding the water set forth in Section 4.5b of this Agreement. During any Association Water Delivery System capacity curtailment, this water will be delivered pro rata to Cities that have ordered water based on each City's percentage

capacity ownership in the Arizona Canal Component or South Canal Component of the Interconnection Facility. (All water within this third priority is of equal priority).

Fourth - Other water. Within this fourth priority, sub-priority for transportation of water shall be determined:

a. For City Water specified in Section 4.5d, according to the date of the writing signed by the Authorized Representatives agreeing to the transportation of such water.

b. For water other than City Water, according to the date of the agreement to transport such water.

The earlier the date as determined under either (a) or (b) preceding, the higher the sub-priority.

In the event that water must be evacuated from the Association Water Delivery System, or flows into the Association Water Delivery System must be interrupted or curtailed, lower priority water will be affected first.

Water Transportation Agreement
Between
Salt River Valley Water Users' Association
And
City of Avondale

Exhibit C-1

EXISTING ASSOCIATION WATER DELIVERY CONTRACTS AND EXISTING DECREES

The following list of Contracts and Decrees includes major water delivery arrangements but does not necessarily include all existing contractual and decreed deliveries. The documents listed include (1) the original contract or decree and any renewals or extensions thereof on the same terms and conditions whether precedent or subsequent to this Agreement (2) modifications of the original contract or decree made prior to the effective date of this Agreement, and (3) modifications of the original contract or decree made after the effective date of this Agreement that either result from a right or obligation contained in (1) or (2) preceding, or do not impair the transportation of City Water under this Agreement, unless the Authorized Representatives agree otherwise.

BUCKEYE IRRIGATION DISTRICT:	Basis of Settlement of Litigation Between Buckeye Irrigation District and SRVWUA (1943).
CLASS A NON-MEMBER LAND:	Pursuant to Kent Decree (1910), entitlement to normal flow.
FORT MCDOWELL INDIANS:	Pursuant to Kent Decree (1910), entitlement to normal flow.
LAKIN-LENNOX:	Agreement Between Loring C. Lennox and SRVWUA (1921).
MARICOPA GARDEN FARMS:	Agreement Between Fidelity Savings and Loan Association and SRVWUA (1924).
MARICOPA INDIANS:	Agreement Between United States and SRVWUA (1936).
NEW STATE IRRIGATION AND DRAINAGE DISTRICT:	Agreement for Installation of Pumping Plant Between SRVWUA, New State Irrigation Drainage

	District and St. John's Irrigation District (1929).
PENINSULA-HOROWITZ AND CHAMPION:	Agreement Between SRVWUA, Roosevelt Irrigation District and Owners of Lands Under Peninsula, Horowitz and Champion Ditches (1930).
PHOENIX:	Contract Between United States, City of Phoenix and SRVWUA Providing for the Installation of Spillway Gates at Horseshoe Dam (1948).
ROOSEVELT IRRIGATION DISTRICT:	Contract Between Carrick and Mangham Agua Fria Lands and Irrigation Company and SRVWUA (1921).
ROOSEVELT WATER CONSERVATION DISTRICT:	Agreement Between Roosevelt Water Conservation District and SRVWUA (1924).
SALT RIVER INDIANS:	Contract Between United States and SRVWUA Supplementary to Certain Contracts dated 6/25/04 and 9/6/17 (1922); Agreement Between United States and SRVWUA Verde River Storage Works (1935).
SALT RIVER INDIANS (SOUTHSIDE):	Agreement Between United States and SRVWUA for Carriage of Water for Irrigation of Lands of the Indians of the Salt River Indian Reservation Under the Utah Canal (1927).
ST. JOHN'S IRRIGATION DISTRICT:	Agreement Between St. John's Irrigation District and SRVWUA (1924).

WATER TRANSPORTATION AGREEMENT
BETWEEN
SALT RIVER VALLEY WATER USERS' ASSOCIATION
AND
CITY OF AVONDALE

EXHIBIT D

EXAMPLE CALCULATION OF TRANSPORTATION RATE AND ANNUAL ADMINISTRATION FEE

Assumptions:

Projection of the Association Acreage Assessment is based on the assumption that it will increase at the rate of $1.00 every other year as actually experienced over the seven-year period, 1984-1990.

The Annual Index is based on the assumption that the Association Acreage Assessment will always be used as the basis of the Annual Index.

Projection of the Transportation Rate does not consider the possible affect of the application of rate reopener section 7.7 of this Agreement commencing with the year 2016.

Year	Association Acreage Assessment	Annual Index	Transportation Rate[1]				Administration Fee	
			1991-95	1996-00	2001-05	2006-41	First[2]	Additional[3]
1991	$ 19.00	N/A	$ 7.50	$ 9.50	$10.25	$ 11.00	$1,725.00	$310.00
1992	20.00	1.053	7.90	10.00	10.79	11.58	1,816.43	326.43
1993	20.00	1.000	7.90	10.00	10.79	11.58	1,816.43	326.43
1994	21.00	1.050	8.30	10.50	11.33	12.16	1,907.25	342.75
1995	21.00	1.000	8.30	10.50	11.33	12.16	1,907.25	342.75
1996	22.00	1.048		11.00	11.87	12.74	1,998.80	359.20
1997	22.00	1.000		11.00	11.87	12.74	1,998.80	359.20
1998	23.00	1.045		11.50	12.40	13.31	2,088.75	375.36
1999	23.00	1.000		11.50	12.40	13.31	2,088.75	375.36
2000	24.00	1.043		11.99	12.93	13.88	2,178.57	391.50
2001	24.00	1.000			12.93	13.88	2,178.57	391.50
2002	25.00	1.042			13.47	14.46	2,270.07	407.94
2003	25.00	1.000			13.47	14.46	2,270.07	407.94
2004	26.00	1.040			14.01	15.04	2,360.87	424.26
2005	26.00	1.000			14.01	15.04	2,360.87	424.26
2006	27.00	1.038				15.61	2,450.58	440.38
2007	27.00	1.000				15.61	2,450.58	440.38
2008	28.00	1.037				16.19	2,541.25	456.67
2009	28.00	1.000				16.19	2,541.25	456.67
2010	29.00	1.036				16.77	2,632.74	473.11
2011	29.00	1.000				16.77	2,632.74	473.11
2012	30.00	1.034				17.34	2,722.25	489.20
2013	30.00	1.000				17.34	2,722.25	489.20
2014	31.00	1.033				17.91	2,812.08	505.34
2015	31.00	1.000				17.91	2,812.08	505.34
2016	32.00	1.032				18.48	2,902.07	521.51
2017	32.00	1.000				18.48	2,902.07	521.51

(Cont'd next page)

Year	Association Acreage Assessment	Annual Index	Transportation Rate[1] 1991-95	1996-00	2001-05	2006-41	Administration Fee First[2]	Additional[3]
2018	33.00	1.031				19.05	2,992.03	$537.68
2019	33.00	1.000				19.05	2,992.03	537.68
2020	34.00	1.030				19.62	3,081.79	553.81
2021	34.00	1.000				19.62	3,081.79	553.81
2022	35.00	1.029				20.21	3,174.24	570.42
2023	35.00	1.000				20.21	3,174.24	570.42
2024	36.00	1.029				20.80	3,266.29	586.96
2025	36.00	1.000				20.80	3,266.29	586.96
2026	37.00	1.028				21.38	3,357.75	603.39
2027	37.00	1.000				21.38	3,357.75	603.39
2028	38.00	1.027				21.96	3,448.41	619.68
2029	38.00	1.000				21.96	3,448.41	619.68
2030	39.00	1.026				22.53	3,538.07	635.79
2031	39.00	1.000				22.53	3,538.07	635.79
2032	40.00	1.026				23.12	3,630.06	652.32
2033	40.00	1.000				23.12	3,630.06	652.32
2034	41.00	1.025				23.70	3,720.81	668.63
2035	41.00	1.000				23.70	3,720.81	668.63
2036	42.00	1.024				24.27	3,810.11	684.68
2037	42.00	1.000				24.27	3,810.11	684.68
2038	43.00	1.024				24.85	3,901.55	701.11
2039	43.00	1.000				24.85	3,901.55	701.11
2040	44.00	1.023				25.42	3,991.29	717.24
2041	44.00	1.000				25.42	3,991.29	717.24

[1] The transportation rate to be assessed in any year based on the assumptions is underlined

[2] First Point of Receipt and First Point of Delivery

[3] Additional Point of Receipt or additional Point of Delivery

Appendix B-8.1 Subcontract No. 7-07-30-W0146 with the Bureau of Reclamation and the Central Arizona Water Conservation District

ORIGINAL

CAWCD Revised 5/84

Contract No. 7-07-30-W0146

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

SUBCONTRACT AMONG THE UNITED STATES,
THE CENTRAL ARIZONA WATER CONSERVATION DISTRICT,
AND THE CITY OF AVONDALE
PROVIDING FOR WATER SERVICE

CENTRAL ARIZONA PROJECT

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CAWCD Revised 5/84

Contract No. 7-07-30-W0146

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

SUBCONTRACT AMONG THE UNITED STATES,
THE CENTRAL ARIZONA WATER CONSERVATION DISTRICT,
AND THE CITY OF AVONDALE
PROVIDING FOR WATER SERVICE

CENTRAL ARIZONA PROJECT

1. PREAMBLE:

THIS SUBCONTRACT, made this 23rd day of October, 1986, in pursuance generally of the Act of June 17, 1902 (32 Stat. 388), and acts amendatory thereof or supplementary thereto, including but not limited to the Boulder Canyon Project Act of December 21, 1928 (45 Stat. 1057), as amended, the Reclamation Project Act of August 4, 1939 (53 Stat. 1187), as amended, the Reclamation Reform Act of October 12, 1982 (96 Stat. 1263), and particularly the Colorado River Basin Project Act of September 30, 1968 (82 Stat. 885), as amended, all collectively hereinafter referred to as the "Federal Reclamation Laws," among the UNITED STATES OF AMERICA, hereinafter referred to as the "United States" acting through the Secretary of the Interior, the CENTRAL ARIZONA WATER CONSERVATION DISTRICT, hereinafter referred to as the "Contractor," a water conservation district organized under the laws of Arizona, with its principal place of business in Phoenix, Arizona, and the CITY OF AVONDALE, hereinafter

referred to as the "Subcontractor," with its principal place of business in Avondale, Arizona;

WITNESSETH, THAT:

2. EXPLANATORY RECITALS:

WHEREAS, the Colorado River Basin Project Act provides, among other things, that for the purposes of furnishing irrigation and municipal and industrial water supplies to water deficient areas of Arizona and western New Mexico through direct diversion or exchange of water, control of floods, conservation and development of fish and wildlife resources, enhancement of recreation opportunities, and for other purposes, the Secretary of the Interior shall construct, operate, and maintain the Central Arizona Project; and

WHEREAS, pursuant to the provisions of Arizona Revised Statutes §§ 45-2601 et seq., the Contractor has been organized with the power to enter into a contract or contracts with the Secretary of the Interior to accomplish the purposes of Arizona Revised Statutes, §§ 45-2601 et seq.; and

WHEREAS, pursuant to Section 304(b)(1) of the Colorado River Basin Project Act, the Secretary of the Interior has determined that it is necessary to effect repayment of the cost of constructing the Central Arizona Project pursuant to a master contract and that the United States, together with the Contractor, shall be a party to contracts that are in conformity with and subsidiary to the master contract; and

WHEREAS, the United States and the Contractor entered into Contract No. 14-06-W-245 dated December 15, 1972, hereinafter referred to as the "Repayment Contract," a copy of which is

attached hereto as Exhibit "A" and by this reference made a part hereof, whereby the Contractor agrees to repay to the United States the reimbursable costs of the Central Arizona Project allocated to the Contractor; and

WHEREAS, the Subcontractor is in need of a water supply and desires to subcontract with the United States and the Contractor for water service from water supplies available under the Central Arizona Project; and

WHEREAS, upon completion of the Central Arizona Project, water shall be available for delivery to the Subcontactor;

NOW THEREFORE, in consideration of the mutual and dependent covenants herein contained, it is agreed as follows:

3. DEFINITIONS:

Definitions included in the Repayment Contract are applicable to this subcontract; Provided, however, That the terms "Agricultural Water" or "Irrigation Water" shall mean water used for the purposes defined in the Repayment Contract on tracts of land operated in units of more than 5 acres. The first letters of terms so defined are capitalized herein. As heretofore indicated, a copy of the Repayment Contract is attached as Exhibit "A."

4. DELIVERY OF WATER:

4.1 Obligations of the United States. Subject to the terms, conditions, and provisions set forth herein and in the Repayment Contract, during such periods as it operates and maintains the Project Works, the United States shall deliver Project Water for M&I use by the Subcontractor. The United

States shall use all reasonable diligence to make available to the Subcontractor the quantity of Project Water specified in the schedule submitted by the Subcontractor in accordance with Article 4.4. After transfer of OM&R to the Operating Agency, the United States shall make deliveries of Project Water to the Operating Agency which shall make subsequent delivery to the Subcontractor as provided herein.

4.2 Term of Subcontract. This subcontract shall become effective upon its confirmation as provided for in Article 6.12 and shall remain in effect for a period of 50 years beginning with the January 1 of the Year following that in which the Secretary issues the Notice of Completion of the Water Supply System; Provided, That this subcontract may be renewed upon written request by the Subcontractor upon terms and conditions of renewal to be agreed upon not later than 1 year prior to the expiration of this subcontract; and Provided, further, That such terms and conditions shall be consistent with Article 9.9 of the Repayment Contract.

4.3 Conditions Relating to Delivery and Use. Delivery and use of water under this subcontract is conditioned on the following, and the Subcontractor hereby agrees that:

(a) All uses of Project Water and Return Flow shall be consistent with Arizona water law unless such law is inconsistent with the Congressional directives applicable to the Central Arizona Project.

(b) The system or systems through which water for Agricultural, M&I, and Miscellaneous (including ground water recharge) purposes is conveyed after delivery to the

Subcontractor shall consist of pipelines, canals, distribution systems, or other conduits provided and maintained with linings adequate in the Contracting Officer's judgment to prevent excessive conveyance losses.

(c) The Subcontractor shall not pump, or within its legal authority, permit others to pump ground water from within the exterior boundaries of the Subcontractor's service area, which has been delineated on a map filed with the Contractor and approved by the Contractor and the Contracting Officer, for use outside of said service area unless such pumping is permitted under Title 45, Chapter 2, Arizona Revised Statutes, as it may be amended from time to time, and the Contracting Officer, the Contractor, and the Subcontractor shall agree, or shall have previously agreed, that a surplus of ground water exists and drainage is or was required; Provided, however, That such pumping may be approved by the Contracting Officer and the Contractor, and approval shall not be unreasonably withheld, if such pumping is in accord with the Basin Project Act and upon submittal by the Subcontractor of a written certification from the Arizona Department of Water Resources or its successor agency that the pumping and transportation of ground water is in accord with Title 45, Chapter 2, Arizona Revised Statutes, as it may be amended from time to time.

(d) The Subcontractor shall not sell or otherwise dispose of or permit the sale or other disposition of any Project Water for use outside of Maricopa, Pinal, and Pima Counties; Provided, however, That this does not prohibit exchanges of Project Water covered by separate agreements; and Provided,

further, That this does not prohibit effluent exchanges with Indian tribes pursuant to Article 6.2.

(e) (i) Project Water scheduled for delivery in any Year under this subcontract may be used by the Subcontractor or resold or exchanged by the Subcontractor pursuant to appropriate agreements approved by the Contracting Officer and the Contractor. If said water is resold or exchanged by the Subcontractor for an amount in excess of that which the Subcontractor is obligated to pay under this subcontract, the excess amount shall be paid forthwith by the Subcontractor to the Contractor for application against the Contractor's Repayment Obligation to the United States; Provided, however, That the Subcontractor shall be entitled to recover actual costs of transportation, treatment, and distribution, including but not limited to capital costs and OM&R costs.

(ii) Project Water scheduled for delivery in any Year under this subcontract that cannot be used, resold, or exchanged by the Subcontractor may be made available by the Contracting Officer and Contractor to other users. If such Project Water is sold to or exchanged with other users, the Subcontractor shall be relieved of its payments hereunder only to the extent of the amount paid to the Contractor by such other users, but not to exceed the amount the Subcontractor is obligated to pay under this subcontract for said water.

(iii) In the event the Subcontractor or the Contracting Officer and the Contractor are unable to sell any portion of the Subcontractor's Project Water scheduled for delivery and not required by the Subcontractor, the Subcontractor

shall be relieved of the pumping energy portion of the OM&R charges associated with the undelivered water as determined by the Contractor.

4.4 Procedure for Ordering Water.

(a) At least 15 months prior to the date the Secretary expects to issue the Notice of Completion of the Water Supply System, or as soon thereafter as is practicable, the Contracting Officer shall announce by written notice to the Contractor the amount of Project Water available for delivery during the Year in which said Notice of Completion is issued (initial Year of water delivery) and during the following Year. Within 30 days of receiving such notice, the Contractor shall issue a notice of availability of Project Water to the Subcontractor. The Subcontractor shall, within a reasonable period of time as determined by the Contractor, submit a written schedule to the Contractor and the Contracting Officer showing the quantity of water desired by the Subcontractor during each month of said initial Year and the following Year. The Contractor shall notify the Subcontractor by written notice of the Contractor's action on the requested schedule within 2 months of the date of receipt of such request.

(b) The amounts, times, and rates of delivery of Project Water to the Subcontractor during each Year subsequent to the Year following said initial Year of water delivery shall be in accordance with a water delivery schedule for that Year. Such schedule shall be determined in the following manner:

(i) On or before June 1 of each Year beginning with the Year following the initial Year of water

delivery pursuant to this subcontract, the Contracting Officer shall announce the amount of Project Water available for delivery during the following Year in a written notice to the Contractor. In arriving at this determination, the Contracting Officer, subject to the provisions of the Repayment Contract, shall use his best efforts to maximize the availability and delivery of Arizona's full entitlement of Colorado River water over the term of this subcontract. Within 30 days of receiving said notice, the Contractor shall issue a notice of availability of Project Water to the Subcontractor.

(ii) On or before October 1 of each Year beginning with the Year following said initial Year of water delivery, the Subcontractor shall submit in writing to the Contractor and the Contracting Officer a water delivery schedule indicating the amounts of Project Water desired by the Subcontractor during each month of the following Year along with a preliminary estimate of Project Water desired for the succeeding 2 years.

(iii) Upon receipt of the schedule, the Contractor and the Contracting Officer shall review it and, after consultation with the Subcontractor, shall make only such modifications to the schedule as are necessary to ensure that the amounts, times, and rates of delivery to the Subcontractor are consistent with the delivery capability of the Project, considering, among other things, the availability of water and the delivery schedules of all subcontractors; Provided, That this provision shall not be construed to reduce annual deliveries to the Subcontractor.

(iv) On or before November 15 of each Year beginning with the Year following said initial Year of water delivery, the Contractor shall determine and furnish to the Subcontractor and the Contracting Officer the water delivery schedule for the following Year which shall show the amount of water to be delivered to the Subcontractor during each month of that Year, contingent upon the Subcontractor remaining eligible to receive water under all terms contained herein.

(c) The monthly water delivery schedules may be amended upon the Subcontractor's written request to the Contractor. Proposed amendments shall be submitted by the Subcontractor to the Contractor no later than 15 days before the desired change is to become effective, and shall be subject to review and modification in like manner as the schedule. The Contractor shall notify the Subcontractor and the Contracting Officer of its action on the Subcontractor's requested schedule modification within 10 days of the Contractor's receipt of such request.

(d) The Contractor and the Subcontractor shall hold the United States, its officers, agents, and employees, harmless on account of damage or claim of damage of any nature whatsoever arising out of or connected with the actions of the Contractor regarding water delivery schedules furnished to the Subcontractor.

(e) In no event shall the Contracting Officer or the Contractor be required to deliver to the Subcontractor from the Water Supply System in any one month a total amount of Project Water greater than 11 percent of the Subcontractor's

maximum entitlement; Provided, however, That the Contracting Officer may deliver a greater percentage in any month if such increased delivery is compatible with the overall delivery of Project Water to other subcontractors as determined by the Contracting Officer and the Contractor and if the Subcontractor agrees to accept such increased deliveries.

4.5 Points of Delivery--Measurement and Responsibility for Distribution of Water.

(a) The water to be furnished to the Subcontractor pursuant to this subcontract shall be delivered at turnouts to be constructed by the United States at such point(s) on the Water Supply System as may be agreed upon in writing by the Contracting Officer and the Contractor, after consultation with the Subcontractor.

(b) Unless the United States and the Subcontractor agree by contract to the contrary, the Subcontractor shall construct and install, at its sole cost and expense, connection facilities required to take and convey the water from the turnouts to the Subcontactor's service area. The Subcontractor shall furnish, for approval of the Contracting Officer, drawings showing the construction to be performed by the Subcontractor within the Water Supply System right-of-way 6 months before starting said construction. The facilities may be installed, operated, and maintained on the Water Supply System right-of-way subject to such reasonable restrictions and regulations as to type, location, method of installation, operation, and maintenance as may be prescribed by the Contracting Officer.

(c) All water delivered from the Water Supply System shall be measured with equipment furnished and installed by the United States and operated and maintained by the United States or the Operating Agency. Upon the request of the Subcontractor or the Contractor, the accuracy of such measurements shall be investigated by the Contracting Officer or the Operating Agency, Contractor, and Subcontractor, and any errors which may be mutually determined to have occurred therein shall be adjusted; Provided, That in the event the parties cannot agree on the required adjustment, the Contracting Officer's determination shall be conclusive.

(d) Neither the United States, the Contractor, nor the Operating Agency shall be responsible for the control, carriage, handling, use, disposal, or distribution of Project Water beyond the delivery point(s) agreed to pursuant to Subarticle 4.5(a). The Subcontractor shall hold the United States, the Contractor, and the Operating Agency harmless on account of damage or claim of damage of any nature whatsoever for which there is legal responsibility, including property damage, personal injury, or death arising out of or connected with the Subcontractor's control, carriage, handling, use, disposal, or distribution of such water beyond said delivery point(s).

4.6 Temporary Reductions. In addition to the right of the United States under Subarticle 8.3(a)(iv) of the Repayment Contract temporarily to discontinue or reduce the amount of water to be delivered, the United States or the Operating Agency may, after consultation with the Contractor, temporarily discontinue or reduce the quantity of water to be furnished to the

Subcontractor as herein provided for the purposes of investigation, inspection, maintenance, repair, or replacement of any of the Project facilities or any part thereof necessary for the furnishing of water to the Subcontractor, but so far as feasible the United States or the Operating Agency shall coordinate any such discontinuance or reduction with the Subcontractor and shall give the Subcontractor due notice in advance of such temporary discontinuance or reduction, except in case of emergency, in which case no notice need be given. Neither the United States, its officers, agents, and employees, nor the Operating Agency, its officers, agents, and employees, shall be liable for damages when, for any reason whatsoever, any such temporary discontinuance or reduction in delivery of water occurs. If any such discontinuance or temporary reduction results in deliveries to the Subcontractor of less water than what has been paid for in advance, the Subcontractor shall be entitled to be reimbursed for the appropriate proportion of such advance payments prior to the date of the Subcontractor's next payment of water service charges or the Subcontractor may be given credit toward the next payment of water charges if the Subcontractor should so desire.

4.7 Priority in Case of Shortage. Subject to the provisions of Section 304(e) of the Basin Project Act, any Project Water furnished for non-Indians through Project facilities shall, in the event of shortage thereof, as determined by the Contracting Officer after consultation with the Contractor, be reduced pro rata until exhausted, first for Miscellaneous Water uses and next for Agricultural Water uses

before water furnished for non-Indian M&I use is reduced. Thereafter, water for M&I uses shall be reduced pro rata among all non-Indian M&I users. All Project Water converted from agricultural to M&I use shall be delivered with the same priority as other Project M&I Water. Pursuant to the authority vested in the Secretary by the Reclamation Act of 1902 (32 Stat. 388), as amended and supplemented, the Basin Project Act, the Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (40 CFR Part 1505), and the Implementing Procedures of the U. S. Department of the Interior (516 DM 5.4), the relative priorities between Indian and non-Indian uses will be determined by the Secretary consistent with the allocations published in the Federal Register on March 24, 1983.

4.8 Secretarial Control of Return Flow.

(a) The Secretary reserves the right to capture all Return Flow flowing from the exterior boundaries of the Contractor's Service Area as a source of supply and for distribution to and use of the Central Arizona Project to the fullest extent practicable. The Secretary also reserves the right to capture for Project use Return Flow which orginates or results from water contracted for from the Central Arizona Project within the boundaries of the Contractor's Service Area if, in his judgment, such Return Flow is not being put to a beneficial use. The Subcontractor may recapture and reuse or sell its Return Flow; Provided, however, That such Return Flow may not be sold for use outside Maricopa, Pinal, and Pima Counties; and Provided, further, That this does not prohibit effluent exchanges with Indian tribes pursuant to Article 6.2.

The Subcontractor shall, at least 60 days in advance of any proposed sale of such water, furnish the following information in writing to the Contracting Officer and the Contractor:

(i) The name and address of the prospective buyer.

(ii) The location and proposed use of the Return Flow.

(iii) The price to be charged for the Return Flow.

(b) The price charged for the Return Flow may cover the cost incurred by the Subcontractor for Project Water plus the cost required to make the Return Flow usable. If the price received for the Return Flow is greater than the costs incurred by the Subcontractor, as described above, the excess amount shall be forthwith returned by the Subcontractor to the Contractor for application against the Contractor's Repayment Obligation to the United States. Costs required to make Return Flow usable shall include but not be limited to capital costs and OM&R costs including transportation, treatment, and distribution, and the portion thereof which may be retained by the Subcontractor shall be subject to the advance approval of the Contractor and the Contracting Officer.

(c) Any Return Flow captured by the United States and determined by the Contracting Officer and the Contractor to be suitable and available for use by the Subcontractor may be delivered by the United States or Operating Agency to the Subcontractor as a part of the water supply for which the Subcontractor subcontracts hereunder and such water shall be accounted and paid for pursuant to the provisions hereof.

(d) All capture, recapture, use, reuse, and sale of Return Flow under this article shall be in accord with Arizona

water law unless such law is inconsistent with the Congressional directives applicable to the Central Arizona Project.

4.9 Water and Air Pollution Control. The Subcontractor, in carrying out this subcontract, shall comply with all applicable water and air pollution laws and regulations of the United States and the State of Arizona and shall obtain all required permits or licenses from the appropriate Federal, State, or local authorities.

4.10 Quality of Water. The operation and maintenance of Project facilities shall be performed in such manner as is practicable to maintain the quality of water made available through such facilities at the highest level reasonably attainable as determined by the Contracting Officer. Neither the United States, the Contractor, nor the Operating Agency warrants the quality of water and is under no obligation to construct or furnish water treatment facilities to maintain or better the quality of water. The Subcontractor waives its right to make a claim against the United States, the Operating Agency, the Contractor, or another subcontractor because of changes in water quality caused by the commingling of Project water with other water.

4.11 Exchange Water.

(a) Where the Contracting Officer determines the Subcontractor is physically able to receive Colorado River mainstream water in exchange for or in replacement of existing supplies of water from surface sources other than the Colorado River, the Contracting Officer may require that the Subcontractor accept said mainstream water in exchange for or in replacement of said existing supplies pursuant to the provisions of Section 304(d) of the Basin Project Act; Provided, however, That a

subcontractor on the Project aqueduct shall not be required to enter into exchanges in which existing supplies of water from surface sources are diverted for use by other subcontractors downstream on the Project aqueduct.

(b) If, in the event of shortages, the Subcontractor has yielded water from other surface water sources in exchange for Colorado River mainstream water supplied by the Contractor or the Operating Agency, the Subcontractor shall have first priority against other users supplied with Project Water that have not yielded water from other surface water sources but only in quantities adequate to replace the water so yielded.

4.12 Entitlement to Project M&I Water.

(a) For the Year in which the Secretary issues the Notice of Completion of the Water Supply System, the Subcontractor's entitlement to Project Water for M&I uses shall be determined by the Contractor after consultation with the Subcontractor and the Contracting Officer. Commencing with the Year following that in which the Secretary issues the Notice of Completion of the Water Supply System, the Subcontractor is entitled to take a maximum of 4,099 acre-feet of Project Water for M&I uses including but not limited to ground water recharge.

(b) If at anytime during the term of this subcontract there is available for allocation additional M&I Project Water, or Agricultural Water converted to M&I use, it shall be delivered to the Subcontractor at the same water service charge per acre-foot and with the same priority as other M&I Water, upon execution or amendment of an appropriate subcontract

among the United States, the Contractor, and the Subcontractor and payment of an amount equal to the acre-foot charges previously paid by other subcontractors pursuant to Article 5.2 hereof plus interest. In the case of Agricultural Water conversions, the payment shall be reduced by all previous payments of agricultural capital charges for each acre-foot of water converted. The interest due shall be calculated for the period between issuance of the Notice of Completion of the Water Supply System and execution or amendment of the subcontract using the weighted interest rate received by the Contractor on all investments during that period.

4.13 Delivery of Project Water Prior to Completion of Project Works. Prior to the date of issuance of the Notice of Completion of the Water Supply System by the Secretary, water may be made available for delivery by the Secretary on a "when available" basis at a water rate and other terms to be determined by the Secretary after consultation with the Contractor.

5. PAYMENTS:

5.1 Water Service Charges for Payment of Operation, Maintenance, and Replacement Costs. Subject to the provisions of Article 5.4 hereof, the Subcontractor shall pay in advance for Project OM&R costs estimated to be incurred by the United States or the Operating Agency. At least 15 months prior to first delivery of Project Water, or as soon thereafter as is practicable, the Contractor shall furnish the Subcontractor with an estimate of the Subcontractor's share of OM&R costs to the end of the initial Year of water delivery and an estimate of such costs for the following Year. Within a reasonable time of the

receipt of said estimates, as determined by the Contractor, but prior to the delivery of water, the Subcontractor shall advance to the Contractor its share of such estimated costs to the end of the initial month of water delivery and without further notice or demand shall on or before the first day of each succeeding month of the initial Year of water delivery and the following Year advance to the Contractor in equal monthly installments the Subcontractor's share of such estimated costs. Advances of monthly payments for each subsequent Year shall be made by the Subcontractor to the Contractor on the basis of annual estimates to be furnished by the Contractor on or before June 1 preceding each said subsequent Year and the advances of payments for said estimated costs shall be due and payable in equal monthly payments on or before the first day of each month of the subsequent Year. Differences between actual OM&R costs and estimated OM&R costs shall be determined by the Contractor and shall be adjusted in the next succeeding annual estimates; Provided, however, That if in the opinion of the Contractor the amount of any annual OM&R estimate is likely to be insufficient to cover the above-mentioned costs during such period, the Contractor may increase the annual estimate of the Subcontractor's OM&R costs by written notice thereof to the Subcontractor, and the Subcontractor shall forthwith increase its remaining monthly payments in such Year to the Contractor by the amount necessary to cover the insufficiency. All estimates of OM&R costs shall be accompanied by data and computations relied on by the Contractor in determining the amounts of the estimated OM&R costs and shall be subject to joint review by the Subcontractor and the Contractor.

5.2 M&I Water Service Charges.

(a) Subject to provisions of Article 5.4 hereof and in addition to the OM&R payments required in Article 5.1 hereof, the Subcontractor shall, in advance of the delivery of Project M&I Water by the United States or the Operating Agency, make payment to the Contractor in equal semiannual installments of an M&I Water service capital charge based on a maximum entitlement of 4,099 acre-feet per year multiplied by the rates set forth in the following schedule.

Payment for the calendar year of	Payment due for each acre-foot of purchased capacity
1988-1993	$ 5
1994	6
1995	8
1996	10
1997	12
1998	14
1999	15
2000	16
2001	17
2002	18
2003	19
2004	20
2005	21
2006	22
2007	23
2008	24
2009	25
2010	26
2011	27
2012	28
2013	29
2014	30
2015	31
2016	32
2017	33
2018	34
2019	35
2020	36
2021	37
2022	38
2023	39
2024	40
2025 - through the end of the term of this subcontract	40

(b) The M&I Water service capital charge may be adjusted periodically by the Contractor as a result of repayment determinations provided for in the Repayment Contract and to reflect all sources of revenue, but said charge per acre-foot shall not be greater than the amount required to amortize Project capital costs allocated to the M&I function and determined by the Contracting Officer to be a part of the Contractor's Repayment Obligation. Such amortization shall include interest at 3.342 percent per annum. If any adjustment is made in the M&I Water service capital charge, notice thereof shall be given by the Contractor to the United States and to the Subcontractor on or before June 1 of the Year preceding the Year the adjusted charge becomes effective. The M&I Water service capital charge payment for the initial Year shall be advanced to the Contractor in equal semiannual installments on or before December 1 preceeding the initial Year and June 1 of said initial Year; Provided, however, That the payment of the initial M&I Water service capital charge shall not be due until the Year in which Project Water is available to the Subcontractor after Notice of Completion of the Water Supply System is issued. Thereafter, for each subsequent Year, payments by the Subcontractor in accordance with the foregoing provisions shall be made in equal semiannual installments on or before the December 1 preceding said subsequent Year and the June 1 of said subsequent Year as may be specified by the Contractor in written notices to the Subcontractor.

(c) On or before the first anniversary of execution of this subcontract and on or before each succeeding

anniversary, the Subcontractor shall pay, in addition to all other payments required herein, an M&I subcontract charge. The subcontract charge shall be $2.00 per acre-foot for 4,099 acre-feet of M&I Water. Prior to the date of issuance of the Notice of Completion of the Water Supply System, the subcontract charge shall be paid each Year by the Subcontractor to the United States. The Contracting Officer shall advise the Contractor of the amounts and dates of the Subcontractor's payments. After the date of issuance of the Notice of Completion of the Water Supply System, the subcontract charge shall be paid each Year to the Contractor by the Subcontractor and the Contractor shall credit the revenues obtained from the subcontract charge against the Subcontractor's water service charges payable to the Contractor that Year.

(d) Funds advanced to the United States by the Subcontractor pursuant to Article 5.2 (c) as a subcontracting charge shall be credited by the Contractor against the Subcontractor's initial capital charges for water deliveries under this subcontract. Credit provided to the Subcontractor shall include interest from the date the Subcontractor's funds are transferred to the United States through the effective date of credit for payment of capital costs as recorded in the Contractor's records. Interest credited to the Subcontractor shall be at an annual rate of 1 (one) percent less than the weighted rate received by the Contractor on all investments during the period for which the Subcontractor's payments earn an interest credit.

(e) Payment of all M&I Water service capital and corresponding OM&R charges becoming due hereunder prior to or on the dates stipulated in Articles 5.1 and 5.2 is a condition precedent to receiving M&I Water under this subcontract.

(f) All payments to be made to the Contractor or the United States under Articles 5.1 and 5.2 hereof shall be made by the Subcontractor as such payments fall due from revenues legally available to the Subcontractor for such payment from the sale of water to its water users and from any and all other sources which might be legally available; Provided, That no portion of the general taxing authority of the Subcontractor, nor its general funds, nor funds from ad valorem taxes are obligated by the provisions of this subcontract, nor shall such sources be liable for the payments, contributions, and other costs pursuant to this subcontract, or to satisfy any obligation hereunder unless duly and lawfully allocated and budgeted for such purpose by the Subcontractor for the applicable budget year; and Provided, further, That no portion of this agreement shall ever be construed to create an obligation superior in lien to or on a parity with the Subcontractor's revenue bonds now or hereafter issued. The Subcontractor shall levy and impose such necessary water service charges and rates and use all the authority and resources available to it to collect all such necessary water service charges and rates in order that the Subcontractor may meet its obligations hereunder and make in full all payments required under this subcontract on or before the date such payments become due.

5.3 Loss of Entitlement. The Subcontractor shall have no right to delivery of water from Project facilities during any period in which the Subcontractor may be in arrears in the payment of any charges due the Contractor. The Contractor may sell to another entity any water determined to be available under the Subcontractor's entitlement for which payment is in arrears; Provided, however, That the Subcontractor may regain the right to use any unsold portion of the water determined to be available under the original entitlement upon payment of all delinquent charges plus any difference between the subcontractual obligation and the price received in the sale of the water by the Contractor and payment of charges for the current period.

5.4 Refusal to Accept Delivery. In the event the Subcontractor fails or refuses in any Year to accept delivery of the quantity of water available for delivery to and required to be accepted by it pursuant to this subcontract, or in the event the Subcontractor in any Year fails to submit a schedule for delivery as provided in Article 4.4 hereof, said failure or refusal shall not relieve the Subcontractor of its obligation to make the payments required in this subcontract.

5.5 Charge for Late Payments. The Subcontractor shall pay a late payment charge on installments or charges which are received after the due date. The late payment charge percentage rate calculated by the Department of the Treasury and published quarterly in the Federal Register shall be used; Provided, That the late payment charge percentage rate shall not be less than 0.5 percent per month. The late payment charge percentage rate appplied on an overdue payment shall remain in effect until payment is received. The late payment rate for a 30-day period shall be determined on the day immediately following the due date and shall be applied to the overdue payment for any portion of the 30-day period of delinquency. In the case of partial late payments, the amount received shall first be applied to the late charge on the overdue payment and then to the overdue payment.

6. GENERAL PROVISIONS:

6.1 Repayment Contract Controlling. Pursuant to the Repayment Contract, the United States has agreed to construct and, in the absence of an approved Operating Agency, to operate and maintain the works of the Central Arizona Project and to deliver Project Water to the various subcontractors within the Project Service Area; and the Contractor has obligated itself for the payment of various costs, expenses, and other amounts allocated to the Contractor pursuant to Article 9 of the Repayment Contract. The Subcontractor expressly approves and agrees to all the terms presently set out in the Repayment Contract including Subarticle 8.8(b)(viii) thereof, or as such terms may be hereafter amended, and agrees to be bound by the actions to be taken and the determinations to be made under that Repayment Contract, except as otherwise provided herein.

6.2 Effluent Exchanges. The Subcontractor may enter into direct effluent exchange agreements with Indian entities which have received an allocation of Project Water and receive all benefits from the exchange. If the Subcontractor chooses to exchange directly with the Indians, then the Subcontractor's entitlement to Project Water shall be reduced by the amount of Project Water received in exchange by the Subcontractor. The Subcontractor may also offer raw sewage or effluent to the Contractor for the purpose of exchanging such sewage or effluent for the benefit of all subcontractors. If such an exchange is consummated, the Subcontractor's entitlement to Project Water shall remain at the level specified in Article 4.12. A copy of the above referenced agreements shall be filed with the

Contractor and the Contracting Officer.

6.3 Notices. Any notice, demand or request authorized or required by this subcontract shall be deemed to have been given when mailed, postage prepaid, or delivered to the Regional Director, Lower Colorado Region, Bureau of Reclamation, P. O. Box 427, Boulder City, Nevada 89005, on behalf of the Contractor or Subcontractor; to the Central Arizona Water Conservation District, 23636 North 7th Street, Phoenix, Arizona 85024, on behalf of the United States or Subcontractor; and to the City of Avondale, 525 N. Central Ave., Avondale, Arizona 85323 on behalf of the United States or Contractor. The designation of the addressee or the address may be changed by notice given in the same manner as provided in this Article for other notices.

6.4 Water Conservation Program.

(a) While the contents and standards of a given water conservation program are primarily matters of State and local determination, there is a strong Federal interest in developing an effective water conservation program because of this subcontract. The Subcontractor shall develop and implement an effective water conservation program for all uses of water which is provided from or conveyed through Federally constructed or Federally financed facilities. That water conservation program shall contain definite goals, appropriate water conservation measures, and time schedules for meeting the water conservation objectives.

(b) A water conservation program, acceptable to the Contractor and the Contracting Officer, shall be in existence prior to one or all of the following: (1) service of Federally stored/conveyed water; (2) transfer of operation and maintenance of the Project facilities to the Contractor or Operating Agency; or (3) transfer of the Project to an operation and maintenance status. The distribution and use of Federally stored/conveyed water and/or the operation of Project facilities transferred to the Contractor shall be consistent with the adopted water conservation program. Following execution of this subcontract, and at subsequent 5-year intervals, the Subcontractor shall resubmit the water conservation plan to the Contractor and the Contracting Officer for review and approval. After review of the

results of the previous 5 years and after consultation with the Contractor, the Subcontractor, and the Arizona Department of Water Resources or its successor, the Contracting Officer may require modifications in the water conservation program to better achieve program goals.

6.5 Rules, Regulations, and Determinations.

(a) The Contracting Officer shall have the right to make, after an opportunity has been offered to the Contractor and Subcontractor for consultation, rules and regulations consistent with the provisions of this subcontract, the laws of the United States and the State of Arizona, to add to or to modify them as may be deemed proper and necessary to carry out this subcontract, and to supply necessary details of its administration which are not covered by express provisions of this subcontract. The Contractor and Subcontractor shall observe such rules and regulations.

(b) Where the terms of this subcontract provide for action to be based upon the opinion or determination of any party to this subcontract, whether or not stated to be conclusive, said terms shall not be construed as permitting such action to be predicated upon arbitrary, capricious, or unreasonable opinions or determinations. In the event that the Contractor or Subcontractor questions any factual determination made by the Contracting Officer, the findings as to the facts shall be made by the Secretary only after consultation with the Contractor or Subcontractor and shall be conclusive upon the parties.

6.6 Officials Not to Benefit.

(a) No Member of or Delegate to Congress or Resident Commissioner shall be admitted to any share or part of this subcontract or to any benefit that may arise herefrom. This restriction shall not be construed to extend to this subcontract if made with a corporation or company for its general benefit.

(b) No official of the Subcontractor shall receive any benefit that may arise by reason of this subcontract other than as a water user within the Project and in the same manner as other water users within the Project.

6.7 Assignment Limited--Successors and Assigns Obligated. The provisions of this subcontract shall apply to and bind the successors and assigns of the parties hereto, but no assignment or transfer of this subcontract or any part or interest therein shall be valid until approved by the Contracting Officer.

6.8 Judicial Remedies Not Foreclosed. Nothing herein shall be construed (a) as depriving any party from pursuing and prosecuting any remedy in any appropriate court of the United States or the State of Arizona which would otherwise be available to such parties even though provisions herein may declare that determinations or decisions of the Secretary or other persons are conclusive or (b) as depriving any party of any defense thereto which would otherwise be available.

6.9 Books, Records, and Reports. The Subcontractor shall establish and maintain accounts and other books and records pertaining to its financial transactions, land use and crop census, water supply, water use, changes of Project works, and to other matters as the Contracting Officer may require. Reports thereon shall be furnished to the Contracting Officer in such form and on such date or dates as he may require. Subject to applicable Federal laws and regulations, each party shall have the right during office hours to examine and make copies of each other's books and records relating to matters covered by this subcontract.

6.10 Equal Opportunity. During the performance of this subcontract, the Subcontractor agrees as follows:

(a) The Subcontractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Subcontractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Subcontractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

(b) The Subcontractor shall, in all solicitations or advertisements for employees placed by or on behalf of the Subcontractor, state that all qualified applicants shall receive consideration for employment without discrimination because of race, color, religion, sex, or national origin.

(c) The Subcontractor shall send to each labor union or representative of workers with which it has a collective

bargaining agreement or other contract or understanding, a notice, to be provided by the Contracting Officer, advising said labor union or workers' representative of the Subcontractor's commitments under Section 202 of Executive Order 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(d) The Subcontractor shall comply with all provisions of Executive Order No. 11246 of September 24, 1965, as amended, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(e) The Subcontractor shall furnish all information and reports required by said amended Executive Order and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and shall permit access to its books, records, and accounts by the Contracting Officer and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(f) In the event of the Subcontractor's noncompliance with the nondiscrimination clauses of this subcontract or with any of the such rules, regulations, or orders, this subcontract may be canceled, terminated, or suspended, in whole or in part, and the Subcontractor may be declared ineligible for further Government contracts in accordance with procedures authorized in said amended Executive Order and such other sanctions may be imposed and remedies invoked as provided in said amended Executive Order, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(g) The Subcontractor shall include the provisions of paragraphs (a) through (g) in every subcontract or purchase order unless exempted by the rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of said amended Executive Order, so that such provisions shall be binding upon each subcontractor or vendor. The Subcontractor shall take such action with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions, including sanctions for noncompliance; Provided, however, That in the event a Subcontractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the Subcontractor may request the United States to enter into such litigation to protect the interest of the United States.

6.11 Title VI, Civil Rights Act of 1964.

(a) The Subcontractor agrees that it shall comply with Title VI of the Civil Rights Act of July 2, 1964 (78 Stat. 241), and all requirements imposed by or pursuant to the

Department of the Interior Regulation (43 CFR 17) issued pursuant to that title to the end that, in accordance with Title VI of that Act and the Regulation, no person in the United States shall, on the grounds of race, color, or national origin be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which the Subcontractor receives financial assistance from the United States and hereby gives assurance that it shall immediately take any measures to effectuate this agreement.

(b) If any real property or structure thereon is provided or improved with the aid of Federal financial assistance extended to the Subcontractor by the United States, this assurance obligates the Subcontractor, or in the case of any transfer of such property, any transferee for the period during which the real property or structure is used for a purpose involving the provision of similar services or benefits. If any personal property is so provided, this assurance obligates the Subcontractor for the period during which it retains ownership or possession of the property. In all other cases, this assurance obligates the Subcontractor for the period during which the Federal financial assistance is extended to it by the United States.

(c) This assurance is given in consideration of and for the purpose of obtaining any and all Federal grants, loans, contracts, property, discounts, or other Federal financial assistance extended after the date hereof to the Subcontractor by the United States, including installment payments after such date on account of arrangements for Federal financial assistance which were approved before such date. The Subcontractor recognizes and agrees that such Federal financial assistance shall be extended in reliance on the representations and agreements made in this assurance, and that the United States shall reserve the right to seek judicial enforcement of this assurance. This assurance is binding on the Subcontractor, its successors, transferees, and assignees.

6.12 Confirmation of Subcontract. The Subcontractor shall promptly seek a final decree of the proper court of the State of Arizona approving and confirming the subcontract and decreeing and adjudging it to be lawful, valid, and binding on the Subcontractor. The Subcontractor shall furnish to the United States a certifed copy of such decree and of all pertinent supporting records. This subcontract shall not be binding on the United States, the Contractor, or the Subcontractor until such final decree has been entered.

6.13 Contingent on Appropriation or Allotment of Funds. The expenditure or advance of any money or the performance of any work by the United States hereunder which may require appropriation of money by the Congress or the allotment of funds shall be contingent upon such appropriation or allotment being made. The failure of the Congress to appropriate funds or the absence of any allotment of funds shall not relieve the Subcontractor from any obligation under this subcontract. No liability shall accrue to the United States in case such funds are not appropriated or allotted.

IN WITNESS WHEREOF, the parties hereto have executed this subcontract No. 7-07-30-W0146 the day and year first above-written.

Legal Review and Approval

By: _____
Field Solicitor
Phoenix, Arizona

THE UNITED STATES OF AMERICA

By: _____
Regional Director
Lower Colorado Region
Bureau of Reclamation

CENTRAL ARIZONA WATER CONSERVATION DISTRICT

Attest: Lynn H Sharp
Title: Secretary

By: _____
Title: President

CITY OF AVONDALE

Attest: Linda M Lee
Title: CITY CLERK

By: _____
Title: MAYOR

EXHIBIT A

Appendix B-8.2 Notice of Completion for the Central Arizona Project (CAP) Water Supply System

United States Department of the Interior

TAKE PRIDE IN AMERICA

BUREAU OF RECLAMATION
Lower Colorado Regional Office
P.O. Box 61470
Boulder City, NV 89006-1470

IN REPLY REFER TO:
LC-440
WTR-4.00

SEP 30 1993

OCT - 1 1993

Mr. Thomas C. Clark
General Manager
Central Arizona Water
Conservation District
23636 North 7th Street
Phoenix AZ 85024

Subject: Notice of Completion for the Central Arizona Project (CAP) Water Supply System, Contract No. 14-06-W-245, Amendment No. 1 (Master Repayment Contract) Between the United States and the Central Arizona Water Conservation District (CAWCD) for Delivery of Water and Repayment of Costs of CAP (Repayment Contract)

Dear Mr. Clark:

On December 3, 1992, the United States and CAWCD signed an agreement entitled "Agreement Between the United States and the Central Arizona Water Conservation District Regarding Initiation of Repayment, Central Arizona Project" (Contract No. 3-07-30-W0286). As required in that agreement, the United States provided CAWCD with a written notice on December 14, 1992, indicating the Bureau of Reclamation's (Reclamation) intent to issue the notice of completion for the CAP water supply system on October 1, 1993.

In keeping with that intent and in accordance with the authority delegated to this office to serve as contracting officer for the Master Repayment Contract, CAWCD is hereby notified that the CAP water supply system is substantially complete as of October 1, 1993, in accordance with articles 5.22 and 9.3(e) of the Master Repayment Contract. Among other things, this notice initiates repayment of the CAP water supply system making the first payment due and payable on January 15, 1994.

This notice provides CAWCD with the estimated amount of its repayment obligation for the water supply system and the amount of its initial payment due on January 15, 1994. The notice also discusses: (1) the repayment ceiling issue; (2) CAWCD's obligation to begin funding the emergency operation, maintenance, and replacement (OM&R) and repayment reserve funds; and (3) the interim operating instructions.

In consultation with CAWCD over the last year, Reclamation has updated the CAP cost allocation to provide CAWCD with a current estimate of the repayment obligation for the water supply system and all stages of the project. The "Interim Final" cost allocation, that is the basis for this notice, will be sent to CAWCD by separate letter, along with a summary of the cost allocation.

In accordance with the current cost allocation, the estimated repayment obligation for the water supply system is $1,677,395,530, consisting of an interest-bearing component of $1,417,290,640 and an interest-free component of $260,104,890. CAWCD's first payment is due on January 15, 1994, and includes interest on the interest-bearing portion of the estimated obligation from October 1, 1993, through January 14, 1994. CAWCD's initial annual payments for the first 5 years of repayment (which include the regulatory storage stage) are as follows:

January 15, 1994	$30,588,990
January 15, 1995	$63,585,710
January 15, 1996	$63,031,620
January 15, 1997	$81,031,790
January 15, 1998	$80,328,600

The Master Repayment Contract provides that the cost allocation and CAWCD's past and future payments may be adjusted by the United States when subsequent construction stages are placed under repayment. In light of the pending adjustments, we have elected not to provide the entire estimated 50-year repayment schedule for the water supply system with this notice.

Based on the December 3, 1992, agreement entitled "Agreement Between the United States Department of the Interior and the Central Arizona Water Conservation District to Fund the Acquisition of Harquahala Valley Irrigation District," CAWCD is entitled to a credit against its initial annual payment(s) to the United States. Pursuant to article 3.3(a) of that agreement, CAWCD is entitled to a credit of $31,043,364 against the initial annual payment based on the current cost allocation. Since the amount of the credit exceeds the initial payment of $30,588,990, there is no net payment due to the United States on January 15, 1994. The remaining unused credit of $454,374 will be applied toward the January 15, 1995, payment.

The cost allocation is based on the project consisting of three construction stages: the water supply system, regulatory storage, and Tucson terminal storage. The current cost allocation indicates that CAWCD's repayment obligation for a project containing these three stages is expected to be $2.203 billion. The repayment ceiling established in the Master Repayment Contract for a project consisting of such stages is $2.09 billion. We acknowledge that CAWCD has a different interpretation regarding the repayment ceiling based on your August 26, 1993, letter to this office.

Under either CAWCD's or Reclamation's position regarding the amount of CAWCD's repayment ceiling, the estimated repayment obligation ($2.203 billion) exceeds the repayment ceiling. Based on the results of the current cost allocation, we have determined that it is appropriate for Reclamation to enter into negotiations with CAWCD to increase the repayment ceiling by amending the Master Repayment Contract. As you are aware, paragraph 9(e) of the Master Repayment Contract provides that, in the event the United States determines that an increase in the repayment ceiling is required during construction of the project, continuation of construction will be contingent upon the execution of an amendatory contract to increase the amount of the ceiling. Therefore, we intend to submit a basis of negotiation to the Commissioner of Reclamation seeking approval to enter into

such negotiations. We expect that CAWCD will be willing to enter into such a renegotiation. In the event that CAWCD is not willing to pursue such a renegotiation of the Master Repayment Contract, please let us know soon so that we can take actions to protect the Federal investment and the interests of the United States taxpayers.

We want to remind CAWCD that under subarticle 10.3(a)(i) of the Master Repayment Contract, it is required to accumulate and maintain an emergency OM&R reserve fund with annual deposits of $400,000 beginning with transfer of OM&R of the Granite Reef (Hayden-Rhodes) Aqueduct and Havasu Pumping Plant to CAWCD. Since OM&R of these facilities was transferred to CAWCD on April 29, 1993, it should have already established such a fund and made the first deposit of $400,000.

CAWCD is also required to accumulate and maintain a repayment reserve fund in accordance with subarticle 10.3(b)(i) of the Master Repayment Contract, beginning no later than 1 year following its last construction advance under the Plan 6 Funding Agreement. Since CAWCD's last construction advance under that agreement was made on July 30, 1992, the repayment reserve fund should have been established by July 30, 1993, with an initial deposit of $4 million.

Please provide us with a report by November 1, 1993, showing the balance in the emergency OM&R and repayment reserve funds. In addition to that report, CAWCD is required under the Master Repayment Contract to provide us with a report on or before February 1 of each year showing the balance in both funds as of December 31 of the preceding year.

In compliance with article 5 of the contract entitled "Contract Between the United States of America and the Central Arizona Water Conservation District for the Transfer of Operation and Maintenance," (contract No. 7-07-30-W0167, dated August 5, 1987) CAWCD and Reclamation agreed to enter into an operating agreement prior to issuance of the notice of completion. In the absence of a completed operating agreement, Reclamation intends to provide CAWCD with interim operating instructions which will cover the details of CAP OM&R, OM&R funding, and environmental compliance and commitments. These instructions were agreed to by Reclamation and CAWCD personnel on September 22, 1993. Transmittal of the operating instructions will be by separate letter from the Project Manager of the Arizona Projects Office. The duration of the interim operating instructions will be from October 1, 1993, through June 30, 1994, unless replaced earlier by a permanent operating agreement.

We view the issuance of this notice of completion as a significant event in the history of CAP. The notice represents an important transition from Federal responsibility and control of the project to CAWCD and State of Arizona responsibility and control. As we proceed through this transition period, we look forward to continuing to work with CAWCD and the State to help ensure that CAP provides benefits to the State and its citizens by serving contemporary needs.

If you have any questions, please contact Mr. Robert W. Johnson at 702-293-8411.

Sincerely,

Robert J. Towles

Robert J. Towles
Regional Director

Appendix B-8.3 Amendment No. 1 to Water Service Subcontract with the Bureau of Reclamation and the Central Arizona Water Conservation District

AGREEMENT AMONG THE UNITED STATES,
THE CENTRAL ARIZONA WATER CONSERVATION DISTRICT,
AND THE CITY OF AVONDALE

AMENDMENT NO. 1 TO WATER SERVICE SUBCONTRACT

THIS AGREEMENT is made and entered into this 3rd day of December, 1997, by and among the United States of America, hereinafter referred to as the "United States", acting through the Secretary of the Interior (the "Secretary"), the Central Arizona Water Conservation District (the "Contractor"), and the City of Avondale (the "Subcontractor").

Recitals

WHEREAS, the United States, the Contractor, and the Subcontractor have entered into a "Subcontract Among the United States, the Central Arizona Water Conservation District, and the City of Avondale, Providing for Water Service, Central Arizona Project," Subcontract No. 7-07-30-W0146 (the "Water Service Subcontract");

WHEREAS, McMicken Irrigation District ("McMicken") has entered into a "Subcontract Among the United States, the Central Arizona Water Conservation District and McMicken Irrigation District, Providing for Water Service, Central Arizona Project," Subcontract No. 5-07-30-W0100 (the "McMicken Subcontract");

WHEREAS, the Subcontractor and McMicken have entered into a Partial Assignment of Interest in Central Arizona Project Municipal and Industrial Water Service Subcontract under which McMicken has agreed to transfer 647 acre-feet of its rights and obligations under the McMicken Subcontract to the Subcontractor; and

WHEREAS, the Subcontractor wishes to amend the Water Service Subcontract to reflect an increase of 647 acre-feet in its CAP M&I entitlement.

NOW, THEREFORE, the parties hereto agree as follows:

1. Amendment of Subarticle 4.12(a). Subarticle 4.12(a) of the Water Service Subcontract is hereby amended to read as follows:

"4.12 Entitlement to Project M&I Water.

(a) For the Year in which the Secretary issues the Notice of Completion of the Water Supply System, the Subcontractor's entitlement to Project Water for M&I uses shall be determined by the Contractor after consultation with the Subcontractor and the Contracting Officer. Commencing with the Year following that in which the Secretary issues the Notice of Completion of the Water Supply System, the Subcontractor is entitled to take a maximum of 4,746 acre-feet of Project Water for M&I uses including but not limited to ground water recharge."

2. Amendment of Subarticle 5.2(a). Subarticle 5.2(a) of the Water Service Subcontract is hereby amended to read as follows:

"5.2 M&I Water Service Charges

(a) Subject to the provisions of Article 5.4 hereof and in addition to the OM&R payments required in Article 5.1 hereof, the Subcontractor shall, in advance of the delivery of Project M&I Water by the United States or the Operating Agency, make payment to the Contractor in equal semiannual installments of an M&I water service capital charge based on a maximum entitlement of 4,746 acre-feet per year multiplied by the rates set forth in the following schedule.

Payment for the calendar year of	Payment due for each acre-foot of purchased capacity
1988-1993	$ 5
1994	6
1995	8
1996	10
1997	12
1998	14
1999	15
2000	16
2001	17
2002	18

Payment for the calendar year of	Payment due for each acre-foot of purchased capacity
2003	$ 19
2004	20
2005	21
2006	22
2007	23
2008	24
2009	25
2010	26
2011	27
2012	28
2013	29
2014	30
2015	31
2016	32
2017	33
2018	34
2019	35
2020	36
2021	37
2022	38
2023	39
2024	40
2025 - through the end of the term of this subcontract"	40

3. Amendment of Subarticle 5.2(c). Subarticle 5.2(c) of the Water Service Subcontract is hereby amended to read as follows:

"(c) On or before the first anniversary date of execution of this subcontract (October 23) and on or before each succeeding anniversary, the Subcontractor shall pay, in addition to all other payments required herein, an M&I subcontract charge. The subcontract charge shall be $2.00 per acre-foot for 4,746 acre-feet of M&I water. Prior to the date of issuance of the Notice of Completion of the Water Supply System, the subcontract charge shall be paid each Year by the Subcontractor to the United States. The Contracting Officer shall advise the Contractor of the amounts and dates of the Subcontractor's payments. After the date of issuance of the Notice of Completion of the Water Supply System, the subcontract charge shall be paid each Year to the Contractor by the Subcontractor and the Contractor shall credit the revenues obtained from the subcontract charge against the Subcontractor's water service charges payable to the Contractor that Year."

4. Except as amended herein, all terms, conditions, and provisions of the Water Service Subcontract shall remain unchanged and in full force and effect.

5. The Subcontractor shall promptly seek a final decree of the proper court of the State of Arizona decreeing and adjudging this Agreement to be lawful, valid, and binding on the Subcontractor. The Subcontractor shall furnish the United States and the Contractor a certified copy of such decree and of all pertinent supporting records. This Agreement shall not be binding on the United States, the Contractor, or the Subcontractor until such final decree has been entered.

IN WITNESS WHEREOF, the parties hereto have executed this Amendment No. 1 to Subcontract No. 7-07-30-W0146 the day and year first above-written.

Legal Review and Approval

By: _____
Field Solicitor
Phoenix, Arizona

UNITED STATES OF AMERICA

By: _____
Regional Director
ACTING FOR Lower Colorado Region
Bureau of Reclamation

CENTRAL ARIZONA WATER
CONSERVATION DISTRICT

Attest: _____
Secretary

By: _____
President

CITY OF AVONDALE

Attest: _____
City Clerk

By: _____
Mayor

Title: _____

Title: _____

A.amendmt.AVN

Appendix B-9 Agreement Providing for Delivery of Central Arizona Project Incentive Recharge Water

AGREEMENT BETWEEN THE CENTRAL ARIZONA WATER CONSERVATION DISTRICT AND CITY OF AVONDALE PROVIDING FOR THE DELIVERY OF CENTRAL ARIZONA PROJECT INCENTIVE RECHARGE WATER

Preamble

1. THIS AGREEMENT, made this 12th day of November, 1999, in pursuance generally of the Act of June 17, 1902 (32 Stat. 388), and acts amendatory thereof or supplementary thereto, including but not limited to the Boulder Canyon Project Act of December 21, 1928 (45 Stat. 1057, as amended, the Reclamation Project Act of August 4, 1939 (53 Stat. 1187), as amended, the Reclamation Reform Act of October 12, 1982 (96 Stat. 1263), and particularly the Colorado River Basin Project Act of September 30, 1968 (82 Stat. 885), as amended (the "Basin Project Act"), between the CENTRAL ARIZONA WATER CONSERVATION DISTRICT ("CAWCD") and the CITY OF AVONDALE ("Contractor");

WITNESSETH, THAT:

Explanatory Recitals

2. WHEREAS, the Basin Project Act provides, among other things, that for the purposes of furnishing irrigation and municipal and industrial ("M&I") water supplies to water deficient areas of Arizona and western New Mexico through direct diversion or exchange of water, control of floods, conservation and development of fish and wildlife resources, enhancement of recreation opportunities, and for other purposes, the Secretary shall construct, operate, and maintain the

Central Arizona Project, hereinafter referred to as the "Project"; and

WHEREAS, the United States and CAWCD have entered into Contract No. 14-06-W-245, Amendment No. 1, dated December 1, 1988, hereinafter referred to as the "Repayment Contract," which is attached hereto as Exhibit A and by this reference made a part hereof, whereby CAWCD has agreed to repay to the United States the reimbursable costs of the Project allocated to CAWCD; and

WHEREAS, Article 8.7(e) of the Repayment Contract grants CAWCD the authority to resell or exchange Excess Water; and

WHEREAS, the Contractor is in need of a water supply and desires to contract with CAWCD for Incentive Recharge Water;

NOW, THEREFORE, in consideration of the mutual and dependent covenants herein contained, it is agreed as follows:

Repayment Contract Controlling

3. The Contractor expressly approves and agrees to all the terms presently set out in the Repayment Contract, or as such terms may be hereafter amended, and agrees to be bound by the actions to be taken and the determinations to be made under that Repayment Contract, except as otherwise provided herein. Definitions included in the Repayment Contract are applicable to this Agreement, Provided, however, that the terms "Agricultural Water" or "Irrigation Water" shall mean water used for the purposes defined in the Repayment Contract on tracts of land operated in units of more than 5 acres. The first letters of terms so defined are capitalized herein.

Additional Definitions

4. "Excess Water" shall mean Project Water which, in any Year,

is available for delivery and has not been scheduled for delivery pursuant to a contract with the United States or a subcontract with the United States and CAWCD providing for Project Water service for a period of 50 years or more.

5. "Incentive Recharge Water" shall mean specially priced Excess Water made available by CAWCD to M&I subcontractors on an annual basis for recharge purposes only.

Delivery of Water by CAWCD

6. In so far as Project Water supplies and the delivery capability of the Project will permit, and subject to the provisions of the Repayment Contract, CAWCD will deliver Incentive Recharge Water to the Contractor in an amount, and at a water service charge, to be determined in accordance with the terms of this Agreement. The determination of whether and how much Incentive Recharge Water is available for delivery under this Agreement in any year, is a determination within the exclusive discretion of CAWCD; Provided, however, that delivery of Incentive Recharge Water under this Agreement shall be subject to the prior satisfaction of all water deliveries scheduled pursuant to a contract with the United States or a subcontract with the United States and CAWCD providing for Project Water service for a period of 50 years or more.

Term

7. This Agreement shall terminate on December 31, 2003, unless the parties agree in writing to extend the term or unless it is sooner terminated in accordance with Article 15 hereof.

Conditions Relating to Delivery and Use

8. The delivery and use of water under this Agreement is conditioned on the following, and the Contractor hereby agrees that:

(a) All uses of Project Water and Return Flow shall be consistent with Arizona water law except to the extent that such law is inconsistent with the Congressional directives applicable to the Central Arizona Project.

(b) Project Water furnished to the Contractor pursuant to this Agreement shall be used within Contractor's service area or place of use for direct or indirect recharge purposes only. The Contractor's service area or place of use is described in Exhibit B which is incorporated by reference and may be amended by Contractor from time to time.

(c) The system or systems through which Project Water is conveyed after delivery to the Contractor shall consist of pipelines, canals, distribution systems, or other conduits which will prevent excessive conveyance losses.

(d) Project Water furnished to the Contractor pursuant to this Agreement may not be resold or exchanged by the Contractor without the prior written approval of CAWCD. If, with the prior approval of CAWCD, such water is resold or exchanged by the Contractor for an amount in excess of that which the Contractor is obligated to pay under this Agreement, the excess amount shall be paid forthwith by the Contractor to CAWCD; Provided, however, that the Contractor shall be entitled to recover its actual costs, if any, in transporting and distributing such water. The provisions of this Article 8(d) shall

not apply to any sale or exchange of stored water credits earned by Contractor pursuant to this Agreement.

(e) Except as otherwise agreed by CAWCD, the Contractor shall not sell or otherwise dispose of or permit the sale or other disposition of any Project Water for use outside of Maricopa, Pinal, or Pima Counties.

(f) Notwithstanding any other provision of this Agreement, Project Water shall not be delivered to the Contractor unless and until the Contractor has obtained final environmental clearance from CAWCD for the system or systems through which Project Water is to be conveyed after delivery to the Contractor at the Contractor's Project delivery point.

(g) The Contractor may direct that Incentive Recharge Water made available pursuant to this Agreement be delivered to a groundwater savings facility for indirect recharge pursuant to a separate agreement between the Contractor and the operator of the groundwater savings facility; Provided, however, that:

(i) Incentive Recharge Water shall be used by an identified groundwater user on a gallon-for-gallon substitute basis directly in lieu of groundwater as provided in A.R.S. § 45-812.01.

(ii) The Contractor and the operator of the groundwater savings facility must demonstrate to CAWCD's satisfaction that they have the appropriate permits issued by the Arizona Department of Water Resources.

(iii) Where the operator of the groundwater savings facility is an agricultural entity participating in CAWCD's target

pricing program, only Project Water over and above the amount of Project Water taken by the agricultural entity in the immediately preceding year, not including Incentive Recharge Water, may qualify as Incentive Recharge Water.

(iv) The Contractor shall provide CAWCD a copy of its agreement with the operator of the groundwater savings facility for Incentive Recharge Water.

(h) Only Project Water for which the Contractor receives long-term storage credits from the Arizona Department of Water Resources may qualify as Incentive Recharge Water.

(i) Upon the expiration of this Agreement, CAWCD will determine whether any Project Water delivered pursuant to this Agreement did not qualify as Incentive Recharge Water for the reasons specified in sections 8(g)(iii) or 8(h) of this Agreement. For any such Project Water not qualifying as Incentive Recharge Water, CAWCD will bill the Contractor for the difference between the water service charge for Incentive Recharge Water and the standard M&I water service charge.

Procedure for Ordering Water

9. (a) On or before the date of execution of this Agreement, or as soon thereafter as is practicable, CAWCD will notify the Contractor of the amount of Incentive Recharge Water available for delivery during the initial year of this Agreement. The Contractor shall, within a reasonable period of time as determined by CAWCD, submit a written schedule to CAWCD showing the quantity of Incentive Recharge Water desired by the Contractor during each month of the

initial year. CAWCD will review the requested schedule and determine whether Incentive Recharge Water is available for delivery, and, if so, the amount of Incentive Recharge Water available for delivery under this Agreement during the initial year. Within thirty (30) days of CAWCD's receipt of the Contractor's requested schedule, CAWCD shall determine and furnish to the Contractor a water delivery schedule which shall show the amount of Incentive Recharge Water projected to be delivered to the Contractor during each month of the initial year, contingent upon the Contractor remaining eligible to receive water under all terms contained herein.

(b) The amounts, times, and rates of delivery of Incentive Recharge Water to the Contractor during any subsequent year shall be in accordance with a water delivery schedule for that year. Such schedule shall be determined in the following manner:

(i) On or before October 15 of each year beginning with October 15 of the initial year of water delivery, CAWCD shall issue to the Contractor a notice of availability of Incentive Recharge Water for the following year.

(ii) Within thirty days of CAWCD's notice of availability, the Contractor shall submit in writing to CAWCD a water delivery schedule indicating the amounts of Incentive Recharge Water desired by the Contractor during each month of the following year.

(iii) Upon receipt of the schedule, CAWCD shall review it together with all other water delivery schedules, and determine the amount of Incentive Recharge Water available for delivery under this Agreement in the following year.

(iv) On or before December 15 of each year, CAWCD shall determine and furnish to the Contractor the water delivery schedule for the following year which shall show the amount of Incentive Recharge Water to be delivered to the Contractor during each month of that year, contingent upon the Contractor remaining eligible to receive water under all terms contained herein.

(c) The monthly water delivery schedule may be amended upon the Contractor's written request to CAWCD. Proposed amendments shall be submitted by the Contractor to CAWCD no later than 15 days before the desired change is to become effective, and shall be subject to review and modification in like manner as the schedule. CAWCD shall notify the Contractor of its action on the Contractor's requested schedule modification within 10 days of CAWCD's receipt of such request.

(d) If the Contractor elects to have Incentive Recharge Water made available pursuant to this Agreement delivered to a groundwater savings facility for indirect recharge, CAWCD will coordinate delivery of Incentive Recharge Water directly with the operator of the groundwater savings facility.

(e) The Contractor shall hold CAWCD, its officers, agents, and employees, harmless on account of damage or claim of damage of any nature whatsoever arising out of or connected with the actions of CAWCD regarding water delivery schedules furnished by or to the Contractor.

* * *

* * *

Contractor's Project Delivery Point, Measurement and Responsibility for Distribution of Water

10. (a) Incentive Recharge Water furnished to the Contractor pursuant to this Agreement shall be delivered to the Contractor at such point(s) on the Water Supply System as are agreed upon in writing by CAWCD and the Contractor. All such point(s) shall hereinafter be referred to as the "Contractor's Project delivery point."

(b) Unless CAWCD and the Contractor agree by contract to the contrary, the Contractor shall construct and install, at its sole cost and expense, all connection facilities required to convey water furnished to the Contractor pursuant to this Agreement to the Contractor's service area or place of use, as the case may be. The Contractor shall furnish, for written approval by CAWCD, drawings and specifications showing all connection facilities to be constructed or installed within the Water Supply System right-of-way, and shall obtain such approval before commencing construction or installation of such facilities. All facilities constructed, installed, operated or maintained on the Water Supply System right-of-way by or for the Contractor shall be subject to such further agreements and to such restrictions and regulations as to type, location, method of installation, operation, and maintenance as may be prescribed by CAWCD.

(c) The Contractor shall construct, operate, and maintain its connection facilities and appurtenant works in a good and workmanlike manner and in full compliance with the laws of the State of Arizona and with all laws, regulations, and orders of the United

States affecting such operations. The failure of the Contractor after due notice to construct, operate, and maintain its connection facilities and appurtenant works in a good and workmanlike manner or to abide by any of the terms and conditions of any applicable laws, regulations, or orders, shall cause this Agreement to be subject to immediate termination at the option of CAWCD. The Contractor shall reimburse CAWCD within thirty (30) days of Contractor's receipt of a statement for the costs of repairing any damage to Project facilities or Project rights-of-way caused by or arising out of the Contractor's activities under this Agreement.

(d) Upon termination of this Agreement, the Contractor shall promptly remove, at its sole cost and expense, all connection facilities constructed or installed on the Water Supply System right-of-way and restore said right-of-way and all Project facilities affected to their condition immediately prior to the construction or installation of such connection facilities. If the Contractor fails to remove said connection facilities and restore said right-of-way and Project facilities within thirty (30) days after receiving any written notice from CAWCD to do so, CAWCD may remove said connection facilities and restore said right-of-way and Project facilities at the Contractor's cost and expense, and, within thirty (30) days after receiving written demand from CAWCD to do so, the Contractor shall pay CAWCD, as specified in such written demand, for all costs and expenses incurred by CAWCD in removing said connection facilities and restoring said right-of-way and Project facilities.

* * *

(e) If the Contractor's Project delivery point is a Project turnout or Project turnouts constructed by the United States, and if the Contractor intends to convey water furnished to the Contractor pursuant to this Agreement through connection facilities owned or operated by others, the use by the Contractor of such connection facilities shall be the subject of written agreement(s) between the Contractor and the owner(s) or operator(s) of such connection facilities, and all such agreements shall include such terms and conditions as may be required by CAWCD and shall be subject to the prior, written approval of CAWCD before becoming binding upon the parties thereto.

(f) Unless the Contractor's Project delivery point is a Project turnout or Project turnouts constructed by the United States, all water delivered from the Water Supply System shall be measured with equipment furnished and installed by the Contractor and operated and maintained by the Contractor at the Contractor's sole cost and expense. The results of such measurements shall be reported to CAWCD in such manner and at such time(s) as CAWCD may prescribe. Upon the request of CAWCD, the accuracy of such measurements shall be investigated by the Contractor, and any errors which are determined to have occurred therein shall be adjusted; Provided, however, that in the event the parties cannot agree on the required adjustment, CAWCD's determination shall be conclusive.

(g) If the Contractor's Project delivery point is a Project turnout or Project turnouts constructed by the United States, all water delivered from the Water Supply System shall be measured with

equipment furnished and installed by the United States and operated and maintained by CAWCD. Upon the request of the Contractor, or CAWCD, the accuracy of such measurements shall be investigated by CAWCD and the Contractor, and any errors which are mutually determined to have occurred therein shall be adjusted; Provided, however, that in the event the parties cannot agree on the required adjustment, CAWCD's determination shall be conclusive.

(h) Neither the United States nor CAWCD shall be responsible for the control, carriage, handling, use, disposal, or distribution of water beyond the Contractor's Project delivery point. The Contractor shall hold the United States and CAWCD harmless on account of damage or claim of damage of any nature whatsoever for which there is legal responsibility, including property damage, personal injury, or death arising out of or connected with the control, carriage, handling, use, disposal, or distribution of water beyond the Contractor's Project delivery point.

Interruptions and Reductions

11. In addition to the right of the United States under Subarticle 8.3(a)(iv) of the Repayment Contract to temporarily discontinue or reduce the amount of water to be delivered, CAWCD may discontinue or reduce the quantity of water to be furnished to the Contractor as herein provided for the purposes of investigation, inspection, construction, testing, maintenance, repair, or replacement of any of the Project facilities or any part thereof. CAWCD may also discontinue or reduce the quantity of water to be furnished to the Contractor if there is insufficient Project Water or Project delivery

capacity to deliver the Contractor's water order, the water orders of other contractors of Incentive Recharge Water and Excess Water service, and all water deliveries scheduled pursuant to a contract with the United States or a subcontract with the United States and CAWCD providing for Project Water service for a period of 50 years or more. So far as feasible, CAWCD shall attempt to coordinate any such discontinuance or reduction with the Contractor and to give the Contractor due notice in advance of such discontinuance or reduction. In case of emergency, no notice need be given. The United States, its officers, agents, and employees, and CAWCD, its officers, agents, and employees, shall not be liable for damages when, for any reason whatsoever, any interruption, discontinuance, or reduction in delivery of water occurs. If any such discontinuance or temporary reduction results in deliveries to the Contractor of less water than what has been paid for in advance, the Contractor shall be entitled to be reimbursed for the appropriate proportion of such advance payments prior to the date of the Contractor's next payment of water service charges or the Contractor may be given credit toward the next payment of water service charges if the Contractor should so desire.

No Long-Term Commitment to the Delivery of Project Water

12. Nothing in this Agreement shall be construed as ar allocation of Project Water to the Contractor, nor shall thi Agreement entitle the Contractor to any Project Water other than a provided herein.

Quality of Water

13. CAWCD does not warrant the quality of any Project Wate

furnished under this Agreement and is under no obligation to construct or furnish water treatment facilities to maintain or better the quality of any Project Water. The Contractor waives its right to make a claim against the United States, CAWCD, or any other Project subcontractor or contractor on account of the quality of Project Water or any changes in water quality caused by the commingling of Project Water with other water.

Water Service Charges

14. (a) The Contractor shall pay in advance water service charges established annually by CAWCD. On or before the date of execution of this Agreement, or as soon thereafter as is practicable, CAWCD shall notify the Contractor of the water service charges in effect for the initial year of this Agreement. On or before October 15 of each year, CAWCD will notify the Contractor of the water service charges in effect for the following year. On or before the first day of each month, the Contractor shall pay CAWCD the water service charges due for Incentive Recharge Water scheduled for delivery during that month. The Contractor shall pay in advance all water service charges established by CAWCD for Incentive Recharge Water scheduled for delivery under this Agreement; Provided, however, that the Contractor shall be relieved of the pumping energy portion of the water service charges associated with any Project Water scheduled for delivery that is not delivered to the Contractor.

(b) The payment of all water service charges when due under this Agreement is a condition precedent to delivery of Incentive Recharge Water.

(c) The obligation of the Contractor to pay CAWCD as provided in this Agreement is a legally binding obligation of the Contractor notwithstanding the manner in which the obligation may be distributed among the Contractor's water users and notwithstanding the default of individual water users in their obligations to the Contractor.

Termination of Contract

15. If the Contractor remains in arrears in the payment of any charges due CAWCD for a period of 60 days or more, CAWCD may terminate this Agreement, which termination shall be effective 30 days after mailing written notice of termination to the Contractor. The Contractor shall remain obligated to pay all charges required to be paid under this Agreement during the time period until and including the date of termination. The Contractor's obligation to pay any amounts due but unpaid as of the date of termination shall survive termination of this Agreement. CAWCD's right to terminate this Agreement as provided in this Article 15 shall be in addition to the other rights of CAWCD under this Agreement and to all other rights provided by law.

Charges for Delinquent Payments

16. (a) The Contractor shall be subject to interest, administrative and penalty charges on delinquent installments or payments. The Contractor shall pay an interest charge for each day the payment is delinquent beyond the due date. When a payment becomes 60 days delinquent, the Contractor shall pay an administrative charge to cover additional costs of billing and processing the delinquent payment. When a payment is delinquent 90 days or more, the Contractor shall pay an additional penalty charge of 6 percent per year for each day the payment is delinquent beyond the due date. Further, the Contractor shall pay any fees incurred for debt collection services associated with a delinquent payment.

(b) The interest charge rate shall be the greater of the rate prescribed quarterly in the Federal Register by the Department of the Treasury for application to overdue payments, or the interest rate of 0.5 percent per month prescribed by Section 6 of the Reclamation Project Act of 1939 (Public Law 76-260). The interest charge rate shall be determined as of the due date and remain fixed for the duration of the delinquent period.

(c) When a partial payment on a delinquent account is received, the amount received shall be applied first to the penalty and administrative charges, second, to the accrued interest, and third to the overdue payment.

Rules, Regulations and Determinations

17. (a) The parties agree that the delivery of water or the use of Federal facilities pursuant to this Agreement is subject to Reclamation law, as amended and supplemented, and the rules and regulations promulgated by the Secretary of the Interior under Reclamation law.

(b) The Contracting Officer shall have the right to make determinations necessary to administer this Agreement that are consistent with the expressed and implied provisions of this Agreement, the laws of the United States and the State of Arizona, and the rules and regulations promulgated by the Secretary of the Interior. Such determinations shall be made in consultation with CAWCD and the Contractor.

Compliance with Environmental Laws

18. The Contractor, in carrying out this Agreement, shall comply with all applicable environmental laws and regulations of the United States and the State of Arizona and shall obtain all required permits or licenses from the appropriate Federal, State, or local authorities.

Equal Opportunity

19. During the performance of this Agreement, the Contractor agrees as follows:

(a) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in

conspicuous places, available to employees and applicants for employment, notices to be provided by the Contracting Officer setting forth the provisions of this nondiscrimination clause.

(b) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without discrimination because of race, color, religion, sex, or national origin.

(c) The Contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the Contracting Officer, advising said labor union or workers' representative of the Contractor's commitments under Section 202 of Executive Order 11246 of September 24, 1965, as amended, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(d) The Contractor will comply with all provisions of Executive Order No. 11246 of September 24, 1965, as amended, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(e) The Contractor will furnish all information and reports required by said amended Executive Order and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to its books, records, and accounts by the Contracting Officer and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(f) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this Agreement or with any of such rules, regulations, or orders, this Agreement may be canceled, terminated, or suspended, in whole or in part, and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in said amended Executive Order, and such other sanctions may be imposed and remedies invoked as provided in said amended Executive Order, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(g) The Contractor will include the provisions of paragraphs (a) through (g) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of said amended Executive Order, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions, including sanctions for noncompliance; Provided, however, that in the event the Contractor becomes involved in, or is threatened with, litigation with a

subcontractor or vendor as a result of such direction, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

Compliance With Civil Rights Laws and Regulations

20. (a) The Contractor shall comply with Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d), Section 504 of the Rehabilitation Act of 1975 (Public Law 93-112, as amended), the Age Discrimination Act of 1975 (42 U.S.C. 6101, et seq.) and any other applicable civil rights laws, as well as with their respective implementing regulations and guidelines imposed by the U.S. Department of the Interior and/or Bureau of Reclamation.

(b) These statutes require that no person in the United States shall, on the grounds of race, color, national origin, handicap, or age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity receiving financial assistance from the Bureau of Reclamation. By executing this Agreement, the Contractor agrees to immediately take any measures necessary to implement this obligation, including permitting officials of the United States to inspect premises, programs, and documents.

(c) The Contractor makes this Agreement in consideration of and for the purpose of obtaining any and all Federal grants, loans, contracts, property discounts or other Federal financial assistance extended after the date hereof to the Contractor by the Bureau of Reclamation, including installment payments after such date on account of arrangements for Federal financial assistance which were approved before such date. The Contractor recognizes and agrees that such Federal assistance will be extended in reliance on the representations and agreements made in this article, and that the United States reserves the right to seek judicial enforcement thereof.

Books, Records, and Reports

21. The Contractor shall establish and maintain accounts and other books and records pertaining to administration of the terms and conditions of this Agreement, including: the Contractor's financial transactions, water supply data, project operation, maintenance and replacement logs, and Project land and right-of-way use agreements; the water users' land-use (crop census), land ownership, land-leasing and water-use data; and other matters that CAWCD may require. Reports thereon shall be furnished to CAWCD in such form and on such date or dates as CAWCD may require. Subject to applicable Federal laws and regulations, each party to this Agreement shall have the right during office hours to examine and make copies of each other party's books and records relating to matters covered by this Agreement.

* * *

Notices

22. Any notice, demand, or request authorized or required by this Agreement shall be deemed to have been given, on behalf of CAWCD, when mailed, postage prepaid, or delivered to Carlos V. Palma, City Manager, 525 North Central Avenue, Avondale, Arizona 85323, and on behalf of the Contractor when mailed, postage prepaid, or delivered to the General Manager, Central Arizona Water Conservation District, 23636 North Seventh Street, Phoenix, Arizona 85024. The designation of the addressee or the address may be changed by notice given in the same manner as provided in this Article for other notices.

Assignment Limited--Successors and Assigns Obligated

23. The provisions of this Agreement shall apply to and bind the successors and assigns of the parties hereto, but no assignment or transfer of this Agreement or any right or interest therein shall be valid unless and until approved in writing by CAWCD. The provisions of this Article 23 shall not apply to any assignment or transfer of stored water credits earned by Contractor pursuant to this Agreement.

Cancellation

24. This Agreement is subject to cancellation in accordance with the provisions of A.R.S. § 38-511.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement No. IR020-99 effective the day and year first above-written.

CENTRAL ARIZONA WATER CONSERVATION DISTRICT

Attest: _____
Secretary

By: _____
President

CITY OF AVONDALE

Attest: Linda M Kelly

Title: CITY CLERK

By: Henry Beltran

Title: VICE MAYOR

Approved as to form:

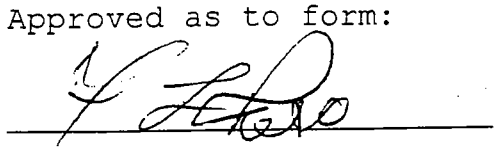

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EXHIBIT A

Appendix B-10 Member Service Area Agreement with City of Avondale Resolution No. 1741-97

MEMBER SERVICE AREA AGREEMENT
BETWEEN
CENTRAL ARIZONA WATER CONSERVATION DISTRICT
AND
THE CITY OF AVONDALE

This Member Service Area Agreement is made this 16th day of January 1998, between the Central Arizona Water Conservation District ("CAWCD"), a political subdivision of the State of Arizona, and the City of Avondale.

RECITALS

A. The Municipal Provider is engaged in the business of providing water utility service within the Service Area.

B. The Municipal Provider has applied to the Arizona Department of Water Resources for a designation of an assured water supply for the Service Area pursuant to Arizona Revised Statutes Title 45, Chapter 2, Article 9.

C. As permitted by Arizona Revised Statutes § 45-576.01(B), the Municipal Provider desires to satisfy one requirement for obtaining a designation of assured water supply by qualifying the Service Area as a Member Service Area pursuant to the Groundwater Replenishment Statute. As a Member Service Area, the Municipal Provider will be a member of the Central Arizona Groundwater Replenishment District, an operating subdivision of CAWCD.

D. To qualify the Service Area as a Member Service Area, the Groundwater Replenishment Statute requires the Municipal Provider to execute and deliver this Agreement in accordance with Arizona Revised Statutes § 48-3780.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are acknowledged, and intending to be legally bound, the parties hereby agree as follows:

ARTICLE 1
DEFINITIONS

1.1 "Agreement" means this Member Service Area Agreement Between CAWCD and the City of Avondale, as amended from time to time.

1.2 "CAWCD" means the Central Arizona Water Conservation District, a political subdivision of the State of Arizona, and any successor political subdivision.

1.3 "EXCESS GROUNDWATER" means the amount of Groundwater equal to the amount of Groundwater delivered by the Municipal Provider within the Service Area in a calendar year in excess of the amount of Groundwater that may be delivered by the Municipal Provider for use within the Service Area in that calendar year consistent with the applicable Assured and Adequate Water Supply Rules adopted by the Arizona Department of Water Resources for the Phoenix Active Management Area pursuant to Arizona Revised Statues § 45-576(H), but in no event shall the amount of Excess Groundwater delivered by the Municipal Provider in a calendar year be less than the amount of Groundwater calculated according to the formula in Paragraph 2.4.

1.4 "GROUNDWATER" is as defined in Arizona Revised Statutes § 45-101(4).

1.5 "GROUNDWATER REPLENISHMENT STATUTE" means Arizona Revised Statutes, Title 48, Chapter 22.

1.6 "MEMBER SERVICE AREA" is as defined in Arizona Revised Statutes § 48-3701(10).

1.7 "MUNICIPAL PROVIDER" means the City of Avondale, an Arizona municipality, and its successors and assigns.

1.8 "REPORT(S)" means the report(s) required to be prepared by the Municipal Provider in accordance with Arizona Revised Statutes § 48-3775(B) and this Agreement.

1.9 "REPLENISHMENT TAX" means the annual tax levied by CAWCD against the Municipal Provider in a calendar year based on the Service Area Replenishment Obligation.

1.10 "RESOLUTION" means the Resolution of the Municipal Provider regarding Membership in the Central Arizona Groundwater Replenishment District.

1.11 "SERVICE AREA" means the service area depicted in Exhibit A, attached and incorporated into this Agreement, and any additions to and extensions of the Service Area.

1.12 "SERVICE AREA REPLENISHMENT OBLIGATION" means, with respect to the Service Area, the excess Groundwater of the Service Area in a particular calendar year reduced by the replenishment credits, if any, applied by the Municipal Provider with respect to the Service Area under Arizona Revised Statutes § 48-3772(I).

ARTICLE 2
REPORTING REQUIREMENTS

2.1 Annual Reports. In accordance with Arizona Revised Statutes § 48-3775(B), on or before March 31 of each year after the publication of the Resolution, the Municipal Provider shall file a Report with CAWCD and with the Director that contains the following information for the preceding calendar year, which is the reporting year:

2.1.1 The amount of Groundwater delivered by the Municipal Provider to all customers within the Service Area, and the basis for the calculation of the amount of Groundwater delivered.

2.1.2 The amount of Excess Groundwater delivered by the Municipal Provider to all customers within the Service Area, and the basis for the calculation of the amount of Excess Groundwater delivered.

2.1.3 Such other information as CAWCD may reasonably require.

2.2 Records. In accordance with Arizona Revised Statutes § 48-3775(F), the Municipal Provider shall maintain current and accurate records of the information required to be included in the Reports.

2.3 Form of Reports. In accordance with Arizona Revised Statutes § 48-3777, CAWCD shall determine the form of the Reports to be submitted by the Municipal Provider in order to carry out the purposes of the Groundwater Replenishment Statute.

2.4 Formula for Calculating the Minimum Quantity of Excess Groundwater. The Municipal Provider shall calculate and report the amount of Excess Groundwater delivered by the Municipal Provider to all customers within the Service Area in any year according to the following formula. The following formula establishes a minimum amount of Groundwater which must be reported as Excess Groundwater in a given year. However, the formula does not prevent the Municipal Provider from reporting a greater amount of Groundwater as Excess Groundwater in a given year, if the Municipal Provider wishes, or needs, to do so.

Reporting Year	Calculation
1999	A minimum of 1/15 of the Groundwater delivered by the Municipal Provider within the Service Area shall be reported as Excess Groundwater
2000	A minimum of 2/15 of the Groundwater delivered by the Municipal Provider within the Service Area shall be reported as Excess Groundwater

2001	A minimum of 3/15 of the Groundwater delivered by the Municipal Provider within the Service Area shall be reported as Excess Groundwater
2002	A minimum of 4/15 of the Groundwater delivered by the Municipal Provider within the Service Area shall be reported as Excess Groundwater
2003	A minimum of 5/15 of the Groundwater delivered by the Municipal Provider within the Service Area shall be reported as Excess Groundwater
2004	A minimum of 6/15 of the Groundwater delivered by the Municipal Provider within the Service Area shall be reported as Excess Groundwater
2005	A minimum of 7/15 of the Groundwater delivered by the Municipal Provider within the Service Area shall be reported as Excess Groundwater
2006	A minimum of 8/15 of the Groundwater delivered by the Municipal Provider within the Service Area shall be reported as Excess Groundwater
2007	A minimum of 9/15 of the Groundwater delivered by the Municipal Provider within the Service Area shall be reported as Excess Groundwater
2008	A minimum of 10/15 of the Groundwater delivered by the Municipal Provider within the Service Area shall be reported as Excess Groundwater
2009	A minimum of 10/15 of the Groundwater delivered by the Municipal Provider within the Service Area shall be reported as Excess Groundwater
2010	A minimum of 10/15 of the Groundwater delivered by the Municipal Provider within the Service Area shall be reported as Excess Groundwater
2011	A minimum of 10/15 of the Groundwater delivered by the Municipal Provider within the Service Area shall be reported as Excess Groundwater

2012	A minimum of 10/15 of the Groundwater delivered by the Municipal Provider within the Service Area shall be reported as Excess Groundwater
2013	A minimum of 10/15 of the Groundwater delivered by the Municipal Provider within the Service Area shall be reported as Excess Groundwater
2014	A minimum of 10/15 of the Groundwater delivered by the Municipal Provider within the Service Area shall be reported as Excess Groundwater

ARTICLE 3
REPLENISHMENT TAX

3.1 Levy of Replenishment Tax. CAWCD shall levy the Replenishment Tax against the Municipal Provider in accordance with Arizona Revised Statutes § 48-3781.

3.2 Annual Statement. On or before the third Monday of August of each year after the publication of the Resolution, CAWCD will transmit a statement to the Municipal Provider stating the amount of the annual Replenishment Tax. The annual Replenishment Tax shall be equal to the assessment rate per acre-foot of Groundwater fixed by CAWCD for the Phoenix Active Management Area multiplied by the Service Area Replenishment Obligation.

3.3 Payment of Replenishment Tax. On or before October 15 of each year after the publication of the Resolution, the Municipal Provider shall pay to CAWCD an amount equal to the annual Replenishment Tax levied by CAWCD.

3.4 Interest, Cost and Penalties. If the Replenishment Tax is not paid when due, CAWCD will be entitled to interest, costs and penalties as provided by Arizona Revised Statutes § 48-3782.

ARTICLE 4
ENFORCEMENT POWERS

4.1 Penalty for Failure to Report. If the Municipal Provider fails to timely file a Report as required by CAWCD, CAWCD may assess a penalty in accordance with Arizona Revised Statutes § 48-3775(G).

4.2 Inspections, Investigations and Audits. The CAWCD has the rights provided under Arizona Revised Statutes § 48-3783 with respect to inspections, investigations and audits.

ARTICLE 5
DEFAULT AND REMEDIES

5.1 Default. The occurrence of any of the following events constitutes an event of default by the Municipal Provider:

5.1.1 The failure of the Municipal Provider to perform any term, covenant or condition of this Agreement, if that failure continues for thirty days following the Municipal Provider's receipt of written notice from CAWCD.

5.1.2 (I) The filing by or against the Municipal Provider of a petition to have the Municipal Provider adjudged a bankrupt or a petition for reorganization or arrangement under any law relating to bankruptcy (unless, in the case of a petition filed against the Municipal Provider, the same is dismissed within 60 days); (ii) the making by the Municipal Provider of any general assignment for the benefit of creditors; (iii) the appointment of a trustee or receiver to take possession of substantially all of the Municipal Provider's assets, when possession is not restored to the Municipal Provider within 60 days; or (iv) the attachment, execution or other judicial seizure of substantially all of the Municipal Provider's assets, where such seizure is not discharged within 60 days.

5.2 Remedies. If an event of default occurs, CAWCD may immediately terminate this Agreement by written notice to the Municipal Provider and/or may pursue any other rights available to it in law or equity. Upon termination of this Agreement, CAWCD will no longer be required to perform any groundwater replenishment obligation with respect to the Service Area. The Municipal Provider's obligation to pay any amounts due but unpaid as of the date of termination shall survive termination of this Agreement.

ARTICLE 6
GENERAL PROVISIONS

6.1 Binding Effect. The provisions of this Agreement inure to the benefit of and bind the respective successors and assigns of the parties hereto, provided that no assignment or transfer of this Agreement or any part or interest herein is valid until approved by CAWCD in its sole and absolute discretion.

6.1.1 The Municipal Provider agrees and covenants to CAWCD to execute and record any additional documentation which CAWCD may reasonably require to effectuate the intents and purposes of this Agreement and the Groundwater Replenishment Statute.

6.2 Entire Agreement. This Agreement constitutes the entire agreement between the parties and no understandings or obligations not expressly set forth in this Agreement are binding upon the parties.

6.3 Amendments. This Agreement may be modified, amended or revoked only (I) by the express written agreement of the parties hereto; or (ii) by amendment statutes, rules or regulations or successor statutes, rules or regulations, as contemplated by Paragraph 6.5.

6.4 Interpretation. This Agreement is governed by and must be construed and interpreted in accordance with and in reference to the laws of the State of Arizona, including but not limited to the Groundwater Replenishment Statute.

6.5 Rules, Regulations and Successor Statutes. All references in this Agreement to Arizona Revised Statutes include all rules and regulations promulgated by the Department under such statutes and all amendments and successor statutes, rules and regulations to such statutes, rules and regulations.

6.6 Additions to and Extensions of the Service Area. The Municipal Provider shall notify CAWCD in writing of its intent to add to or extend its service area. Such notice shall be provided to CAWCD before final action is taken regarding an addition to or extension of the Service Area. Within 60 days of any action which adds to or extends the Service Area, the Municipal Provider shall submit an amended Service Area map to CAWCD.

6.7 Severability. Any determination by any court of competent jurisdiction that any provision of this Agreement is invalid or unenforceable does not affect the validity or enforceability of any other provision of this Agreement.

6.8 Captions. All captions, titles or headings in this Agreement are used for the purpose of reference and convenience only and do not limit, modify or otherwise affect any of the provisions of this Agreement.

6.9 Notices. Except as otherwise required by law, any notice given in connection with this Agreement must be in writing and must be given by personal delivery, overnight delivery, facsimile, or United States certified or registered mail. Any such notice must be addressed to the appropriate party at the following address (or at any other address as a party may hereafter designate by written notice given as required by this paragraph):

CAWCD:

For delivery use: Central Arizona Water Conservation District
23636 North 7th Street
Phoenix, Arizona 85024
Attn: Manager, Groundwater Replenishment District

For U.S. Mail use: Central Arizona Water Conservation District
P.O. Box 43020
Phoenix, Arizona 85080-3020
Attn: Manager, Groundwater Replenishment District

Municipal Provider: City of Avondale
525 North Central Avenue
Avondale, AZ 85323

Notice is deemed to have been given on the date on which notice is personally delivered, delivered to an overnight delivery service, transmitted by facsimile, or mailed. Notice is deemed to have been received on the date on which the notice is actually received or delivery is refused.

IN WITNESS WHEREOF, the Parties to this Agreement have executed this Agreement as of the date first set forth above.

CAWCD: CENTRAL ARIZONA WATER CONSERVATION DISTRICT

By: _____
Grady Gammage, Jr.
Its: President

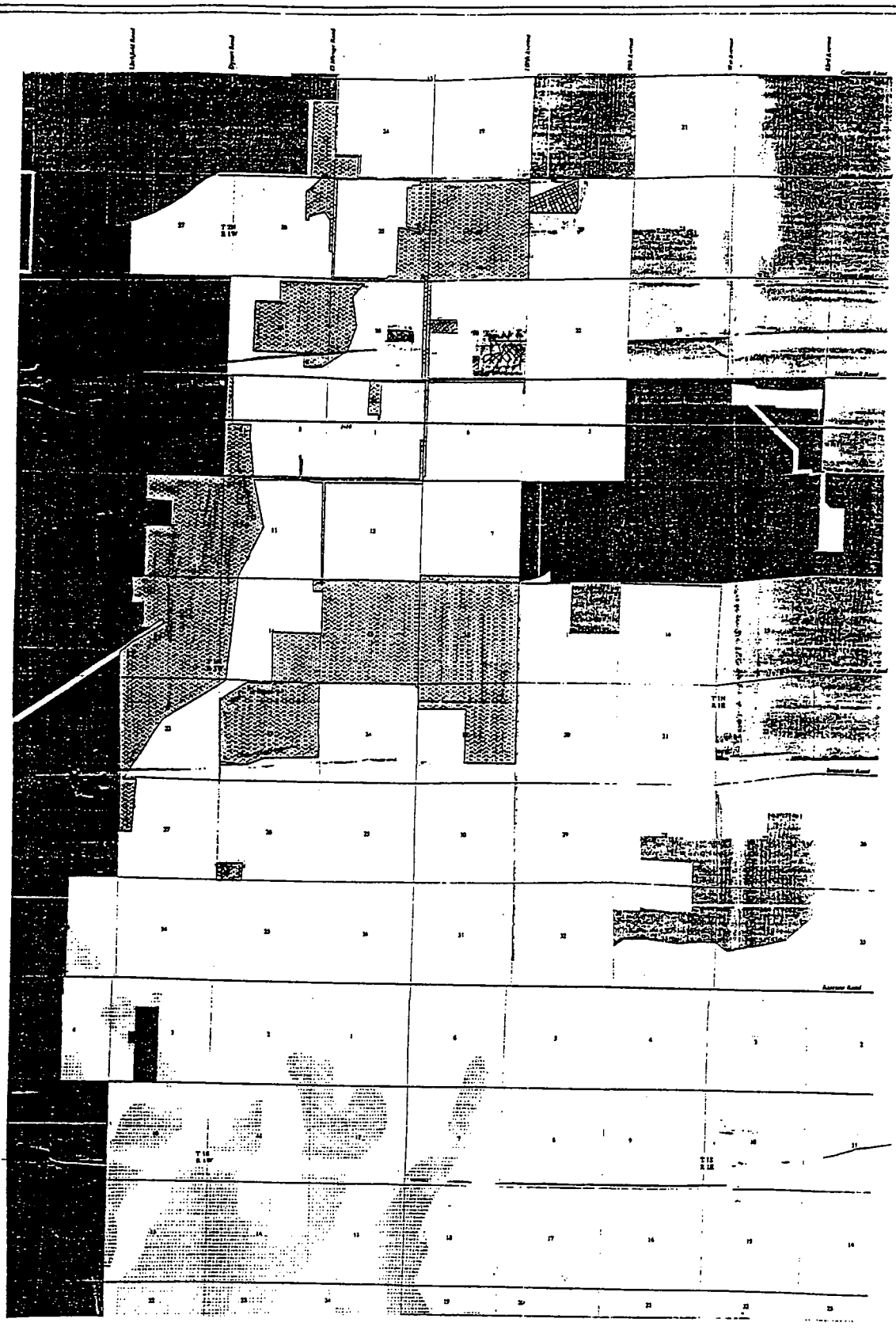
MUNICIPAL PROVIDER: THE CITY OF AVONDALE, an Arizona municipality

By: _____
Its: Mayor

Attest: _____
City Clerk

G:\CIBIK\AVONDALE.AGT

Exhibit A



CITY OF AVONDALE

CITY OF GLENDALE

CITY OF GOODYEAR

LITCHFIELD PARK

CITY OF PHOENIX

CITY OF TOLLESON

GILA RIVER INDIAN RESERVATION

2003 - CITY OF AVONDALE SERVICE AREA

RAILROADS

North

MILES

CITY OF AVONDALE 1995 SERVICE AREA MAP

ARIZONA DEPARTMENT OF WATER RESOURCES

Geographic Information System

PHOENIX ACTIVE MANAGEMENT AREA

RESOLUTION NO. 1741-97

A RESOLUTION OF THE MAYOR AND COUNCIL OF THE CITY OF AVONDALE, ARIZONA, TO ENTER INTO AGREEMENT WITH THE CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT IN ORDER TO QUALIFY THE CITY OF AVONDALE SERVICE AREA AS A MEMBER SERVICE AREA AND SATISFY ONE REQUIREMENT FOR OBTAINING A DESIGNATION OF ASSURED WATER SUPPLY.

WHEREAS, the City of Avondale, a municipal corporation is engaged in the business of providing water utility service within the Service Area depicted on the map attached as Exhibit A.

WHEREAS, the Municipal Provider has applied to the Arizona Department of Water Resources for a designation of assured water supply for the Service Area pursuant to Arizona Revised Statutes Title 45, Chapter 2, Article 9.

WHEREAS, as permitted by Arizona Revised Statutes 45-576.01(B), the Municipal Provider desires to satisfy one requirement for obtaining a designation of assured water supply by qualifying the Service Area as a Member Service Area pursuant to the Groundwater Replenishment Statute. As a Member Service Area, the Municipal Provider will be a member of the Central Arizona Groundwater Replenishment District , an operating subdivision of CAWCD.

WHEREAS, the following words, when used in this Resolution shall have the meanings indicated below:

1. "CAWCD" means the Central Arizona Water Conservation District, a political subdivision of the State of Arizona, and any successor political subdivision.

2. "EXCESS GROUNDWATER" means the amount of Groundwater equal to the amount of Groundwater delivered by the Municipal Provider within the Service Area in a calendar year in excess of the amount of Groundwater that may be delivered by the Municipal Provider for use within the Service Area in that calendar year consistent with the applicable Assured and Adequate Water Supply Rules adopted by the Arizona Department of Water Resources for the Phoenix Active Management Area, and consistent with terms of Exhibit B to this Resolution.

3. "GROUNDWATER" is as defined in Arizona Revised Statutes 45-101(4).

4. "GROUNDWATER REPLENISHMENT STATUTE" means Arizona Revised Statutes, Title 48, Chapter 22.

5. "MEMBER SERVICE AREA" is a defined in Arizona Revised Statutes 48-3701(10).

6. "MUNICIPAL PROVIDER" means the City of Avondale and its successors and assigns.

7. "RESOLUTION" means this Resolution of the City of Avondale regarding membership in the Central Arizona Groundwater Replenishment District.

8. "SERVICE AREA" means the Service area depicted in Exhibit A, attached and incorporated into this Resolution.

9. "SERVICE AREA REPLENISHMENT OBLIGATION" means, with respect the Service Area, the excess Groundwater of the Service Area in a particular calendar year reduced by the replenishment credits, if any, applied by the Municipal Provider with respect to the Service Area under Arizona Revised Statutes 48-3772(I).

NOW, THEREFORE BE IT RESOLVED by the Mayor and Council of the City of Avondale, Arizona as follows:

1. That the Municipal Provider intends that the Service Area qualify as a Member Service Area under the Groundwater Replenishment Statute.

2. That for the privilege of withdrawing and delivering Excess Groundwater with the Service Area and to ensure the continued exercise of that privilege, the Municipal Provider shall pay an annual replenishment tax to be determined by CAWCD.

3. That for the Municipal Provider promises and binds itself to pay to CAWCD an annual replenishment tax based on the Service Area Replenishment Obligation for the Service Area in an amount determined by CAWCD to perform its groundwater replenishment obligations under the Groundwater Replenishment Statute.

4. That this Resolution is irrevocable for as long as CAWCD is obligated to perform the groundwater replenishment obligation under the Groundwater Replenishment Statute.

5. That the proposed form of contract entitled Member Service Area Agreement Between CAWCD and the City of Avondale, which is attached as Exhibit B, and incorporated into this Resolution, is hereby accepted and approved, and that the City Manager of the Municipal Provider, is hereby authorized to execute, in the name and on behalf of the Municipal Provider, a contract substantially in the form of Exhibit B.

PASSED AND ADOPTED by the Mayor and Council of Avondale, Arizona, this 17th day of November, 1997.

MAYOR MORALES

ATTEST:

City Clerk

APPROVED AS TO FORM:

City Attorney

Appendix C-1 Assured Water Supply Study for Salt River Project Member Lands, November 1996

ASSURED WATER SUPPLY STUDY

FOR

SALT RIVER PROJECT MEMBER LANDS

Prepared by

John Keane, Mick Emelity, Robin Anderson
SRP Water Group

November, 1996

TABLE OF CONTENTS

ASSURED WATER SUPPLY STUDY
FOR
SALT RIVER PROJECT MEMBER LANDS

INTRODUCTION:

The Arizona Department of Water Resources (ADWR) has requested that the Salt River Project (SRP) estimate SRP surface water available to Valley cities for compliance with the Assured Water Supply (AWS) rules. SRP developed a tentative methodology, discussed the methodology with ADWR, and agreed to develop a draft study for further review.

SRP has used the following steps in making its' AWS assessment:

1. Estimate total surface water available in the future at Granite Reef Diversion Dam.

2. Estimate typical future "normal flow" surface water use by each city.

3. Estimate stored surface water supplies potentially available to each city, (prorated by Project acreage) if all cities were fully using their stored water allocation.

4. Estimate likely stored water usage by each city under forecast water demands, and prepare a recommendation for total AWS figures that includes estimated normal flow use and SRP's current allocation procedures.

In this analysis SRP is assuming that the cities will be deriving separate estimates of water available from their rights to "New Conservation Space" behind Roosevelt Dam. Such estimates have been made in recent years as a part of the state's appropriation procedures. The AWS estimates in this analysis apply only to the earlier water rights appurtenant to the SRP member lands.

It is also important to recognize that this analysis is focused on median surface water conditions. SRP's figures indicate that municipal demand will be met almost entirely with surface water under median conditions. However, there will be a significant number of well below median years when drought depletes reservoir storage; ground- water will be needed to meet some portion of these demands.

THE FIGURES DEVELOPED HERE ARE NOT QUANTIFICATIONS OF CITY "RIGHTS," NOR ARE THEY MINIMUM OR GUARANTEED SUPPLY AMOUNTS. THEY ARE ESTIMATES OF MEDIAN AVAILABILITY GIVEN A VARIETY OF ASSUMPTIONS, AND GIVEN THE METHODS SRP USES TO ADMINISTER THE WATER IT IS RESPONSIBLE FOR. THESE ESTIMATES ARE MADE FOR ASSURED WATER SUPPLY RULE PURPOSES ONLY.

1.0 Median surface water available at Granite Reef Dam, year 2040.

1.1 Determine total water demand on SRP system in 2040.

Methods & Assumptions: The median and average yields from the SRP reservoir system are partly dependent on the water demands placed upon that system. More demand means that reservoirs are, on the average, less full when large storms occur or when large snowpacks melt, so more runoff is captured for later use, and less is "spilled" into the normally dry riverbed below Granite Reef Diversion Dam. More demand means somewhat more usable surface water average yield, but it also means that surface water reliability decreases significantly, because less water is in storage when drought periods come along. (See SRP Strategic Water Resource Plan Phase 1 Report.)

Why was the year 2040 chosen for these modeling purposes? The Assured Water Supply rules are looking at the next 100 years, but reliable estimates cannot even begin to be made about conditions that far into the future. 2040 is useful for modeling demand and yield because most forecasts conclude that there will be little or no agricultural water use on-Project by then, because few forecasts extend out any farther, and because more remote dates run a greater and greater risk of encountering significant but totally unforecastable changes in climate, watershed conditions, demographics, etc.

1.11 The 1990 Base Year Land Use Model (LUM) and Water Demand Model (WDM) were used to estimate on-Project City water demands thru 2010 (See Appendices A & B). The forecast was expanded to 2040 utilizing a consistent set of assumptions and methodology. The 50-year WDM forecast assumes an expansion of municipal and industrial (M&I) demands as cities develop and includes some conservation, as a result of anticipated impacts of the 1980 Groundwater Management Act (See Appendix C for background information. The demand estimates in this 1993 work are slightly different than the figures used here, largely because of adjustments to contract and Indian demands (see especially Sec. 1.13 of this report).) For most cities, initial water

consumption data were derived from 1990 city water billing records, except for Glendale, Mesa, Tolleson and Avondale, where usage was derived from city reports to A

Annual on-Project Water Demands, 2040:

Avondale	8,463 AF
Chandler	63,214 AF
Gilbert	30,365 AF
Glendale	40,716 AF
Mesa	57,701 AF
Peoria	23,103 AF
Phoenix	210,806 AF
Scottsdale	16,894 AF
Tempe	60,499 AF
Tolleson	6,052 AF

TOTAL Approx 518,000 AF/Year

Methods & Assumptions: SRP's Land Use and Water Demand models were used in order to obtain a consistent set of demand figures using a single method. These demand forecasts will, therefore, differ from those made by individual cities using a variety of methods and assumptions. It was assumed that almost all agricultural lands would be developed and assigned to city domestic accounts by 2040, and that acres currently in urban irrigation accounts would stay that way.

1.12 Estimate future Fort McDowell and Salt River tribal normal water use in 2040.

Fort McDowell	14,000 AF
SRPMIC	47,000 AF

Methods & Assumptions: SRP staff estimated these Indian Community demands based on recent water right settlements and Indian development plans.

1.13 Estimate future normal water delivery obligations and losses to San Carlos Apaches, Gila River Indians, White Mountain Apaches, Verde and Tonto Reservations: 24,000 AF

1.14 Assume little or no change in normal water use by current urban irrigation acreage and other contract demands.

Urban irrigation	104,000 AF
Phoenix gatewater	25,000 AF
RWCD	35,000 AF
Buckeye (Total)	17,000 AF
Other contracts, & losses	73,000 AF
Total normal demand of cities, tribes, urban irrigation & contracts, from 1.11, 1.12, 1.13 and 1.14:	833,000 AF

Methods & Assumptions: The number of urban irrigation acres has remained almost unchanged for years. Parks, schools, churches, playgrounds and small horse pastures typically "deficit irrigate" already; future conservation may reduce water use by some older subdivisions, but total demand reductions will not be great. Urban irrigation demand reductions could occur as lands are redeveloped and switch from raw water deliveries to municipal systems. These reductions at least would be partially canceled out by demand increases on these municipalities.

Many off-Project demands served by SRP are based on formulas found in court settlements and contracts. These are not expected to change dramatically in the future, even if these areas partially urbanize.

1.2 Model median surface water available to SRP.

Median surface water available to SRP at Granite Reef was estimated using total normal projected 2040 demand as input to the model SRPSIM, along with historic gauged river flows from 1889 to 1993. In

the median year:

Released at Bartlett and Stewart Mountain Dams	919,000 AF
Less net river losses after local inflows	(28,000) AF
	891,000 AF

Methods & Assumptions: ADWR felt, and SRP agreed, that it was more appropriate to look at median surface water availability. "Average" figures are inflated by the occasional very wet years with long periods of "free" or spill water availability. Using a "minimum" amount of surface water available in the AWS analysis was thought to be too strict, not recognizing that surface water storage and groundwater backup supplies buffer cities from all but a very few drought years. The figures here are for the median year of a sequence of 105 years of river inflows run through the SRP system with forecast 2040 demands, using SRPSIM.

Actual evaporation, transpiration and seepage losses between the reservoirs and Granite Reef Diversion Dam are larger than 28,000 AF, but these losses are partially compensated for by ungauged inflows (e.g. Sycamore Creek surface flows and subflows, etc.).

To test the sensitivity of these results to the demand figure used, SRPSIM runs were made varying the demand figures while keeping all other input and assumptions constant. Demands (except for Phoenix gatewater and SRPMIC) were increased or decreased by 10%. The results are summarized below:

Demand	Median Reservoir Yield	# Years SRP Has Supply Shortfall > 10 KAF	# Years SRP Pumps > 70 KAF Groundwater
110% of Forecast	+ 7.2%	10/105	37/105
Forecast	-	5/105	24/105
90% of Forecast	- 7.3%	2/105	12/105

2.0 "Typical" normal flow use by cities

2.1 Select daily flow records from three years for use in estimating typical normal flow use.

Methods & Assumptions: On-Project city surface water entitlements are comprised of "normal flow" rights and stored water. Normal flow rights are attached to specific (type A) lands, in priority date order, as set forth in the Kent Decree.

In order to determine normal flow use for each city, daily Salt, Tonto and Verde flows must be compared with daily city usage. The SRPSIM model used above to determine median total supplies operates on a monthly time-step and cannot be used here. SRP has developed another computer program to apply the Kent Decree methods to do normal flow accounting for cities.

Normal flow availability depends upon natural river flows, and these are highly variable. Three representative years were chosen (1918, 1924 and 1957). These were close to median in total annual volume and represented commonly seen variations on Salt and Verde watershed hydrographs.

2.2 Develop 2040 daily demand amounts for cities by using daily demands from 1991 and inflating these proportionately to reach forecast 2040 annual totals.

Methods & Assumptions: Daily water demand files for 1991 were used because they were the most representative of the three or four recent years for which daily data are easily available. It was assumed that the daily distribution of the demand in 2040 would be similar to daily distribution now. Daily distributions were inflated for each city by a factor representing the increase in total annual demand for that city between 1991 and 2040.

2.3 Run city daily demand files for 2040 against Salt, Verde and Tonto daily inflow records for three typical years, and average the three annual results:

Avondale	1,630 AF Normal Flow/Year
Chandler	4,046 AF Normal Flow/Year
Gilbert	1,567 AF Normal Flow/Year
Glendale	5,690 AF Normal Flow/Year
Mesa	22,287 AF Normal Flow/Year
Peoria	1,232 AF Normal Flow/Year
Phoenix	78,495 AF Normal Flow/Year
Scottsdale	754 AF Normal Flow/Year
Tempe	32,562 AF Normal Flow/Year
Tolleson	1,476 AF Normal Flow/Year
Total	149,739 AF Normal Flow/Year

Comment: These results reflect that a) some cities have a higher proportion of A lands, b) cities differ significantly as to what portion of their A lands have earlier priority dates and c) cities with a higher per acre water use will convert more of the normal flow available to them in a given period to normal flow use.

3.0 Stored surface water available to each city by 2040.

3.1 Aggregate stored surface water for cities was determined by subtracting estimates of all other demands for surface water from the median surface water available at Granite Reef (step 1.2).

Available at Granite Reef:	891,000 AF
Normal flow to cities:	(150,000) AF
Normal flow & stored use by urban irrigation:	(104,000) AF
Fort McDowell & SRPMIC	(61,000) AF
Gila River, San Carlos, White Mountain etc. Indian Communities	(24,000) AF
Phoenix Gatewater	(25,000) AF
RWCD	(35,000) AF
Buckeye (surface water)	(17,000) AF
Surface water to other contracts, losses	(73,000) AF
Stored Surface Water Available to Cities	402,000 AF

Methods & Assumptions: Before it can be determined how much stored water is available to cities on-Project, other claims on surface water must be considered. In a median year, essentially all urban irrigation demands can be met by surface water (a relatively high percentage of those lands are A lands). Fort McDowell, SRPMIC, Phoenix Gatewater and RWCD demands are all accounted as surface water deliveries, as is the majority of the water going to Buckeye. In a median year, 90-95% of the water delivered will be surface water, so a conservative approach would assume that all lost and unaccounted for water is surface water. Total losses have ranged from 11.5% to 4.5% in recent years. Improved operations, measurements and accounting have tended to lower this figure. Urbanization should help to keep this figure toward the lower end of the range, because deliveries to fewer, larger customers (cities) from the major transmission canals involve fewer losses than deliveries to numerous farms at the ends of the distribution system.

3.2 Determine median 2040 stored surface water theoretically available, assuming equal availability and equal [stored water] demand by all acres.

City	Estimated Year 2040 Acreage in Municipal Account (Acres)	Acreage-Based "Share" of Stored Water in a Median Year (1.908 AF/Acre)
Avondale	5,773	11,015 AF
Chandler	24,446	46,672 AF
Gilbert	12,042	22,994 AF
Glendale	17,930	34,210 AF
Mesa	22,397	42,746 AF
Peoria	8,958	17,085 AF
Phoenix	93,534	178,528 AF
Scottsdale	5,863	11,176 AF
Tempe	17,079	32,602 AF
Tolleson	2,605	4,984 AF
Total	210,627	402,012 AF

Methods & Assumptions: Stored surface water is equally available to all member lands. By 2040, 210,627 acres are assumed to be assigned to municipal accounts in the amounts shown in 3.2. This assumes that current urban irrigation acres will stay that way, and that all currently agricultural acreage will eventually be assigned to municipal accounts. If there were 402,000 acre feet of stored surface water that could be made available in a median year, that would amount to 402,000 AF/210,627 acres or an average of 1.908 acre feet per acre. The problem with this line of reasoning, however, is that needs for and demands for stored surface water are not the same for all landowners or for all cities. SRP's allocation process recognizes this key fact.

3.3 SRP's water allocation process. SRP's ability to annually allocate water to its customers is limited; "normal flow" water deliveries are not allocated by SRP. They are determined by the Kent Decree. Water delivered to the various contractors, Indian Communities, etc. is not allocated by SRP. Deliveries are made in accordance with other decrees, contracts and settlements. The SRP Board, with advice from staff, does allocate "stored and developed" water annually to its member lands. All member lands, including the A lands entitled to normal flow water and the B & C lands that are not, have equal access to this pool of water.

Each year SRP assesses the amount of surface water stored in SRP reservoirs, the forecast river flows and demands, the need for carry-over water storage for following years, groundwater pumping capacities and pumping costs. Considering these factors, an estimate is made of the total amount of "stored and developed" water that SRP can prudently make available for that year. A per-acre allocation level is set considering the supply available and the fact that not all users will need or call on the full allocation. Higher allocations allow more water to be used, increasing demand; this rate of demand increase diminishes rapidly at higher allocations as more and more lands have fully satisfied their water needs.

For example, an allocation of 3.0 acre feet (which may be all surface water or part surface water and part groundwater) makes 3.0 acre feet/acre available equally to all member acres, but it is assumed that some lands will take no stored and developed water, some will use a portion of the 3.0 acre feet/acre, and a smaller number will use their entire allocation. Per acre uses of "stored and developed" water vary for many reasons, including whether or not a given water user was able to satisfy part of his total demand with decreed normal flow rights. Farmers, urban irrigators and lands in municipal accounts all have equal access to stored surface water. Those farms, cities, etc. with more

normal flow rights are less likely to need and draw upon this stored water supply; those with less or no normal flow typically use more of the stored water allocation. Raising the allocation does not mean that all acres would use more water, but some would. Total deliveries would increase.

The per acre allocation figure, then, represents not an amount that all lands "receive," but a "ceiling" (aside from "special" pump rights not addressed in this paper). The allocation level is set to allow total stored and developed demand to approximate the amount that can be prudently made available in that year. This means that the allocation level will typically be high enough to allow some users to take stored water not needed or used by other users.

4.0 Estimating surface water supplies from SRP for AWS purposes.

4.1 It would be possible to develop AWS figures that emphasized the equal availability of stored water to all SRP member lands. The AWS figure would be equal to 1) the city's typical normal flow use plus a pro-rata-by-acreage share of median stored water available or 2) the city's on-Project water demand, whichever is less. (SRP does not deliver water in excess of a shareholder's, or group of shareholders', demand. Neither the cities nor any shareholder can take and store unused SRP water.)

City (All Figures are in Acre Feet)	(a) 2040 SRP Demand	(b) Typical 2040 Normal Flow Use	(c) Pro Rata Share of Available Stored Water	AWS: Lesser of (a) or (b + c)	Stored Water Used: (a-b), but no greater than (c)
Avondale	8,463	1,630	11,015	8,463	6,833
Chandler	63,214	4,046	46,672	50,718	46,672
Gilbert	30,365	1,567	22,994	24,561	22,994
Glendale	40,716	5,690	34,210	39,900	34,210
Mesa	57,701	22,287	42,746	57,701	35,414
Peoria	23,103	1,232	17,085	18,317	17,085
Phoenix	210,806	78,495	178,528	210,806	132,311
Scottsdale	16,894	754	11,176	11,930	11,176
Tempe	60,499	32,562	32,602	60,499	27,937
Tolleson	6,052	1,476	4,984	6,052	4,576
Totals	517,813	149,739	402,012	488,947	339,208

If SRP were to set stored water allocations at a 1.8 or 1.9 AF/AC figure based on "equal availability," there would be hydrologically available but unused water accumulating in the reservoirs, leading to more spills and a lower average usable water yield from the reservoir system. A pro rata allocation of stored water by acreage, as in 4.1, results in far more water being assigned to some cities than their on-Project demand is likely to be, while other cities have less SRP surface water in their ADWR/AWS account than their on-Project demands. A theoretical case can be made for this approach, but it is flawed in ignoring history, realistic demands and SRP's allocation process as outlined in section 3.3.

4.2 SRP's recommended AWS figures take an approach that focuses more on actual water uses and on SRP's reservoir operations and allocation process.

Normal flow rights for the older irrigated lands are governed by the Kent Decree. These rights exist independently of SRP and its reclamation storage project. The Salt River Valley Water User's Association (SRVWUA) Articles (Art. XIII) make it clear that SRP is not to interfere with these rights. It is quite clear that all member lands, A, B and C, in the Salt River Project have an equal entitlement to stored surface water impounded by the Project (SRVWUA Articles of Incorporation, Art. V, and the Kent Decree, pp 15-16). It was envisioned that normal flow rights would satisfy much of the water needs of the A lands, and that stored water would, in actual usage, be more beneficial to the B & C lands which otherwise might have insufficient or no water (Kent Decree, p.14).

Both the Kent Decree and the SRVWUA Articles (Art. V) make it clear that direct beneficial use was the measure of each land's right, and that lands could not take delivery of more water than was "necessary for proper cultivation." This limit to each acre's right, and the fact that for A lands much of this amount was met through separate pre-SRP normal flow rights, clearly meant that A lands were very likely to use less stored water per acre than B & C lands. This is true even though all the lands pay equally into the Association.

These facts were not lost on the Valley's early settlers. Smith (K. Smith, 1986, The Magnificent Experiment, University of Arizona Press, pp. 34-38, 40-43, 92-95) documents that holders of older (normal flow) rights felt that they would need less and, therefore, would use much less Project (stored) water. The owners of some of these lands advocated that older normal flow rights should either pay less to participate in SRP, or should stay out of SRP completely; they did not initially want to join

SRP under its proposed subscription arrangements because they would receive fewer benefits but pay an equal amount. Therefore, given these historical under- standings, setting an allocation that allows users with unsatisfied on-Project demands to draw upon different per acre amounts of safely available stored water reflects operational reality back to the Project's beginning. This suggests a reasonable method for developing Assured Water Supply figures for the cities.

Section 3.3 described how SRP sets stored water allocations high enough to allow use of the surface water that it can make available that year. A typical allocation of 3.0 af/acre of stored and developed water is intentionally high enough to allow some water users (especially those with less normal flow) to use more stored water than those with lower demands for stored water (usually because of greater normal flow usage). Under an operational allocation option, AWS figures would be equal to each City's normal flow rights, plus stored water until the total reached forecast 2040 on-Project demand or until the stored water component reached 3.0 acre feet/acre, applied to the potential acres listed in section 3.2.

(The caveat discussed earlier is relevant here. Under forecast demands and median surface water availability, a 3.0 acre feet/acre allocation of "stored and developed" water would be all surface water. There would be drier years when an allocation of 3.0 acre feet/acre could only be maintained if part of the allocation was groundwater.)

City Note: All figures are in Acre Feet	(a) 2040 on-Project demand	(b) Typical normal flow use	(c) 2040 stored water use, at 3.0 AF/ac allocation/cannot exceed (acres)(3.0)	AWS Figure (b + c), but (b + c) can never exceed (a)
Avondale	8,463	1,630	6,833	8,463
Chandler	63,214	4,046	59,168	63,214
Gilbert	30,365	1,567	28,798	30,365
Glendale	40,716	5,690	35,026	40,716
Mesa	57,701	22,287	35,414	57,701
Peoria	23,103	1,232	21,871	23,103
Phoenix	210,806	78,495	132,311	210,806
Scottsdale	16,894	754	16,140	16,894
Tempe	60,499	32,562	27,937	60,499
Tolleson	6,052	1,476	4,576	6,052
TOTALS		149,739	368,074	517,813

This approach allows more of the median available stored water to be included in Assured Water Supply designations. At these forecast 2040 on-Project demand levels, only Scottsdale, among the cities, is very nearly using a full 3.0 AF/acre allocation of stored water. Some subdivision irrigation acres would also be using the full allocation.

4.3 Recommendation

SRP recommends 1) that ADWR use the AWS figures listed in section 4.2 and that 2) the figures adopted should be periodically re-evaluated.

SRP's operations do now and will continue to follow the recommended approach under plausible water demand scenarios.

If per acre water demands for those cities with the most normal flow right lands were to increase to levels far above their current demands and far above those of other cities, then SRP's allocation process would, to some degree, be pushed towards the kinds of supply figures reflected in section 4.1. This level of increase in municipal and industrial demand would also lower the overall reliability of SRP's surface water supply system and force more use of groundwater during dry periods. SRP does not feel that this scenario is the likely.

Under any method, Assured Water Supply figures for Salt and Verde River water use in the Phoenix area will be founded upon various assumptions about climatology, the watershed and local water demand patterns. It makes sense to occasionally give these figures a "reality check" to see how well these assumptions, and the figures based on them, are holding up.

APPENDIX A

Projecting Customers Using A GIS Land Use Forecasting Model

Jacqueline Morrego [1]

Abstract

The Salt River Project originally developed the Land Use Forecasting Model to understand the pattern of urbanization of agricultural and desert land in metropolitan Phoenix. The model allocates future land uses to forty-acre parcels based on factors influencing development such as access to freeways, proximity to railroads, and adjacency to intersections. Projecting the distribution of future growth by land use type allows us to study the impact of future water and electrical customers on our system.

Introduction

The Salt River Project (SRP), a water and power utility, developed the Land Use Model (model) to more accurately forecast customers since SRP's service area does not conform to the municipal boundaries defined in the county population and employment forecasts. The model, though, permits a wide range of applications involving water resource management, environmental analysis, transportation development, demand-side implementation and facilities planning. The most extensive application of the model forecasts is SRP's Water Demand Forecasts.[2]

Geographical Information System

Integrating the model with a geographical information system (GIS)[3], ARC/INFO, produces an interactive environment which accelerates the analyst's understanding of the forces of urban change and the relative importance of various development-influencing factors. The model allows the analyst to view and modify land use data, parcel

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[2]See (Nichols, 1992) for a more complete discussion of SRP's Water Demand Forecast

[3]"A GIS is not simply a computer system for making maps..... A GIS is an analysis tool. The major advantage of a GIS is that it allows you to identify the relationships between map features." (Understanding GIS, 1992)

attributes, preference surfaces and development patterns at every step of the forecasting process.

Methodology

The forecasting process is divided into five basic steps (figure 1):

- Digitizing land use data for the base year
- Estimating the magnitude of growth using population and employment forecasts.
- Defining the factors influencing development for each of the ten land uses
- Weighting the factors according to how they influence the location of a land use
- Running the forecast routine to produce forecasts of ten land uses for 20 years in five-year increments.

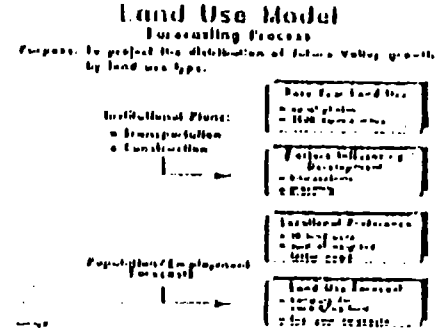

Figure 1

Base Year Land Use

The model defines the metro area in terms of physical characteristics such as low-density commercial, mobile homes, general industrial. Homogeneous land use classes have similar locational characteristics; general industrial uses usually prefer to locate near railways and freeways, medium-density residential uses prefer not to locate at intersections.

Data collection of base year data is achieved by entering a picture of the geographical landscape into the computer from aerial photographs and other sources. A brief description of the land use classes is listed in Table 1.

Regional Control Totals

The model predicts the distribution of growth, not the magnitude of growth. Base year acreages for each of the ten land use classes are extracted using the GIS, and are increased for each forecast period

Table 1: Land Use Classes

Residential	
Low density	Homes on larger than half acre
Medium density	Typical subdivision homes
High density	Apartments, townhomes, condos
Mobile homes	
Commercial	
Low density	Neighborhood retail, services
Medium density	Strip commercial development
High density	Mall, hotels, high rise office
Industrial	
Light	Industrial and business parks
General	Conventional industrial
Vacant	Vacant land available for development
Agriculture	Crops, dairies, stockyards

according to population and employment growth rates.

Development Factor Maps

The type of development which occurs within a vacant parcel of land depends on the attributes of the parcel, the characteristics of adjacent and surrounding parcels, and the accessibility of the parcel to other land uses within the region. Some factors influencing development include proximity to transportation facilities and adjacency to highways, freeways and intersections.

Preference Maps

Once the factor maps are defined they are linked to the ten land use classes according to their functional relationships. A preference map, reflecting observable locational behavior, is generated for each of the ten land use classes, defining where the land use prefers to locate based on positively and negatively weighted development factors. For example, builders of subdivision homes (medium-density residential) prefer to develop land near, but not adjacent to freeways, accessible to employment opportunities but not adjacent to major streets, intersections and railroads. The medium-residential preference map is partially composed of positive weights for three factor maps: employment accessibility, household proximity and recent residential growth areas; and negative weights for five factor maps: highway adjacency, railroad proximity, intersections, industrial proximity, and proximity to high-density commercial.

Forecast Allocation

Regional control totals are allocated by the forecast routine using a choice modelling technique in which the ten land uses compete for vacant, unrestricted land. Although some vacant parcels are useful for only one land use, the majority of developable parcels have the potential for a mixture of residential, commercial and industrial development. The model allows simultaneous competition among parcels to receive an allocation, and among land uses to occupy a parcel.

The competition of land uses is based on a comparison of preference maps for each land use type, but it is constrained by two primary considerations. First, the total acreage of all land uses (including vacant land) allocated to any forty-acre parcel must equal the amount of developable land within the forty-acre parcel. Second, the sum of the allocations of each land use type must equal the regional control total for that type.

Output from the model consists of ten delta land use maps of allocated growth for a five-year forecast period. For the second forecast period, the base year, factor and preference maps are recalculated based on the forecasted growth of the previous period so the allocation in one period will influence the allocation in a subsequent period.

Water Customers

The Land Use Model forecasts are not used to project precise customer numbers for future years. Rather, the forecasts represent urbanization trends and potential hot areas of growth.

Water customers are indirectly projected. Rather than convert land use acreages to customers, the land use class forecasts are analyzed to understand future water needs for different customer classes. For example, the residential, commercial and industrial acreage forecasts represent municipal and industrial customers.

Agricultural customers are tracked by studying the agricultural land use forecasts. This land use class is not one of the ten land uses forecasted by the model. Instead, agricultural forecasts are developed by subtracting the residential, commercial and industrial forecasts from the inventory of agricultural land in the base year. Examination of the urbanization of agricultural land aids water resource planners in studies of canal capacity, well utilization, and water resource plans.

Summary

Disaggregate land use data is projected for ten land use types according to functional relationships between development factors. The most comprehensive use of the forecasts has been the Water Demand Model which allows water demand forecasts to be examined by lateral, canal or dam.

The versatility of the Land Use Model lies in its ability to manipulate spatially disaggregated data; the accuracy and reliability of the model are attributable to the simultaneous competition of land uses for vacant lands; and the success of the model resides in the diverse applications by its users.

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APPENDIX B

Small Area Water Demand Forecasting at the Salt River Project

Robert S. Nichols[1]

Abstract

The Salt River Project Small Area Water Demand Forecast (forecast) is designed to provide water resource planners with long-range water demand forecasts disaggregated by user type and geographic area. Projections are based on small area water consumption factors for types of usage applied to specific land-use acreage. The small area nature of the forecast allows demand forecasts to be disaggregated by lateral and canal, as well as by geographic area.

Introduction

In Salt River Project's (SRP) service area, there are essentially four groups of end-users of water; agriculture, municipal and industrial, urban irrigation and contractual obligations. The demands of these groups are dependent on variables such as climatological conditions, the economic situation, population growth, land-use and agricultural cropping conditions.

The water demand forecast enables SRP to plan more effectively for a number of endeavors, ranging from facility operation and maintenance, to water resource planning which will help ensure an adequate supply of water is available for our customers and shareholders. Demand projections also facilitate enhanced analysis of water issues facing SRP, such as potential demand side programs to encourage efficient use of water.

Methodology

Figure 1 summarizes the process by which the water demand

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[1]Corporate Economist, Strategic Planning, Salt River Project, P.O. Box 52025, Phoenix, Arizona 85072-2025

1990 Water Demand Forecast Process

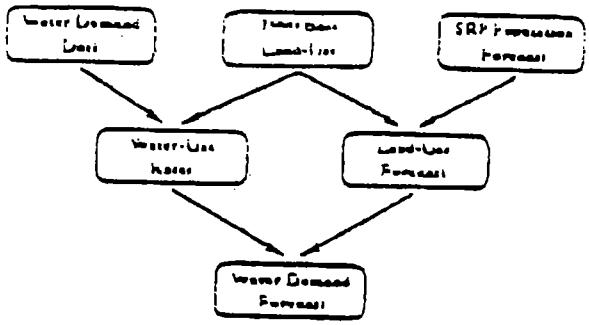

Figure 1

forecast is developed. Small area water demand data is collected and matched with corresponding land-use data to determine base year water-use rates. These water use rates are then applied to projected land-uses generated by SRP's Land-Use Forecast (Borrego, 1992). The details are as follows:

Land-Use Forecast[2]

Forecasted land-uses are derived from SRP's population forecast[3] and base year land-uses that are digitized from aerial photographs. Forecasts are based on land-use relationships between factors influencing development such as access to transportation, proximity to recent growth, land-use restrictions, and compatibility of adjoining uses.

Water Demand Data

Detailed demand data are collected for each class of customer. For the municipal and industrial class, individual customer usage data are collected directly from water providers. These billed consumption data are converted to calendar month usage and assigned to a forty-acre parcel via each customer address.

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[2] See (Borrego, 1992) for a more complete discussion of SRP's Land-Use Forecast

[3] The population forecast is based on employment and demographic trends such as rising labor force participation rates for women and the aging population.

Data pertaining to agricultural, irrigation and contractual deliveries are taken from SRP's water accounting system. The data provided includes date and amount of delivery and delivery point (canal, lateral, and gate) allowing each agricultural or irrigation account to be assigned to a forty-acre parcel.

Finally, canal, lateral and other distribution loss data are collected and assigned to a forty-acre parcel. The end result is a database of total water demands (including losses) for each forty-acre parcel within SRP's water service area.

Water-Use Rates

Once the land-use and water demand data are collected and geocoded to a forty-acre parcel, average water-use rates are calculated for each land-use using a Geographic Information System (GIS)[4]. Average water-uses rates for each square mile are then assigned to undeveloped land to allow computation of water usage if the land develops.

Water Demand Forecast

Using the GIS, water demands are projected by applying the water-use rates to future land-uses generated from the Land-Use Forecast. The result is a long-term small area forecast (by forty-acre parcel) of water demands for SRP's water service area. The projections are used in a variety of plans and studies. The SRP Water Resource Plan has utilized the forecast to assist in developing recommendations and solutions to ensure that an adequate and reliable water supply is available to meet future SRP shareholder and customer expectations. A 20-Year Well Utilization Plan and a 5-Year Groundwater Action Plan have used the projections to optimize groundwater resources to meet water demands in the long and short term. The SRP Canal Available Capacity Study uses the demand forecast to provide information regarding potential future canal capacity problems.

Future Development

The locational or geographic aspect of SRP's water demand forecast has proved to be very useful for water resource and facility planning at SRP. As currently formulated,

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[4] The current forecast utilized SRP's in-house GIS, MAPCALC. SRP recently purchased Arc/Info which will be used in future forecasts.

the forecast is based on applying specific usage rates to future growth resulting in a point estimate. To facilitate contingency planning and to incorporate uncertainty into the forecast, it is anticipated that future forecasts will utilize end-use or econometric models for each class. This will allow the development of forecast ranges for each forty-acre parcel.

APPENDIX C

MEMORANDUM

April 27, 1993

TO: Mick Emelity

File: WAT 4-2

FROM: Robert Nichols

RE: 1990 BASE YEAR 50 YEAR WATER DEMAND FORECAST

50 YEAR WATER DEMAND FORECAST

Figure 1 presents the Base Year 1990 50 Year Water Demand Forecast.

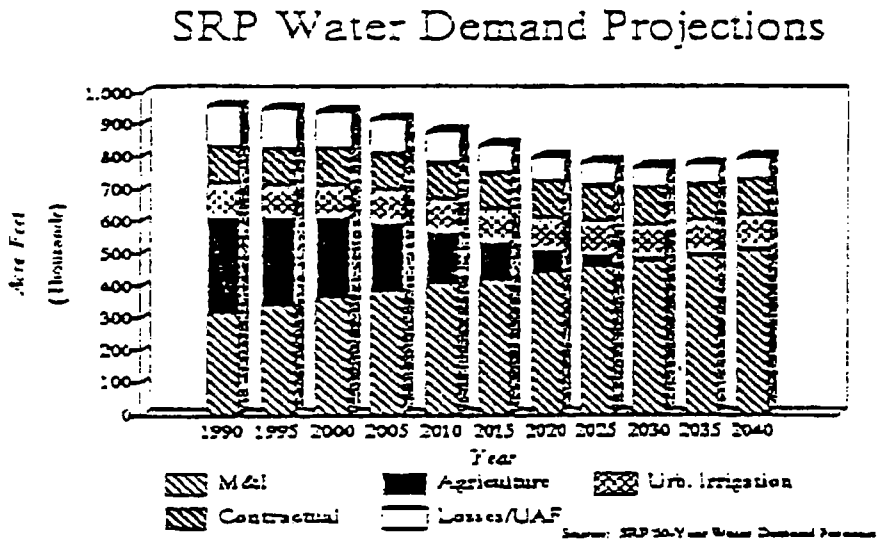

Figure 1

During the agriculture to urban transition period, we project that overall water demands within the water service area will decline from approximately 960,000 acre-feet in 1990 to 770,000 acre-feet in 2030. However, as agricultural and vacant developable land becomes more scarce, we expect the density of development to increase, with the corresponding increase in M&I demands. Thus, after 2030, we anticipate that overall water demands will reverse their downward trend and increase to around 800,000 acre-feet by 2040, and that they will continue to increase with higher density development.

M&I Demands

We forecast Municipal and Industrial (M&I) demands to increase from 316,364 acre-feet in 1990 to 510,139 acre-feet in 2040, an increase of 61 percent over the 50 year period. This compares to a projected 159 percent increase in Maricopa County's population[1]. We expect M&I water

[1] Arizona DES, Research Administration, Population Statistics Unit, Maricopa County Population Projections 1993-2040, Projections Report #2, February 1993

demands to increase at a lower rate than the overall population for two reasons. First, our projections are that the bulk of growth in the Phoenix Metro area will occur outside of SRP's water service area (for example Mountain Park Ranch in Phoenix or Superstition Springs in East Mesa). Second, we incorporated the anticipated impacts of 1980 Groundwater Management Code[2] into the forecast, which results in an overall lower level of water demand growth due to conservation requirements in the code.

Agriculture Demands

We project Agriculture demands to decrease from approximately 297,846 acre-feet in 1990 to 8,518 acre-feet in 2040. We expect that agriculture demands will remain around the 8,500 acre-foot level due to the existence of restricted agricultural lands that are not available for development. Aside from restricted lands, we project that the water service area will become fully urbanized during the 2030 to 2035 period.[3]

ASSUMPTIONS

We made the following assumptions:

- ✓ Maricopa County population growth rates are based on SRP forecasts through 2020 and DES forecasts thereafter.
- ✓ The population growth rate of SRP's water service area (WSA) ranges from 55 percent of Maricopa County's growth rate in 2015 to 50 percent in 2040. The land use forecast projects the WSA to grow at 50 percent to 60 percent of the Maricopa County growth rate.
- ✓ Water service area density starts to increase in 2015, with larger increases occurring after the WSA becomes fully urbanized in the 2030 to 2035 time period.
- ✓ The 1980 Groundwater Management Code will result in per capita consumption declining by 4.6 percent from 250 gallons per day in 1990 to 239 gallons per day in 2040. This decline is assumed to be less than, for example Phoenix, as ADWR envisions much of the reduction coming from new housing. Consequently, since the WSA is made up of relatively older housing stock, we anticipate a smaller impact from new housing.
- ✓ M&I losses are less than agriculture losses.

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[2] Arizona Department of Water Resources, Second Management Plan, Phoenix Active Management Area, March 1991.

[3] This projection is consistent with other analyses - see attached Borrego Memorandum to Harold Thomas, August 1992.

METHODOLOGY

We applied the following methodology:

- ✓ We derived a 50 year population forecast for Maricopa County based on SRP's 1990 population forecast and a 1993 DES population forecast. We used the DES forecast to determine growth rates after 2020.
- ✓ Utilizing the 1990 Census, we obtained the 1990 population for the WSA.
- ✓ Based on the Base Year 1990 land use forecast, we determined the anticipated population growth for the WSA from 1990 to 2010.
- ✓ Comparing 1990 base population and the WSA population forecast to the Maricopa County population forecast, we projected WSA population growth from 2010 to 2040.
- ✓ Using GPCD numbers, we projected incremental M&I demand, which we added to base M&I demand to give overall M&I demand.
- ✓ Based on persons per square mile, we determined the total amount of M&I development that would be consistent with our population forecasts. From this we were able to obtain agriculture lands that would be developed. Based on acre-foot per acre consumption estimates from the 1990 Base Year water demand forecast, we calculated agricultural demand.

DIFFERENCES FROM 1988 FORECAST

Overall, the 1990 Base Year forecast envisions slower M&I water demand growth and a somewhat slower decline in agriculture demand than the 1988 forecast. The result is a lower projection of overall water demands, with the downward trend being reversed further in the future.

- ✓ We expect M&I demand growth to be lower as estimates of population growth have fallen between 1988 and 1990. In the earlier years, this effect is amplified, with projections of "hot-spot" growth occurring outside of the WSA.
- ✓ We incorporated anticipated impacts of the 1980 Groundwater Management Code. Consequently, we expect some conservation with the result that M&I demands will increase at a slower rate than in the 1988 forecast.

cc: Jacqi Borrego
Charlie Duckworth
Luke Koons
File: WAT 4-2, Chrono

Appendix C-2 City of Avondale SRP Water Entitlement as of December 31, 2001

CITY OF AVONDALE SRP WATER ENTITLEMENT (8)
As of December 31, 2001
(Subject to Revision)
Report Generation Date: January 18, 2002

CURRENT POTENTIAL:

Acreage Cut to City = 2,644.00 acres (1)

		Drought (2)	Normal (3)	High (4)
Stored and Developed Water:		(AC-FT)	(AC-FT)	(AC-FT)
	Assessment =	5,288.00	5,288.00	5,288.00
	Additional (5) =	0.00	2,644.00	3,569.40
Normal Flow (6) =		295.19	1,886.95	4,714.93
Pump Right:				
	1929 =	856.78	856.78	856.78
	1948 =	1,986.81	1,986.81	1,986.81
TOTAL:		8,426.78	12,662.54	16,415.92

FUTURE POTENTIAL:

Acreage Cut to City = 6,559.75 acres (7)

		Drought (2)	Normal (3)	High (4)
Stored and Developed Water:		(AC-FT)	(AC-FT)	(AC-FT)
	Assessment =	13,119.50	13,119.50	13,119.50
	Additional (5) =	0.00	6,559.75	8,855.66
Normal Flow (6) =		1,313.40	5,632.66	13,400.21
Pump Right:				
	1929 =	2,206.34	2,206.34	2,206.34
	1948 =	5,057.08	5,057.08	5,057.08
TOTAL:		21,696.32	32,575.33	42,638.79

NOTES:

(1) Includes cut to city acres only (as of January 16, 2002).
(2) Lower quartile normal flow with no additional stored and developed water.
(3) Median normal flow with 1.00 AF/AC additional stored and developed water.
(4) Mean normal flow with 1.35 AF/AC additional stored and developed water.
(5) Additional stored and developed water for normal and high cases are based on the historic allocations for the period 1952 to December 31, 2001.
(6) Estimates of future normal flow availability are based on historic inflows for the period 1952 to December 31, 2001. Full use of the normal flow values is dependent on the city's ability to use the water within normal flow periods on Class A lands.
(7) Assumes all active agricultural and townsite acreage cut over to city. Does not include urban irrigation acres.
(8) Entitlement is appurtenant to SRP shareholder lands within city service area.

SRP WATER ENTITLEMENT REPORT

The attached report was developed to give city water planners an idea of what SRP water supplies are potentially available for shareholder lands located within city service areas. It is not intended to provide a quantification of water rights for shareholder lands within city boundaries. The information contained in the report is for planning purposes only, and should be used in this context only. This report was developed using information from SRP's water accounting system, and is up to date as of the date indicated on top of the first page. Therefore, this information is subject to revision.

When reviewing this report, keep in mind that although SRP's available water supply can vary significantly from year to year, over the long term, the supply is essentially fixed. If SRP shareholders increase their demands to use all of the water to which they are entitled annually, future entitlement amounts would be reduced over time due to the drawdown of water in SRP reservoirs in excess of the replenishment rate. This will result in smaller water allocations set by the SRP Board. The amount of normal flow and special pump rights are not affected by demand (see below).

The following are explanations for several of the terms used in the report.

Acreage Cut to City	SRP member lands for which assessments are no longer paid by shareholders, inactive Townsite, and Normal Flow Only lands. These lands no longer receive water directly from SRP.
Stored/Developed Water	Allocation of water set each year by the SRP Board of Directors. Includes assessment water of 2 AF/AC, and an additional amount (usually 1 AF/AC), when available.
Normal Flow	The water that would normally flow in the Salt River if the Salt and Verde storage dams were not built. The Normal Flow quantity is determined at three gaging stations on the Salt and Verde Rivers and Tonto Creek above the reservoirs. A combined flow of 1469 cfs will fulfill the Normal Flow requirements of all Class A lands.
Pump Right	Water available to those lands for which shareholders purchased pump rights (up to 2 AF/AC), pursuant to contracts offered in 1929 and 1948. These rights were, in general, purchased for Class B and C lands, since these lands are not eligible for normal flow.

AVONDALE

Land Use	Class A Acres	Class B Acres	Class C Acres	Assessed & Townsite Acres	1929 Pump AF	1948 Pump AF
Active Agriculture	2,623.50	219.50	1,067.75	3,915.75 ✓	1,349.56 ✓	3,070.27 ✓
Active Urban	445.30	175.25	206.00	826.55	127.80	582.48
Cut to AVONDALE	1,720.05	482.10	441.85	2,644.00 ✓	856.78 ✓	1,986.81 ✓
	4,793.85	876.85	1,715.60	7,386.30	2,334.14	5,639.56

as of: 1/16/2002

AVONDALE

Normal Flow Based on MEAN for the Period of Record 1952 through 2001

Active Agriculture

Year Land	NF Days	Percentage of Year	NF AF per Acre	Year Land Acres	Total Normal Flow AF
1882	293	80.05%	4.35	530.00	2,305.50
1884	262	71.58%	3.89	702.00	2,730.78
1886	243	66.39%	3.60	295.25	1,062.90
1890	181	49.45%	2.69	60.50	162.75
1892	173	47.27%	2.57	146.00	375.22
1907	157	42.90%	2.33	440.00	1,025.20
1908	152	41.53%	2.26	374.75	846.93
1909	148	40.44%	2.20	80.00	176.00
B	0	0.00%	0.00	219.50	0.00
C	0	0.00%	0.00	1,067.75	0.00
			Totals:	3,915.75	8,685.28 ✓

AVONDALE

Normal Flow Based on MEAN for the Period of Record 1952 through 2001

Active Urban

Year Land	NF Days	Percentage of Year	NF AF per Acre	Year Land Acres	Total Normal Flow AF
1882	293	80.05%	4.36	127.50	554.62
1884	262	71.58%	3.89	6.00	23.34
1890	181	49.45%	2.69	22.00	59.18
1892	173	47.27%	2.57	7.50	19.28
1908	152	41.53%	2.26	282.30	638.00
B	0	0.00%	0.00	175.25	0.00
C	0	0.00%	0.00	206.00	0.00
			Totals:	826.55	1,294.42

AVONDALE

Normal Flow Based on MEAN for the Period of Record 1952 through 2001

Cut to AVONDALE

Year Land	NF Days	Percentage of Year	NF AF per Acre	Year Land Acres	Total Normal Flow AF
1881	316	86.34%	4.69	0.30	1.41
1882	293	80.05%	4.35	96.50	419.77
1884	262	71.58%	3.89	82.60	321.31
1885	253	69.13%	3.75	149.50	560.63
1886	243	66.39%	3.60	157.50	567.00
1892	173	47.27%	2.57	154.85	397.96
1907	157	42.90%	2.33	257.50	599.97
1908	152	41.53%	2.26	667.05	1,507.53
1909	148	40.44%	2.20	154.25	339.35
B	0	0.00%	0.00	482.10	0.00
C	0	0.00%	0.00	441.85	0.00
			Totals:	2,644.00	4,714.93

AVONDALE

Normal Flow Based on MEAN for the Period of Record 1952 through 2001

TOTAL ACRES

Year Land	NF Days	Percentage of Year	NF AF per Acre	Year Land Acres	Total Normal Flow AF
1881	316	86.34%	4.69	0.30	1.41
1882	293	80.05%	4.35	754.00	3,279.90
1884	262	71.58%	3.89	790.60	3,075.43
1885	253	69.13%	3.75	149.50	560.63
1886	243	66.39%	3.60	452.75	1,629.90
1890	181	49.45%	2.69	82.50	221.93
1892	173	47.27%	2.57	308.35	792.46
1907	157	42.90%	2.33	697.50	1,625.17
1908	152	41.53%	2.26	1,324.10	2,992.47
1909	148	40.44%	2.20	234.25	515.35
B	0	0.00%	0.00	876.85	0.00
C	0	0.00%	0.00	1,715.60	0.00
			Totals:	7,386.30	14,694.65

as of: 1/16/2002

AVONDALE

Normal Flow Based on MEDIAN for the Period of Record 1952 through 2001

Active Agriculture

Year Land	NF Days	Percentage of Year	NF AF per Acre	Year Land Acres	Total Normal Flow AF
1882	147	40.16%	2.18	530.00	1,155.40
1884	111	30.33%	1.65	702.00	1,158.30
1886	108	29.51%	1.60	295.25	472.40
1890	81	22.13%	1.20	60.50	72.60
1892	69	18.85%	1.02	146.00	148.92
1907	56	15.30%	0.83	440.00	365.20
1908	55	15.03%	0.82	374.75	307.29
1909	55	15.03%	0.82	80.00	65.60
B	0	0.00%	0.00	219.50	0.00
C	0	0.00%	0.00	1,067.75	0.00
			Totals:	3,915.75	3,745.71

as of: 1/16/2002

AVONDALE

Normal Flow Based on MEDIAN for the Period of Record 1952 through 2001

Active Urban

Year Land	NF Days	Percentage of Year	NF AF per Acre	Year Land Acres	Total Normal Flow AF
1882	147	40.16%	2.18	127.50	277.95
1884	111	30.33%	1.65	6.00	9.90
1890	81	22.13%	1.20	22.00	26.40
1892	69	18.85%	1.02	7.50	7.65
1908	55	15.03%	0.82	282.30	231.49
B	0	0.00%	0.00	175.25	0.00
C	0	0.00%	0.00	206.00	0.00
			Totals:	826.55	553.39

AVONDALE

Normal Flow Based on MEDIAN for the Period of Record 1952 through 2001

Cut to AVONDALE

Year Land	NF Days	Percentage of Year	NF AF per Acre	Year Land Acres	Total Normal Flow AF
1881	212	57.92%	3.15	0.30	0.95
1882	147	40.16%	2.18	96.50	210.37
1884	111	30.33%	1.65	82.60	136.29
1885	109	29.78%	1.62	149.50	242.19
1886	108	29.51%	1.60	157.50	252.00
1892	69	18.85%	1.02	154.85	157.95
1907	56	15.30%	0.83	257.50	213.73
1908	55	15.03%	0.82	667.05	546.98
1909	55	15.03%	0.82	154.25	126.49
B	0	0.00%	0.00	482.10	0.00
C	0	0.00%	0.00	441.85	0.00
			Totals:	2,644.00	1,886.95

AVONDALE

Normal Flow Based on MEDIAN for the Period of Record 1952 through 2001

TOTAL ACRES

Year Land	NF Days	Percentage of Year	NF AF per Acre	Year Land Acres	Total Normal Flow AF
1881	212	57.92%	3.15	0.30	0.95
1882	147	40.16%	2.18	754.00	1,643.72
1884	111	30.33%	1.65	790.60	1,304.49
1885	109	29.78%	1.62	149.50	242.19
1886	108	29.51%	1.60	452.75	724.40
1890	81	22.13%	1.20	82.50	99.00
1892	69	18.85%	1.02	308.35	314.52
1907	56	15.30%	0.83	697.50	578.92
1908	55	15.03%	0.82	1,324.10	1,085.76
1909	55	15.03%	0.82	234.25	192.09
B	0	0.00%	0.00	876.85	0.00
C	0	0.00%	0.00	1,715.60	0.00
			Totals:	7,386.30	6,186.04

AVONDALE

Normal Flow Based on Q1 for the Period of Record 1952 through 2001

Active Agriculture

Year Land	NF Days	Percentage of Year	NF AF per Acre	Year Land Acres	Total Normal Flow AF
1882	57	15.57%	0.85	530.00	450.50
1884	40	10.93%	0.59	702.00	414.18
1886	35	9.56%	0.52	295.25	153.53
1890	0	0.00%	0.00	60.50	0.00
1892	0	0.00%	0.00	146.00	0.00
1907	0	0.00%	0.00	440.00	0.00
1908	0	0.00%	0.00	374.75	0.00
1909	0	0.00%	0.00	80.00	0.00
B	0	0.00%	0.00	219.50	0.00
C	0	0.00%	0.00	1,067.75	0.00
			Totals:	3,915.75	1,018.21

AVONDALE

Normal Flow Based on Q1 for the Period of Record 1952 through 2001

Active Urban

Year Land	NF Days	Percentage of Year	NF AF per Acre	Year Land Acres	Total Normal Flow AF
1882	57	15.57%	0.85	127.50	108.38
1884	40	10.93%	0.59	6.00	3.54
1890	0	0.00%	0.00	22.00	0.00
1892	0	0.00%	0.00	7.50	0.00
1908	0	0.00%	0.00	282.30	0.00
B	0	0.00%	0.00	175.25	0.00
C	0	0.00%	0.00	206.00	0.00
			Totals:	826.55	111.92

AVONDALE

Normal Flow Based on Q1 for the Period of Record 1952 through 2001

Cut to AVONDALE

Year Land	NF Days	Percentage of Year	NF AF per Acre	Year Land Acres	Total Normal Flow AF
1881	67	18.31%	0.99	0.30	0.30
1882	57	15.57%	0.85	96.50	82.03
1884	40	10.93%	0.59	82.60	48.73
1885	37	10.11%	0.55	149.50	82.23
1886	35	9.56%	0.52	157.50	81.90
1892	0	0.00%	0.00	154.85	0.00
1907	0	0.00%	0.00	257.50	0.00
1908	0	0.00%	0.00	667.05	0.00
1909	0	0.00%	0.00	154.25	0.00
B	0	0.00%	0.00	482.10	0.00
C	0	0.00%	0.00	441.85	0.00
			Totals:	2,644.00	295.19

AVONDALE

Normal Flow Based on Q1 for the Period of Record 1952 through 2001

TOTAL ACRES

Year Land	NF Days	Percentage of Year	NF AF per Acre	Year Land Acres	Total Normal Flow AF
1881	67	18.31%	0.99	0.30	0.30
1882	57	15.57%	0.85	754.00	640.90
1884	40	10.93%	0.59	790.60	466.45
1885	37	10.11%	0.55	149.50	82.23
1886	35	9.56%	0.52	452.75	235.43
1890	0	0.00%	0.00	82.50	0.00
1892	0	0.00%	0.00	308.35	0.00
1907	0	0.00%	0.00	697.50	0.00
1908	0	0.00%	0.00	1,324.10	0.00
1909	0	0.00%	0.00	234.25	0.00
B	0	0.00%	0.00	876.85	0.00
C	0	0.00%	0.00	1,715.60	0.00
			Totals:	7,386.30	1,425.31

Appendix D Primary Drinking Water Standards

Primary Drinking Water Standards

PARAMETERS (mg/L unless otherwise noted)	EPA Primary MCL[1]
AESTHETIC PARAMETERS	
Turbidity (ntu)	0.3
MICROBIOLOGICAL CONTAMINANTS	
Giardia Lamblia	TT[2]
Legionella	TT[2]
Standard Plate Count (cfu/mL)	TT[2]
Total Coliforms	<5% Positive
Viruses	TT[2]
DISINFECTION BY-PRODUCTS	
Total Trihalomethanes (TTHM)	0.1
INORGANICS	
Antimony	0.006
Arsenic	0.05
Asbestos (million/L)	7
Barium	2
Beryllium	0.004
Cadmium	0.005
Chromium	0.1
Copper	TT[2]
Cyanide	0.2
Fluoride	4
Lead	TT[2]
Mercury	0.002
Nickel	0.1

PARAMETERS (mg/L unless otherwise noted)	EPA Primary MCL[1]
Nitrite + Nitrate (as N)	10
Nitrite (as N)	1
Selenium	0.05
Thallium	0.002
RADIONUCLIDES	
Beta Particle and Photon Activity (millirem/yr)	4
Combined Radium 226 & 228 (pCi/L)	5
Gross Alpha (pCi/L)	15
ORGANICS	
Volatile Organics	
Benzene	0.005
Carbon Tetrachloride	0.005
Dichloroethane (1,2-)	0.005
Dichloroethylene (1,1-)	0.007
Dichloroethylene (cis-1,2-)	0.07
Dichloroethylene (trans-1,2-)	0.005
Dichloromethane	0.005
Dichloropropane (1,2-)	0.005
Ethylbenzene	0.7
m-Dichlorobenzene	0.6
Monochlorobenzene	0.1
o-Dichlorobenzene	0.6
p-Dichlorobenzene	0.075
Styrene	0.1
Tetrachloroethylene	0.005
Toluene	1
Trichlorobenzene (1,2,4-)	0.07

PARAMETERS (mg/L unless otherwise noted)	EPA Primary MCL[1]
Trichloroethane (1,1,2-)	0.005
Trichloroethane (1,1,2-)	0.005
Trichloroethane (1,1,1-)	0.2
Trichloroethylene (TCE)	0.005
Vinyl Chloride	0.002
Xylenes (Total)	10
Synthetic Organics	
2,3,7,8-TCDD (Dioxin)	$3x10^{-8}$
2,4,5-TP (Silvex)	0.05
2,4-D	0.07
Acrylamide	TT[2]
Adipates	0.4
Alachlor (Lasso)	0.002
Aldicarb Sulfoxide	0.007
Aldicarb (Tenik)	0.007
Aldicarb Sulfone	0.007
Atrazine (Atranex, Crisazina)	0.003
Benzoapyrene (PAH)	0.0002
Carbofuran (Furadan 4F)	0.04
Chlordane	0.002
Dalapon	0.2
Dibromo-chloropropane	0.0002
Diethylhexyl Phthalate	0.006
Dinoseb	0.007
Diquat	0.02
Endothall	0.1
Endrin	0.002
Epichlorohydrin	TT[2]
Ethylene Dibromide	0.00005

PARAMETERS (mg/L unless otherwise noted)	EPA Primary MCL[1]
Glyphosate	0.7
Heptachlor Epoxide	0.0002
Heptachlor (H-34,Heptox)	0.0004
Hexachlorobenzene	0.001
Hexachlorocyclopentadiene	0.05
Lindane	0.0002
Methoxychlor (Marlate)	0.04
Oxyamyl (Vydate)	0.2
Pentachlorophenol	0.001
Pichloram	0.5
Polychlorinated Biphenyls	0.0005
Simazine	0.004
Toxaphene	0.003

Notes:
1. Maximum Contaminant Level
2. Indicates that a treatment technique is required in order to show compliance with regulations.

Appendix E-1 Consumptive Use by Categories

Consumption Use by Categories for 1998
(gallons)

Population 28,650

	January	February	March	April	May	June	July	August	September	October	November	December	TOTALS	Residential Total
Residentia	53,165,470	46,700,669	54,046,321	50,964,581	106,717,221	107,974,821	96,194,135	101,684,772	112,550,986	73,099,279	72,617,375	65,414,325	941,129,955	941,129,955
Multi/Apt	10,492,600	10,393,600	9,918,120	17,405,000	1,430,000	5,513,000	1,329,800	11,961,000	23,900,800	7,543,000	9,877,000	9,392,000	119,155,920	119,155,920
Commerci	11,296,714	7,196,043	9,697,501	10,892,717	24,921,870	32,509,660	42,951,018	34,816,568	30,854,649	20,056,815	25,288,078	17,387,560	267,869,193	--
Schools	2,372,000	1,961,000	2,037,000	1,825,000	4,478,000	3,756,000	3,793,000	6,273,000	6,018,000	3,567,000	3,664,000	2,769,000	42,513,000	--
Churches	290,277	388,192	257,111	224,768	687,643	808,926	779,610	618,395	1,633,245	598,800	464,257	305,000	7,056,224	--
Industrial	91,000	129,000	175,000	19,000	489,000	359,000	349,000	293,000	319,000	125,000	156,000	195,000	2,699,000	--
Laundries	218,000	118,000	110,000	44,000	138,000	223,000	281,000	301,000	518,000	257,000	284,000	281,000	2,773,000	--
Mobile Hor	5,478,000	4,893,000	4,620,500	10,607,000	2,585,500	7,476,000	7,537,000	7,729,000	8,190,800	5,110,000	5,225,000	4,904,000	74,355,800	74,355,800
Hydrant M	364,500	618,700	1,087,900	1,584,800	4,924,900	6,135,900	1,424,000	5,339,200	3,538,000	2,654,800	1,590,000	683,000	29,945,700	1,134,641,675
Totals	**83,768,561**	**72,398,204**	**81,949,453**	**93,566,866**	**146,372,134**	**164,756,307**	**154,638,563**	**169,015,935**	**187,523,480**	**113,011,694**	**119,165,710**	**101,330,885**	**1,487,497,792**	

Unit Demand - Residential
(gpcd)
109

Consumption Use by Categories for 1999
(gallons)

Population 32,270

	January	February	March	April	May	June	July	August	September	October	November	December	TOTALS	Total Residential
Residentia	66,197,000	57,135,000	61,848,000	87,517,000	101,174,000	140,658,000	108,375,000	124,460,000	113,859,000	99,327,000	112,471,000	75,884,000	1,148,905,000	1,148,905,000
Multi/Apt	5,172,000	4,592,000	6,997,000	8,103,000	8,615,000	11,902,000	8,466,000	10,060,000	6,988,000	7,858,000	8,800,000	6,012,000	93,565,000	93,565,000
Commerc	24,824,000	22,965,000	18,250,000	33,764,000	37,639,000	49,771,000	38,956,000	48,287,000	40,185,000	37,561,000	42,240,000	28,200,000	422,642,000	--
Schools	2,067,000	1,837,000	1,145,000	2,971,000	2,377,000	4,327,000	4,234,000	4,024,000	3,669,000	3,457,000	3,520,000	2,530,000	36,158,000	--
Churches	349,000	321,000	239,000	445,000	522,000	714,000	525,000	661,000	377,000	471,000	428,000	396,000	5,448,000	--
Industrial	210,000	230,000	239,000	284,000	322,000	433,000	389,000	4,084,000	349,000	314,000	352,000	244,000	7,450,000	--
Laundries	225,000	275,000	288,000	337,000	346,000	465,000	369,000	439,000	384,000	345,000	383,000	249,000	4,105,000	--
Mobile Hc	4,137,000	3,858,000	4,566,000	288,000	5,817,000	8,655,000	6,775,000	8,047,000	7,163,000	6,286,000	7,000,000	4,818,000	67,410,000	67,410,000
Hydrant M	1,034,000	918,000	1,440,000	1,349,000	1,631,000	2,164,000	1,247,000	2,011,000	1,744,000	1,571,000	1,690,000	1,201,000	18,000,000	1,309,880,000
Totals	**104,215,000**	**92,131,000**	**95,012,000**	**135,058,000**	**158,443,000**	**219,089,000**	**169,336,000**	**202,073,000**	**174,718,000**	**157,190,000**	**176,884,000**	**119,534,000**	**1,803,683,000**	

Unit Demand - Residential
(gpcd)
111

Consumption Use by Categories for 2000
(gallons)

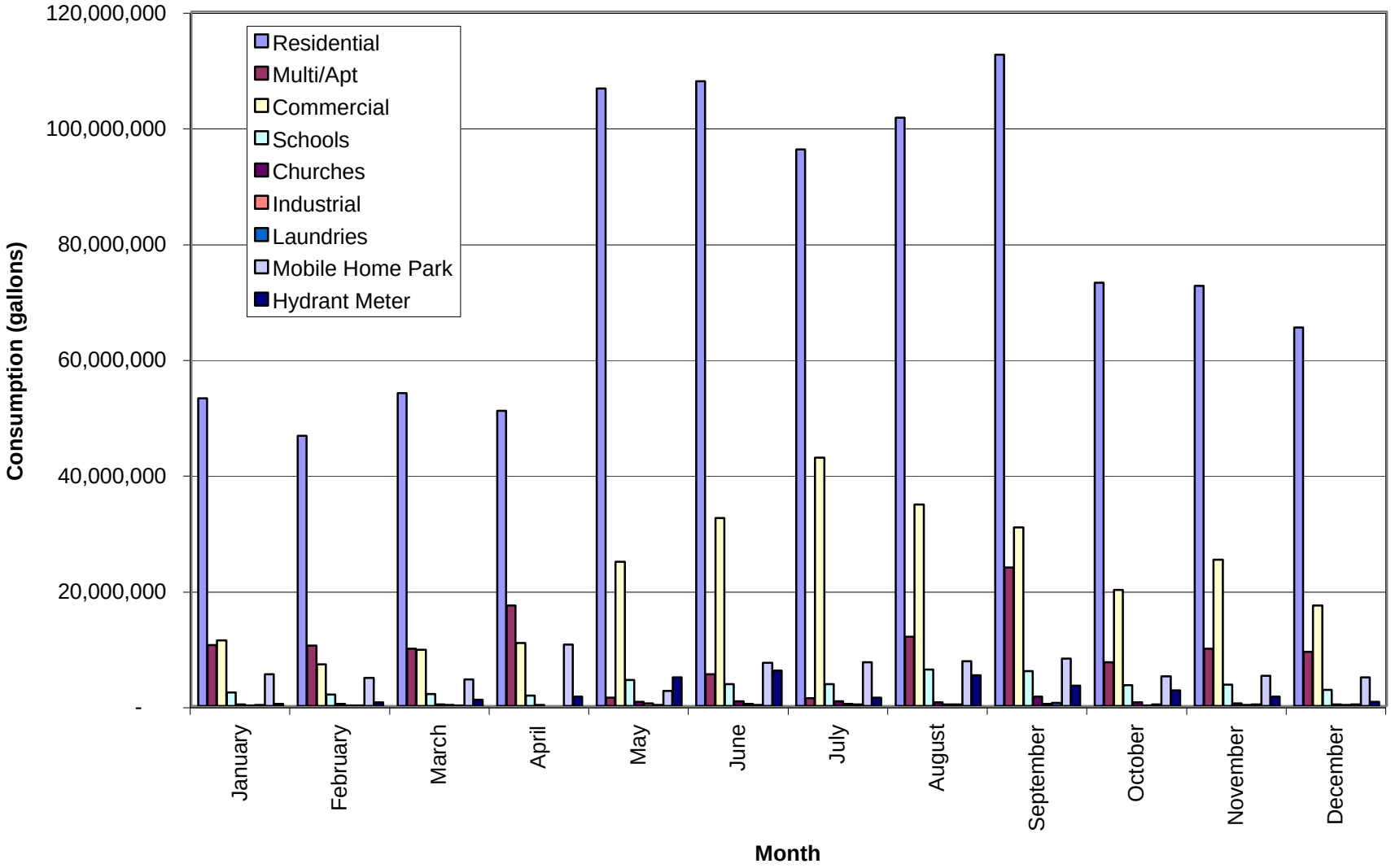
Population 35,850

	January	February	March	April	May	June	July	August	September	October	November	December	TOTALS	Residential Total
Residentia	103,761,000	65,437,000	87,508,000	105,051,000	107,479,000	160,410,000	142,594,000	186,012,000	171,123,000	132,912,000	101,809,000	83,685,000	1,447,781,000	1,447,781,000
Multi/Apt	9,939,000	6,054,000	7,438,000	4,402,000	4,402,000	11,269,000	10,224,000	16,870,000	30,887,000	8,556,000	8,600,000	9,132,000	127,773,000	127,773,000
Commerci	22,491,000	30,877,000	14,536,000	30,662,000	30,437,000	56,060,000	51,635,000	71,983,000	62,330,000	27,795,000	147,649,000	64,667,000	611,122,000	--
Schools	3,182,000	1,568,000	2,542,000	2,914,000	2,969,000	3,990,000	3,515,000	4,346,000	4,357,000	3,852,000	3,787,000	1,143,000	38,165,000	--
Churches	717,000	467,000	443,000	716,000	802,000	929,000	1,201,000	1,145,000	1,155,000	554,000	357,000	356,000	8,842,000	--
Industrial	146,000	208,000	299,000	974,000	1,140,000	1,330,000	1,351,000	1,213,000	1,213,000	774,000	963,000	472,000	10,083,000	--
Laundries	302,000	237,000	165,000	241,000	441,000	676,000	712,000	638,000	638,000	334,000	298,000	370,000	5,052,000	--
Mobile Hor	5,984,000	3,862,000	4,601,000	5,332,000	6,915,000	8,229,000	6,908,000	9,764,000	9,764,000	3,909,000	7,483,000	5,155,000	77,906,000	77,906,000
Hydrant M	8,272,000	10,067,000	6,829,000	8,426,000	6,018,000	13,148,000	10,104,000	4,418,000	5,134,000	2,269,000	1,022,000	2,158,000	77,865,000	1,653,460,000
Totals	**154,794,000**	**118,777,000**	**124,361,000**	**158,718,000**	**160,603,000**	**256,041,000**	**228,244,000**	**296,389,000**	**286,601,000**	**180,955,000**	**271,968,000**	**167,138,000**	**2,404,589,000**	

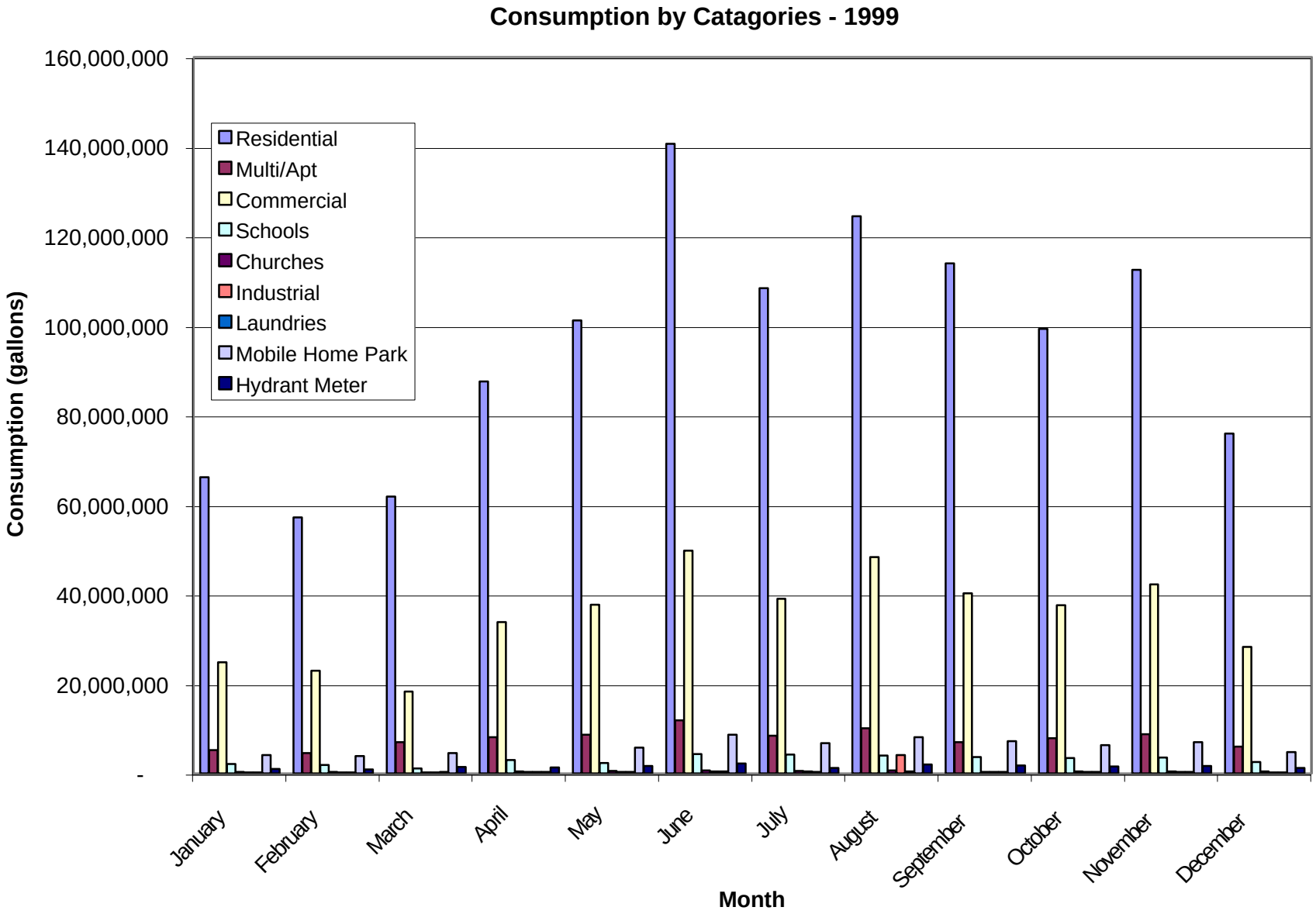
Unit Demand - Residential
(gpcd)
126

Appendix E-2 Consumption by Categories – 1998

Consumption by Catagories - 1998

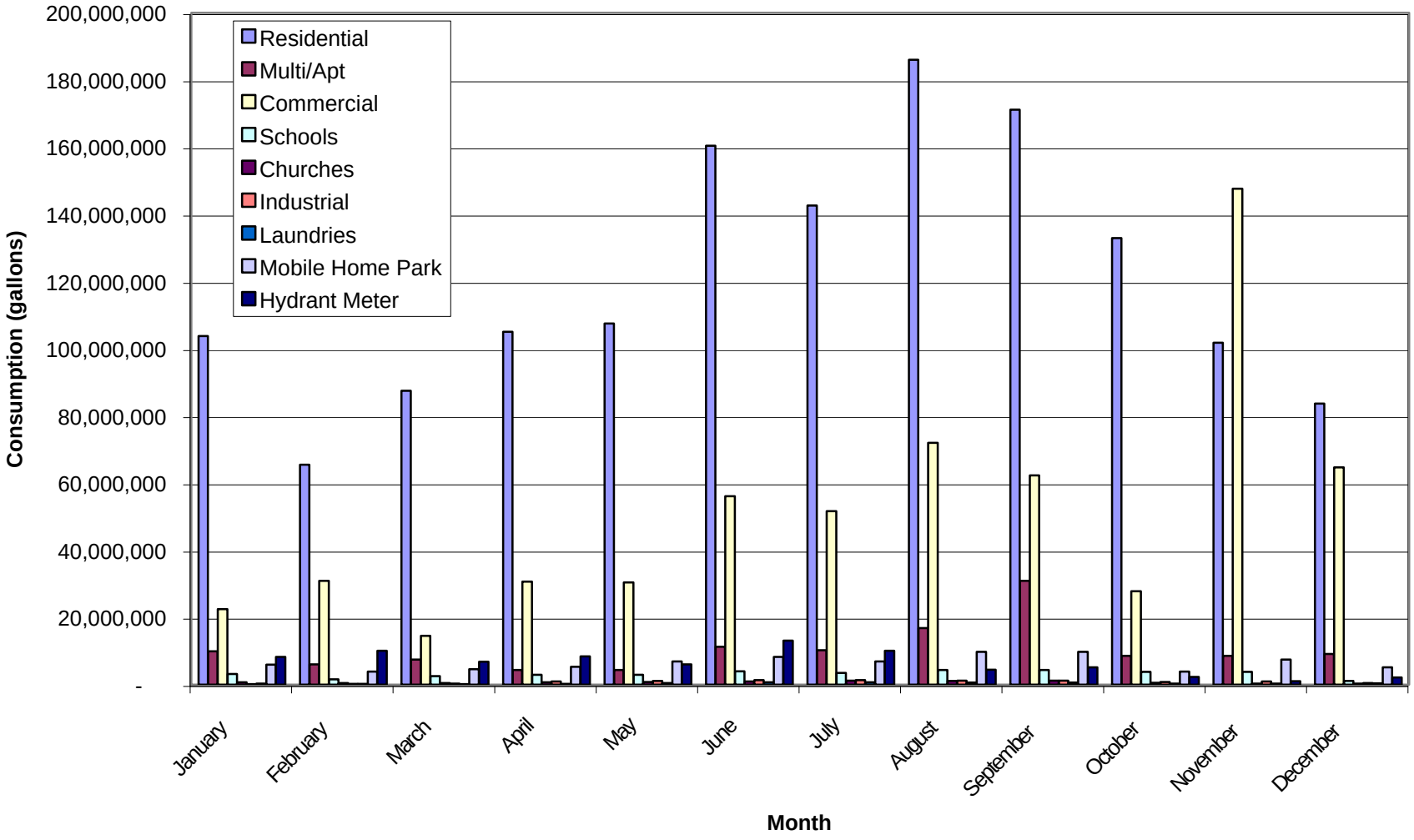


Appendix E-3 Consumption by Categories – 1999


Consumption by Catagories - 1999
160,000,000
140,000,000
120,000,000
100,000,000
80,000,000
60,000,000
40,000,000
20,000,000
-
Consumption (gallons)
Residential
Multi/Apt
Commercial
Schools
Churches
Industrial
Laundries
Mobile Home Park
Hydrant Meter
January
February
March
April
May
June
July
August
September
October
November
December
Month

Appendix E-4 Consumption by Categories – 2000

Consumption by Catagories - 2000



Appendix E-5 Land Use Areas

Area	Perimeter	Landuse	Desc_	Aupa	Ppu	Landuse_1	Subclass1	Population	BufferDis	Area_buff	Pop_final
2909207	7546.534	Medium Density Residential	(2.5 - 4 DU/ ac)	3.25	3.2	Medium Density Residential	1	695	100	3694674	1086
9397415	15012.15	Mixed Use	(Employment	9	2.5	Mixed Use	4	4854	100	10927956	5645
5519454	9780.712	Medium Density Residential	(2.5 - 4 DU/ ac)	3.25	3.2	Medium Density Residential	6	1318	100	6526592	1918
76278552	116820.5	Medium Density Residential	(2.5 - 4 DU/ ac)	3.25	3.2	Medium Density Residential	7	18214	100	85843025	25225
37021532	37171.88	Medium Density Residential	(2.5 - 4 DU/ ac)	3.25	3.2	Medium Density Residential	9	8840	100	40694951	11958
4404452	9667.005	Medium Density Residential	(2.5 - 4 DU/ ac)	3.25	3.2	Medium Density Residential	14	1052	100	5398233	1586
2214424	6486.265	Medium High Density Residential	(4 - 8 DU/ ac)	6	3.2	Medium High Density Residential	15	976	100	2893748	1701
6105028	9946.804	Medium Density Residential	(2.5 - 4 DU/ ac)	3.25	3.2	Medium Density Residential	18	1458	100	7130353	2095
5967987	9554.482	Rural Low Density Residential	(0 - 1 DU/ ac)	1	3.2	Rural Low Density Residential	19	438	100	6954156	511
2774163	7117.487	Mixed Use	(Employment	9	2.5	Mixed Use	31	1433	100	3516605	1816
3237335	9523.609	Rural Low Density Residential	(0 - 1 DU/ ac)	1	3.2	Rural Low Density Residential	32	238	100	4219720	310
1887839	5260.805	Multi Family Residential	(12+ DU/ ac)	18	2.5	Multi Family Residential	48	1950	100	2444578	2525
415564.8	2381.538	Multi Family Residential	(12+ DU/ ac)	18	2.5	Multi Family Residential	59	429	100	684403.1	707
3985037	7771.424	Multi Family Residential	(12+ DU/ ac)	18	2.5	Multi Family Residential	60	4117	100	4792979	4951
678040.9	4256.959	Mixed Use	(Employment	9	2.5	Mixed Use	67	350	100	1134229	586
2026305	6595.616	High Density Residential	(8- 12 DU/ ac)	10	3.2	High Density Residential	68	149	100	2714363	2393
2791232	7460.472	Medium High Density Residential	(4 - 8 DU/ ac)	6	3.2	Medium High Density Residential	69	1230	100	3566868	2096
4499367	9931.448	Mixed Use	(Employment	9	2.5	Mixed Use	70	2324	100	5522629	2853
1391947	4735.183	Mixed Use	(Employment	9	2.5	Mixed Use	72	719	100	1895400	979
24329404	30034.18	Medium Density Residential	(2.5 - 4 DU/ ac)	3.25	3.2	Medium Density Residential	73	5809	100	27354179	8038
958257.2	3805.387	Medium High Density Residential	(4 - 8 DU/ ac)	6	3.2	Medium High Density Residential	74	422	100	1369543	805
247202.5	1859.821	Multi Family Residential	(12+ DU/ ac)	18	2.5	Multi Family Residential	76	255	100	463949	479
796269.1	3962.797	Multi Family Residential	(12+ DU/ ac)	18	2.5	Multi Family Residential	82	823	100	1222366	1263
408667.1	2602.61	Medium High Density Residential	(4 - 8 DU/ ac)	6	3.2	Medium High Density Residential	83	180	100	699716.9	411
715777.4	3998.748	Multi Family Residential	(12+ DU/ ac)	18	2.5	Multi Family Residential	84	739	100	1145508	1183
2242239	9904.512	Medium Density Residential	(2.5 - 4 DU/ ac)	3.25	3.2	Medium Density Residential	85	535	100	3262259	959
1640351	5271.214	Medium High Density Residential	(4 - 8 DU/ ac)	6	3.2	Medium High Density Residential	86	723	100	2198278	1292
4647650	13883.76	Medium Density Residential	(2.5 - 4 DU/ ac)	3.25	3.2	Medium Density Residential	88	1110	100	6065176	1782
346931.5	2760.059	Medium High Density Residential	(4 - 8 DU/ ac)	6	3.2	Medium High Density Residential	90	153	100	653703.8	384
6476659	16313.33	Medium Density Residential	(2.5 - 4 DU/ ac)	3.25	3.2	Medium Density Residential	91	1546	100	8135343	2391
6046262	11467.71	Medium Density Residential	(2.5 - 4 DU/ ac)	3.25	3.2	Medium Density Residential	149	1444	100	7204291	2117
717929.8	3406.983	Medium High Density Residential	(4 - 8 DU/ ac)	6	3.2	Medium High Density Residential	95	316	100	1089363	640
234791.3	1952.377	Multi Family Residential	(12+ DU/ ac)	18	2.5	Multi Family Residential	96	243	100	460800.6	476
1798634	10388.65	Mixed Use	(Employment	9	2.5	Mixed Use	98	929	100	2865111	1480
40563028	45473.65	Medium Density Residential	(2.5 - 4 DU/ ac)	3.25	3.2	Medium Density Residential	101	9686	100	45135309	13263
1260549	4364.685	Multi Family Residential	(12+ DU/ ac)	18	2.5	Multi Family Residential	105	1302	100	1727129	1784
799809.5	3519.727	Multi Family Residential	(12+ DU/ ac)	18	2.5	Multi Family Residential	106	826	100	1181131	1220
2467264	7511.283	Medium Density Residential	(2.5 - 4 DU/ ac)	3.25	3.2	Medium Density Residential	107	589	100	3246693	954
1135526	6017.443	Medium High Density Residential	(4 - 8 DU/ ac)	6	3.2	Medium High Density Residential	108	500	100	1765967	1038
9964533	20054.3	Medium Density Residential	(2.5 - 4 DU/ ac)	3.25	3.2	Medium Density Residential	110	2379	100	11994017	3524
448811.3	6772.947	Mixed Use	(Employment	9	2.5	Mixed Use	112	232	100	1152398	595
3918153	8690.568	Medium High Density Residential	(4 - 8 DU/ ac)	6	3.2	Medium High Density Residential	113	1727	100	4817853	2831
3417484	7516.217	Medium High Density Residential	(4 - 8 DU/ ac)	6	3.2	Medium High Density Residential	115	1506	100	4198290	2467
6429724	15097.2	Medium High Density Residential	(4 - 8 DU/ ac)	6	3.2	Medium High Density Residential	117	2834	100	7968679	4683
845302.4	4636.805	Medium High Density Residential	(4 - 8 DU/ ac)	6	3.2	Medium High Density Residential	119	373	100	1338921	787
250975.9	2177.571	Mixed Use	(Employment	9	2.5	Mixed Use	120	130	100	499463.9	258
1004126	3842.917	Medium Density Residential	(2.5 - 4 DU/ ac)	3.25	3.2	Medium Density Residential	121	240	100	1419200	417

43226972	47442.24	Medium Density Residential	(2.5 - 4 DU/ ac)	3.25	3.2	Medium Density Residential	122	10322	100	47993495	14103
3539772	8742.261	Rural Low Density Residential	(0 - 1 DU/ ac)	1	3.2	Rural Low Density Residential	124	260	100	4444509	327
6841829	14088.87	Rural Low Density Residential	(0 - 1 DU/ ac)	1	3.2	Rural Low Density Residential	127	503	100	8280818	608
18765304	25740.38	Low Density Residential	(1 - 2.5 DU/ ac)	1.75	3.2	Low Density Residential	128	2412	100	21368576	3924
1439034	4824.553	Medium High Density Residential	(4 - 8 DU/ ac)	6	3.2	Medium High Density Residential	132	634	100	1952098	1147
1355215	4949.681	Medium High Density Residential	(4 - 8 DU/ ac)	6	3.2	Medium High Density Residential	135	597	100	1880342	1105
41545580	44909.82	Low Density Residential	(1 - 2.5 DU/ ac)	1.75	3.2	Low Density Residential	138	5341	100	46064860	8460
2043862	6368.275	Medium High Density Residential	(4 - 8 DU/ ac)	6	3.2	Medium High Density Residential	139	901	100	2711291	1593
7066724	13950.29	Medium Density Residential	(2.5 - 4 DU/ ac)	3.25	3.2	Medium Density Residential	140	1687	100	8491744	2495
42611268	49175.5	Rural Low Density Residential	(0 - 1 DU/ ac)	1	3.2	Rural Low Density Residential	142	3130	100	47555235	3493
24213744	22695.16	Rural Low Density Residential	(0 - 1 DU/ ac)	1	3.2	Rural Low Density Residential	144	1779	100	26512272	1948

Appendix F-1 Tables and Results

Appendix F-1.1 Well Inventory

TABLE F-1.1
WELL INVENTORY
CITY OF AVONDALE - WATER RESOURCES MASTER PLAN

Registry ID	Cadastral Location	UTM X	UTM Y	Owner	Well Use 1	Water Use 1	Water Use 2	Water Use 3	Pump Rate	Draw-down	Water Level	Installed	Well Depth	Casing Depth	Casing Width	Casing Type	Drill Log
539196	A(1-1)4bdc	382306.3	3702636.2	TOLLESON, CITY OF,	Water Production	Municipal			800	84	210	11/1/93	670	630	36	Steel-Perforated or Slotted Casing	X
605370	A(1-1)4ccd	382103.3	3701830.7	COWDEN,E R	Water Production	Domestic			20	0	0		0	0	8	Steel-Perforated or Slotted Casing	
801722	A(1-1)5aa	381602.7	3703135.4	CLEMENTS ETAL,C A	Water Production	Irrigation			2500	0	176		560	560	20	Steel-Perforated or Slotted Casing	
600649	A(1-1)5bb	380397	3703123.1	TSUNODA, KEN,	Water Production	Domestic			15	0	100		250	250	8	Steel-Perforated or Slotted Casing	N
807783	A(1-1)5ccd	380490	3701817.9	JED C, L.L.C.	Water Production	Domestic			0	0	0		0	0	0		
628752	A(1-1)5cdd	380894.8	3701822.3	EASTIN,G E	Water Production	Domestic			17	0	101		352	352	6	Steel-Perforated or Slotted Casing	
625443	A(1-1)6a	379806.6	3702916.1	AVONDALE GATEWAY,	Water Production	Irrigation			0	0	160	1/1/34	600	150	24		
625942	A(1-1)6aaa	380100	3703220.4	FIRST CITY BURTON,	Water Production	Irrigation			1960	0	150	1/1/74	600	160	24	Steel-Perforated or Slotted Casing	
625943	A(1-1)6b	379029.5	3702908.1	FER PROPERTIES,	Water Production	Industrail			35	0	130	11/21/77	400	394	8	Steel-Perforated or Slotted Casing	
620400	A(1-1)6cbb	378734	3702404.8	LEVERTON PROPERTIES, L.L.	Water Production	Domestic			35	0	140	1/1/76	397	389	8	Steel-Perforated or Slotted Casing	X
608428	A(1-1)6cbb	378734	3702404.8	SALT RIVER PROJECT,	Water Production	Utility	Irrigation		3640	20	80	10/27/52	1230	1230	20	Steel-Perforated or Slotted Casing	X
582851	A(1-1)6cbb	378734	3702404.8	LEVERTON INVESTMENTS LTD	Monitor	Test			0	0	0	9/5/00	40	0	0		X
551089	A(1-1)6ccb	378730.3	3702004.4	KOKOSING CONST CO,	Monitor	Monitoring			0	0	60	10/28/95	85	85	4	Plastic or PVC	X
528310	A(1-1)6ccc	378728.7	3701804.5	KOKOSING CONST CO,	Monitor	Monitoring			0	0	71	4/5/91	100	100	4	Plastic or PVC	X
547753	A(1-1)6ccc	378728.7	3701804.5	KOKOSING CONSTRUCTN,	Monitor	Monitoring			0	0	61	3/21/95	87	87	4	Plastic or PVC	X
547755	A(1-1)6ccc	378728.7	3701804.5	KOKOSING CONSTRUCTN,	Monitor	Monitoring			0	0	61	3/23/95	89	87	4	Plastic or PVC	X
552731	A(1-1)6ccc	378728.7	3701804.5	KOKOSING CONST CO,	Monitor	Monitoring			0	0	60	11/20/95	80	50	4	Plastic or PVC	X
552733	A(1-1)6ccc	378728.7	3701804.5	KOKOSING CONST CO,	Monitor	Monitoring			0	0	60	11/21/95	80	50	4	Plastic or PVC	X
552736	A(1-1)6ccc	378728.7	3701804.5	KOKOSING CONST CO,	Monitor	Monitoring			0	0	60	11/27/95	80	50	4	Plastic or PVC	X
552740	A(1-1)6ccc	378728.7	3701804.5	KOKOSING CONST CO,	Monitor	Monitoring			0	0	64	11/30/95	80	50	4	Plastic or PVC	X
803006	A(1-1)6ccc	378728.7	3701804.5	VAL-MAR INVESTMENTS,	Water Production	Domestic	Industrial		0	0	128	5/1/78	400	382	8	Steel-Perforated or Slotted Casing	X
528307	A(1-1)6ccc	378728.7	3701804.5	KOKOSING CONSTRUCTION CO.	Monitor	Monitoring			0	0	76	6/6/90	110	110	6	Steel-Perforated or Slotted Casing	X
547752	A(1-1)6ccc	378728.7	3701804.5	KOKOSING CONSTRUCTN,	Monitor	Monitoring			0	0	61	3/20/95	90	90	4	Plastic or PVC	X
547754	A(1-1)6ccc	378728.7	3701804.5	KOKOSING CONSTRUCTN,	Monitor	Monitoring			0	0	61	3/22/95	87	86	4	Plastic or PVC	X
552732	A(1-1)6ccc	378728.7	3701804.5	KOKOSING CONST CO,	Monitor	Monitoring			0	0	60	11/21/95	80	50	4	Plastic or PVC	X
552734	A(1-1)6ccc	378728.7	3701804.5	KOKOSING CONST CO,	Monitor	Monitoring			0	0	60	11/22/95	80	50	4	Plastic or PVC	X
552735	A(1-1)6ccc	378728.7	3701804.5	KOKOSING CONST CO,	Monitor	Monitoring			0	0	60	11/27/95	80	50	4	Plastic or PVC	X
552739	A(1-1)6ccc	378728.7	3701804.5	KOKOSING CONST CO,	Monitor	Monitoring			0	0	59	11/29/95	80	50	4	Plastic or PVC	X
633223	A(1-1)6cdd	379311.3	3701808.5	FLEMING,W T	Water Production	Domestic			0	0	0		0	0	0		
605643	A(1-1)6daa	380093.2	3702416.8	ANDERSON, J E	Water Production	Irrigation			2300	53	0	1/30/46	430	430	20	Steel-Perforated or Slotted Casing	X
605648	A(1-1)6ddd	380087.8	3701813.9	ANDERSON, J E	Water Production	Domestic	Stock		25	0	0	1/1/44	0	0	8	Steel-Perforated or Slotted Casing	
605647	A(1-1)7adb	379890.2	3701207	ANDERSON, JOHN,E	Water Production	Domestic	Stock		25	0	0	12/31/43	0	0	8	Steel-Perforated or Slotted Casing	
551091	A(1-1)7bba	378921.8	3701605.5	KOKOSING CONST CO,	Monitor	Monitoring			0	0	57	12/9/95	85	83	4	Plastic or PVC	X
600101	A(1-1)7ccc	378719.3	3700204.6	ENGLUND, CHESTER & D,	Water Production	Industrail	Industrial		45	104	75	5/3/54	356	352	8	Steel-Perforated or Slotted Casing	X
631056	A(1-1)7daa	380082.3	3700802.8	TAIT,R	Water Production	Domestic			35	0	0	1/1/50	300	15	6		
605369	A(1-1)8abb	381094.2	3701623	COWDEN,E R	Water Production	Domestic			15	0	150	7/31/39	367	365	20	Steel-Perforated or Slotted Casing	X
804501	A(1-1)8cc	380377.2	3700299.1	HULSTINE, LOUIS,	Water Production	Domestic			35	0	0		112	0	21	Steel-Perforated or Slotted Casing	
537299	A(1-1)9baa	382504	3701628.7	TOLLESON UNION H.S.,	Monitor	Monitoring			0	0	60	11/14/92	75	75	2	Plastic or PVC	X
537300	A(1-1)9baa	382504	3701628.7	TOLLESON UNION H.S.,	Monitor	Monitoring			0	0	60	11/13/92	75	75	2	Plastic or PVC	X
504249	A(1-1)9bac	382301.4	3701425.8	TOLLESON, CITY OF,	Water Production	Municipal			1000	161	69	10/13/83	600	600	14	Steel-Perforated or Slotted Casing	X
549827	A(1-1)9bad	382501.8	3701424.5	TOLLESON UNION HIGH,	Monitor	Monitoring			0	0	57	6/6/95	75	73	4	Plastic or PVC	X
607718	A(1-1)9bbb	381903.1	3701630.4	SALT RIVER PROJECT,	Water Production	Utility	Irrigation		3299	0	89	8/22/46	500	500	20	Steel-Perforated or Slotted Casing	
545633	A(1-1)9bcd	382096.7	3701023.1	PUREGRO CO,	Monitor	Monitoring			0	0	47	10/11/94	80	80	4	Plastic or PVC	X
545635	A(1-1)9bcd	382096.7	3701023.1	PUREGRO CO,	Monitor	Monitoring			0	0	47	10/13/94	80	80	4	Plastic or PVC	X
545632	A(1-1)9bcd	382096.7	3701023.1	PUREGRO CO,	Monitor	Monitoring			0	0	47	10/10/94	80	80	4	Plastic or PVC	X
545634	A(1-1)9bcd	382096.7	3701023.1	PUREGRO CO,	Monitor	Monitoring			0	0	47	10/12/94	80	80	4	Plastic or PVC	X
545636	A(1-1)9bcd	382096.7	3701023.1	PUREGRO CO,	Monitor	Monitoring			0	0	47	10/14/94	80	80	4	Plastic or PVC	X

TABLE F-1.1
WELL INVENTORY
CITY OF AVONDALE - WATER RESOURCES MASTER PLAN

Registry ID	Cadastral Location	UTM X	UTM Y	Owner	Well Use 1	Water Use 1	Water Use 2	Water Use 3	Pump Rate	Draw-down	Water Level	Installed	Well Depth	Casing Depth	Casing Width	Casing Type	Drill Log
545637	A(1-1)9bcd	382096.7	3701023.1	PUREGRO CO,	Monitor	Monitoring			0	0	47	10/17/94	80	80	4	Plastic or PVC	X
548487	A(1-1)9bda	382499.6	3701222.5	TOLLESON UNION HIGH,	Monitor	Monitoring			0	0	55	3/29/95	75	75	4	Plastic or PVC	X
550132	A(1-1)9bda	382499.6	3701222.5	TOLLESON UNION HIGH,	Monitor	Monitoring			0	0	57	6/28/95	75	75	1	Plastic or PVC	X
550133	A(1-1)9bda	382499.6	3701222.5	TOLLESON UNION HIGH,	Monitor	Monitoring			0	0	57	6/29/95	75	75	1	Plastic or PVC	X
548486	A(1-1)9bda	382499.6	3701222.5	TOLLESON UNION HIGH,	Monitor	Monitoring			0	0	55	3/28/95	75	75	4	Plastic or PVC	X
548488	A(1-1)9bda	382499.6	3701222.5	TOLLESON UNION HIGH,	Monitor	Monitoring			0	0	57	3/30/95	75	74	4	Plastic or PVC	X
550131	A(1-1)9bda	382499.6	3701222.5	TOLLESON UNION HIGH,	Monitor	Monitoring			0	0	57	6/29/95	75	48	1	Plastic or PVC	X
503822	A(1-1)9bdb	382299.3	3701223.8	TOLLESON, CITY OF,	Observation	Monitoring			0	0	92	10/9/82	620	564	10	Steel-Perforated or Slotted Casing	X
530477	A(1-1)9cda	382491.2	3700414.3	EVERKRISP VEGETABLES,	Monitor	Monitoring			0	0	60	2/25/91	90	90	4	Plastic or PVC	X
530479	A(1-1)9cda	382491.2	3700414.3	EVERKRISP VEGETABLES,	Monitor	Monitoring			0	0	60	2/27/91	90	90	4	Plastic or PVC	X
530478	A(1-1)9cda	382491.2	3700414.3	EVERKRISP VEGETABLES,	Monitor	Monitoring			0	0	60	2/26/91	90	90	4	Plastic or PVC	X
624827	A(1-1)16baa	382483.8	3700009.7	GOULD,C P	Water Production	Domestic			35	0	96	1/1/35	350	350	6	Steel-Perforated or Slotted Casing	
635147	A(1-1)17	380971.3	3699304.8	POPOFF,J	Water Production	Domestic			0	0	120		385	0	4	Steel-Perforated or Slotted Casing	
603758	A(1-1)17bbb	380275.4	3699995.8	SEARGEANT,W A	Water Production	Irrigation			1954	0	93	12/1/40	452	411	20	Steel-Perforated or Slotted Casing	
622666	A(1-1)17bbb	380275.4	3699995.8	SEARGEANT,W A	Water Production	Domestic			16	0	83	5/17/49	197	200	6	Steel-Perforated or Slotted Casing	
605040	A(1-1)17cb	380368	3699100.7	SEARGEANT,W	Water Production	Irrigation			1954	0	0	1/1/50	0	0	0		
622665	A(1-1)17cbc	380267.7	3699000.8	SEARGEANT,W A	Water Production	Domestic			16	0	47	9/26/50	0	213	6	Steel-Perforated or Slotted Casing	
802161	A(1-1)17daa	381663.3	3699204.3	ROBERTS,L	Water Production	Irrigation			0	0	0		0	0	0		
605044	A(1-1)18aaa	380077.8	3699995.2	WEILER,C E	Water Production	Irrigation			3219	0	110	1/1/35	320	0	0		
626593	A(1-1)18add	380074.6	3699398	PHOENIX, CITY OF,	Water Production	Municipal			280	0	64	1/1/69	580	580	12	Steel-Perforated or Slotted Casing	
541839	A(1-1)18baa	379300.8	3700001.6	SAVEALL INDUSTRIES,	Monitor	Monitoring			0	0	0		0	0	0		
541840	A(1-1)18baa	379300.8	3700001.6	SAVEALL INDUSTRIES,	Monitor	Monitoring			0	0	0		0	0	0		
541841	A(1-1)18baa	379300.8	3700001.6	SAVEALL INDUSTRIES,	Monitor	Monitoring			0	0	0		0	0	0		
541842	A(1-1)18baa	379300.8	3700001.6	SAVEALL INDUSTRIES,	Monitor	Monitoring			0	0	0		0	0	0		
552515	A(1-1)18baa	379300.8	3700001.6	SAVEALL INDUSTRIES,	Monitor	Monitoring			0	0	48	11/4/95	80	35	4	Plastic or PVC	X
568770	A(1-1)18baa	379300.8	3700001.6	SAVEALL INDUSTRIES	Monitor	Test			0	0	45	6/16/98	75	40	4	Plastic or PVC	X
568355	A(1-1)18baa	379300.8	3700001.6	SAVEALL INDUSTRIES	Monitor	Test			0	0	45	6/19/98	75	40	4	Plastic or PVC	X
568357	A(1-1)18baa	379300.8	3700001.6	SAVEALL INDUSTRIES	Monitor	Test			0	0	45	6/22/98	75	40	4	Plastic or PVC	X
552514	A(1-1)18baa	379300.8	3700001.6	SAVEALL INDUSTRIES,	Monitor	Monitoring			0	0	48	11/2/95	80	35	4	Plastic or PVC	X
552516	A(1-1)18baa	379300.8	3700001.6	SAVEALL INDUSTRIES,	Monitor	Monitoring			0	0	48	11/6/95	80	35	4	Plastic or PVC	X
552517	A(1-1)18baa	379300.8	3700001.6	SAVEALL INDUSTRIES,	Monitor	Monitoring			0	0	48	11/7/95	80	35	4	Plastic or PVC	X
576124	A(1-1)18baa	379300.8	3700001.6	SAVEALL INDUSTRIES	Monitor	Test			0	0	60	7/27/99	80	40	4	Plastic or PVC	X
582585	A(1-1)18baa	379300.8	3700001.6	SAVEALL INDUSTRIES	Monitor	Test			0	0	0		0	0	0		
617282	A(1-1)18bab	379106.8	3700002.7	LAKIN CATTLE CO,	Water Production	Irrigation			0	0	0		0	0	0		
804252	A(1-1)19	379389.3	3697681.6	SALYERS, CAROL,H	Water Production	Domestic			0	0	160	1/1/78	332	0	6		
635715	A(1-1)19	379389.3	3697681.6	MOOHEAD,J R	Water Production	Domestic			25	0	50	1/1/52	300	300	6	Steel-Perforated or Slotted Casing	
634590	A(1-1)19a	379779.4	3698092.7	HALE,D	Water Production	Irrigation	Stock	Domestic	30	0	66	1/1/60	0	105	6	Steel-Perforated or Slotted Casing	
633648	A(1-1)19ab	379584.3	3698293.1	BOAZ,T L	Water Production	Domestic	Stock		10	0	75	6/18/66	160	150	6	Steel-Perforated or Slotted Casing	
608369	A(1-1)19abb	379486.8	3698393.2	SALT RIVER PROJECT,	Water Production	Irrigation	Utility		4310	0	51	2/19/24	151	151	18	Steel-Perforated or Slotted Casing	
804297	A(1-1)19ada	380072.1	3697995.2	ESTRELLA MEADOW,	Water Production	Irrigation			488	0	36		0	100	5		
635902	A(1-1)19add	380073	3697792.3	CASION GIN,	Water Production	Domestic			35	0	0	1/1/52	0	0	0		
617699	A(1-1)19bcb	378706.6	3697978.7	SALT RIVER PROJECT,	Water Production	Irrigation			0	0	0	10/22/21	154	154	18	Steel-Perforated or Slotted Casing	
630900	A(1-1)19cc	378799.5	3697070.3	UNDERWOOD ENTERPRIES,	Water Production	Domestic	Stock		30	0	0		0	0	8	Steel-Perforated or Slotted Casing	
800310	A(1-1)19cc	378799.5	3697070.3	WILLIS,M H	Water Production	Domestic	Stock		17	0	50	8/10/55	286	286	6		
800309	A(1-1)19cc	378799.5	3697070.3	WILLIS,M H	Water Production	Irrigation			250	0	50	1/1/49	310	290	8		
621172	A(1-1)19ccc	378700.8	3696968.5	WOOLS,L W	Water Production	Irrigation	Stock	Domestic	80	0	39	9/1/73	390	368	8	Steel-Perforated or Slotted Casing	
630955	A(1-1)19cd	379193.8	3697073.9	BOATRIGHT,H J	Water Production	Domestic			32	0	0	8/15/64	320	320	6	Steel-Perforated or Slotted Casing	

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WELL INVENTORY
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Registry ID	Cadastral Location	UTM X	UTM Y	Owner	Well Use 1	Water Use 1	Water Use 2	Water Use 3	Pump Rate	Draw-down	Water Level	Installed	Well Depth	Casing Depth	Casing Width	Casing Type	Drill Log
560331	A(1-1)19cda	379291.9	3697176.1	MOORHEAD, JAMES,	Water Production	Domestic			0	0	35	1/14/97	320	280	6	Steel-Perforated or Slotted Casing	X
640284	A(1-1)19cdb	379095.7	3697174.3	MOORHEAD,F	Water Production	Domestic			35	0	300	1/1/65	340	300	10	Steel-Perforated or Slotted Casing	
561137	A(1-1)19cdc	379095.3	3696971.9	MARTIN, BARBARA,A	Water Production	Domestic			0	0	30	3/28/97	220	0	6	Steel-Perforated or Slotted Casing	X
800176	A(1-1)19cdd	379291.9	3696973.7	WEATHERINGTON,J	Water Production	Stock			0	0	53	1/1/78	341	321	7	Steel-Perforated or Slotted Casing	
627931	A(1-1)19cdd	379291.9	3696973.7	GILES, MARGUERITE,	Water Production	Domestic			40	0	40	4/17/97	300	280	6	Steel-Perforated or Slotted Casing	
605043	A(1-1)19da	379976.9	3697486.7	WEILER,C E	Water Production	Irrigation			1820	0	0	1/1/50	0	0	0		
621183	A(1-1)19dad	380075.5	3697386.3	HALE, NORMAN,	Water Production	Irrigation	Stock		125	0	50	1/1/53	225	225	12	Steel-Perforated or Slotted Casing	
624822	A(1-1)19dc	379586.5	3697077.5	ROGERS,R	Water Production	Irrigation			1800	0	45		550	350	16		
636723	A(1-1)19dc	379586.5	3697077.5	ROGERS,R	Water Production	Domestic			25	0	45	1/1/63	338	335	8	Steel-Perforated or Slotted Casing	
574097	A(1-1)19dcc	379488.4	3696975.4	TORRES, FELIX	Water Production	Domestic			0	0	50	6/3/99	100	100	6	Steel-Perforated or Slotted Casing	X
621188	A(1-1)19ddd	380077.2	3696980.8	HALE, NORMAN,	Water Production	Domestic			0	0	0		0	0	0		
621182	A(1-1)20baa	380859	3698400.4	HALE, NORMAN,	Water Production	Irrigation	Stock	Domestic	200	0	50	1/1/59	200	200	16	Steel-Perforated or Slotted Casing	
621185	A(1-1)20bbb	380265.9	3698401.9	HALE, NORMAN,	Water Production	Stock	Domestic		35	0	55	1/1/49	250	250	8	Steel-Perforated or Slotted Casing	
640332	A(1-1)20bc	380366.2	3697893.5	MONROE,H	Water Production	Domestic			0	0	43		300	0	3		
638156	A(1-1)20cb	380367.8	3697487.7	MFC HOLDING TRUST,	Water Production	Domestic			35	0	60		360	360	8	Steel-Perforated or Slotted Casing	
638157	A(1-1)20cb	380367.8	3697487.7	MFC HOLDING TRUST,	Water Production	Domestic			35	0	60		120	120	6	Steel-Perforated or Slotted Casing	
567975	A(1-1)20ccc	380273.1	3696981	VAN HOFWEGEN, PAUL	Water Production	Industrail			0	0	47	5/26/98	815	789	6	Steel-Perforated or Slotted Casing	X
568200	A(1-1)20ccc	380273.1	3696981	VANHOFWEGEN, PAUL	Water Production	Domestic			0	0	0	5/25/98	470	272	8	Steel-Perforated or Slotted Casing	X
581134	A(1-1)20ccc	380273.1	3696981	HOFWEGEN, PAUL	Water Production	Domestic			0	0	40	6/5/00	50	0	0		X
624826	A(1-1)20daa	381655.8	3697581	GOULD JOINT VENTURE,	Water Production	Domestic	Stock		150	0	75	10/1/68	375	375	8	Steel-Perforated or Slotted Casing	
607465	A(1-1)20ddd	381660.7	3696971	BARKER,T E	Water Production	Domestic			0	0	0		0	0	0		
617512	A(1-1)21bcd	382050.1	3697780.2	BOSCHMA, EDWARD S & MINA	Water Production	Stock			74	0	0	1/15/68	310	298	8	Other-Black Steel-Iron-Seamless	
638999	A(1-1)21cbc	381855.2	3697375.9	ACCOMAZZO, GARY,	Water Production	Domestic			30	0	54	4/14/56	352	352	8	Steel-Perforated or Slotted Casing	
638107	A(1-1)28	382571.8	3696058.8	POLLACK,E D	Water Production	Domestic	Stock		10	0	0		0	0	0		
533461	A(1-1)28bba	382059.1	3696768.7	VAN HOFWEGEN, ROBERT,	Water Production	Commerical			80	90	46	2/25/92	447	447	8	Steel-Perforated or Slotted Casing	X
535757	A(1-1)28bba	382059.1	3696768.7	VAN HOFWEGEN, ROBERT,	Water Production	Industrail			80	17	60	11/12/92	450	450	8	Steel-Perforated or Slotted Casing	X
603440	A(1-1)28bcb	381858.3	3696376.8	BOSCHMA, EDWARD,	Water Production	Irrigation			2200	0	38	3/20/47	400	400	20	Gravel wall-perforated or slotted wall	
617511	A(1-1)28cb	381959.5	3695882.9	BUSCHMA, EDWARD,	Water Production	Irrigation	Stock		35	0	60	5/8/61	290	280	6	Other-Black Steel-Iron-Seamless	
523773	A(1-1)28cca	382066.5	3695584.7	SALT RIVER PROJECT,	Water Production	Irrigation			4300	51	20	2/11/90	175	175	20	Steel-Perforated or Slotted Casing	X
584437	A(1-1)28ccb	381855.8	3695591.6	FLEXTRONICS	Monitor	Test			0	0	64	12/6/00	75	55	2	Plastic or PVC	X
583779	A(1-1)28ccc	381855.3	3695395.6		Water Production	Municipal	Industrial		0	0	0		0	0	0		
635289	A(1-1)29	380963.5	3696084.6	CHILDERS,K G	Water Production	Domestic			30	0	30	1/1/59	240	0	6	Other-Black Steel-Iron-Seamless	
617659	A(1-1)29aaa	381660.2	3696771.5	EVERETT, KENNETH J.	Water Production	Domestic	Stock		100	0	55	3/1/63	603	603	8	Steel-Perforated or Slotted Casing	
617661	A(1-1)29aaa	381660.2	3696771.5	EVERETT, KENNETH J.	Water Production	Domestic	Stock		35	0	55		325	0	6	Steel-Perforated or Slotted Casing	
617703	A(1-1)29aad	381658.5	3696575.2	SALT RIVER PROJECT,	Water Production	Irrigation			0	0	0	6/13/29	150	150	20	Steel-Perforated or Slotted Casing	
621181	A(1-1)29baa	380868	3696778	HALE, NORMAN,	Water Production	Irrigation			175	0	60	1/1/46	300	250	16	Steel-Perforated or Slotted Casing	
631141	A(1-1)29bbb	380273.9	3696779.8	CROW, WENDELL H & RHO	Water Production	Domestic	Stock		30	0	0	2/18/68	680	680	11	Steel-Perforated or Slotted Casing	
601145	A(1-1)29cc	380376.3	3695482.6	CARTER,D	Water Production	Domestic			10	0	50		75	0	8		
636563	A(1-1)29cc	380376.3	3695482.6	SULLIVAN,C R	Water Production	Domestic			24	0	60	11/20/72	333	294	6	Steel-Perforated or Slotted Casing	
639899	A(1-1)29cc	380376.3	3695482.6	MENDOZA,J E	Water Production	Domestic	Stock		25	0	25	1/1/57	320	320	6	Steel-Perforated or Slotted Casing	
574873	A(1-1)29cca	380473.5	3695583	JIMENEZ, EUSTOLIA	Water Production	Domestic			0	0	45	6/3/99	125	125	6	Steel-Perforated or Slotted Casing	X
516012	A(1-1)29ccc	380279.3	3695381.4	HIGGINS, JOE,	Water Production	Domestic			20	5	301	12/31/86	300	300	6	Steel-Perforated or Slotted Casing	X
617660	A(1-1)29dbb	381062.8	3695984.2	EVERETT,K J	Water Production	Irrigation			3125	0	55	4/1/57	382	382	16	Steel-Perforated or Slotted Casing	
504580	A(1-1)29dcd	381255.8	3695393.6	J T L COOP,	Water Production	Domestic			24	15	14	1/18/83	545	545	6	Steel-Perforated or Slotted Casing	X
640736	A(1-1)29dd	381551.1	3695495.5	BROGDON,L J	Water Production	Stock	Domestic		30	0	100	1/1/57	303	0	6	Steel-Perforated or Slotted Casing	
803975	A(1-1)29dd	381551.1	3695495.5	MOSS, EDWARD,H	Water Production	Domestic			0	0	0	1/1/45	0	0	8	Steel-Perforated or Slotted Casing	
535806	A(1-1)29dda	381649.9	3695594.6	BROWN, THOMAS,	Water Production	Domestic			7	10	25	7/11/92	305	300	6	Steel-Perforated or Slotted Casing	X

TABLE F-1.1
WELL INVENTORY
CITY OF AVONDALE - WATER RESOURCES MASTER PLAN

Registry ID	Cadastral Location	UTM X	UTM Y	Owner	Well Use 1	Water Use 1	Water Use 2	Water Use 3	Pump Rate	Draw-down	Water Level	Installed	Well Depth	Casing Depth	Casing Width	Casing Type	Drill Log
571988	A(1-1)29ddc	381451.4	3695396.1	BROGDON, PHILIP	Water Production	Domestic			0	0	21	1/13/99	325	320	6	Steel-Perforated or Slotted Casing	X
514695	A(1-1)29ddd	381648.2	3695398.5	BROGDON, ED,	Water Production	Domestic			5	20	60	1/8/87	304	385	8	Steel-Perforated or Slotted Casing	X
621187	A(1-1)29ddd	381648.2	3695398.5	MARICOPA COUNTY DOT	Water Production	Stock	Domestic		35	0	25	1/1/62	500	500	8	Steel-Perforated or Slotted Casing	
609904	A(1-1)30aac	379881	3696577.9	ODLE, EZRA,	Water Production	Irrigation			300	0	45	5/31/80	640	600	10	Steel-Perforated or Slotted Casing	
609906	A(1-1)30aad	380078	3696579.3	ODLE, EZRA,	Water Production	Domestic			2500	0	44	12/24/81	400	400	20	Steel-Perforated or Slotted Casing	
500717	A(1-1)30aad	380078	3696579.3	ODLE,E	Water Production	Domestic			2000	80	40	12/24/81	400	400	20	Steel-Perforated or Slotted Casing	X
530599	A(1-1)30aad	380078	3696579.3	ODLE, EZRA,	Water Production	Stock	Domestic		500	35	50	2/10/91	660	660	12	Steel-Perforated or Slotted Casing	X
609905	A(1-1)30aad	380078	3696579.3	ODLE, EZRA,	Water Production	Irrigation			2200	0	45	12/31/52	156	156	16	Steel-Perforated or Slotted Casing	
624080	A(1-1)30baa	379289.4	3696772.9	GREATER MARICOPA,	Water Production	Irrigation			1200	0	44	1/1/78	625	363	20	Steel-Perforated or Slotted Casing	
624823	A(1-1)30baa	379289.4	3696772.9	TOBIN,A	Water Production	Irrigation			1750	0	33	1/1/51	82	82	16	Steel-Perforated or Slotted Casing	
636719	A(1-1)30baa	379289.4	3696772.9	TOBIN,A C	Water Production	Domestic			12	0	44	1/1/43	320	320	6	Steel-Perforated or Slotted Casing	
634585	A(1-1)30bb	378796.6	3696669.5	MCHORNEY, MICHAEL	Water Production	Domestic			15	0	65	1/1/62	212	200	6	Other-Black Steel-Iron-Seamless	
533267	A(1-1)30bca	378893.9	3696372.4	KING, MARK & JAMES	Water Production	Domestic	Stock		14	12	16	10/29/91	330	315	6	Steel-Perforated or Slotted Casing	X
85487	A(1-1)30bcc	378694.6	3696172.6	SMILEY,D	Water Production	Domestic			22	0	20	8/1/80	160	150	6	Steel-Perforated or Slotted Casing	
635444	A(1-1)30cbb	378693.2	3695974.1	RIGBY WATER CO,	Water Production	Domestic			95	0	29		410	295	8	Steel-Perforated or Slotted Casing	
639202	A(1-1)30dac	379884.9	3695779.1	RICHTER ET AL,	Water Production	Domestic			0	0	0		0	0	0		
633987	A(1-1)31	379380.5	3694468.7	SHACKLEFORD,A C	Water Production	Domestic			35	0	23	6/17/64	245	240	8	Steel-Perforated or Slotted Casing	
639769	A(1-1)31aad	380082.9	3694975.3	GREENLEE SR,Y	Water Production	Domestic			35	0	25	1/14/51	400	50	3	Steel-Perforated or Slotted Casing	
621186	A(1-1)31aba	379684.3	3695178.5	HALE, NORMAN,	Water Production	Stock	Domestic		35	0	20	1/1/40	300	300	8	Steel-Perforated or Slotted Casing	
644259	A(1-1)31ac	379581.8	3694671.7	WALKER,D G	Water Production	Domestic			30	0	180	1/1/39	308	180	6	Other-Black Steel-Iron-Seamless	
636116	A(1-1)31ada	380082.1	3694772.1	REICHERT,A W	Water Production	Domestic	Stock		35	0	32	1/1/59	63	175	8	Steel-Perforated or Slotted Casing	
516756	A(1-1)31adc	379881.5	3694569.5	WALKER, DAVID,G	Monitor	Monitoring			0	0	13	2/9/87	20	20	2	Steel-Perforated or Slotted Casing	X
638007	A(1-1)31b	378983	3694875.1	AGRIC ENTERPRISES,	Water Production	Domestic			12	0	40		118	0	0		
619252	A(1-1)31cc	378773.2	3693865.8	WILLIAMS,J D	Water Production	Irrigation	Stock	Domestic	0	0	0		0	0	0		
633947	A(1-1)32	380976.6	3694466.4	BONDENIA ET AL,H M	Water Production	Domestic			35	0	30	1/1/34	300	250	6		
636293	A(1-1)32a	381364.7	3694883.3	MOSS,E H	Water Production	Domestic			0	0	30	1/1/47	300	0	8	Steel-Perforated or Slotted Casing	
516757	A(1-1)32aaa	381651.4	3695196.9	HALE, NORMAN,	Piezometer	Test			0	0	17	2/9/87	25	26	2	Plastic or PVC	X
623410	A(1-1)32aaa	381651.4	3695196.9	ST JOHN'S IRR DIST,	Water Production	Irrigation			3500	0	28	6/15/50	300	300	24	Steel-Perforated or Slotted Casing	
530870	A(1-1)32aaa	381651.4	3695196.9	HEILMAN, KEITH,E	Water Production	Domestic	Stock	Irrigation	10	11	48	4/1/91	296	279	6	Steel-Perforated or Slotted Casing	X
621184	A(1-1)32aad	381656.7	3694989.9	HALE, NORMAN,	Water Production	Stock	Domestic		35	0	25	1/1/45	300	275	8	Steel-Perforated or Slotted Casing	
508618	A(1-1)32abb	381064.6	3695189.4	WHITE,J	Water Production	Domestic			14	44	19	8/17/84	315	307	8	Steel-Perforated or Slotted Casing	X
603584	A(1-1)32baa	380868.9	3695187	RENTERIA, GREGORY & SANDR	Water Production	Stock	Domestic	Irrigation	35	0	25	3/15/79	750	750	8	Steel-Perforated or Slotted Casing	
505154	A(1-1)32bba	380477.5	3695182	HAYES,R E	Water Production	Domestic			0	0	23	5/5/83	294	279	6	Steel-Perforated or Slotted Casing	X
516758	A(1-1)32bbb	380281.5	3695179.5	LAKIN CATTLE CO,	Piezometer	Test			0	0	15	2/9/87	22	23	2	Steel-Perforated or Slotted Casing	X
602475	A(1-1)32bcc	380281.5	3694569.1	ENCANTO LAND LTD,	Water Production	Domestic	Stock	Irrigation	35	0	160	7/15/76	546	544	6	Steel-Perforated or Slotted Casing	
614001	A(1-1)32dab	381475.4	3694368.9	MARICOPA COUNTY,	Observation/Capped	Monitoring			0	0	36	1/1/67	100	0	6		
614000	A(1-1)32dbb	381078	3694367.8	MARICOPA COUNTY,	Observation/Capped	Monitoring			0	0	16	1/1/53	16	0	0		
634701	A(1-1)33	382581	3694455.4	BOYD,H S	Water Production	Domestic			0	0	25		28	35	8	Other-Black Steel-Iron-Seamless	
634702	A(1-1)33	382581	3694455.4	BOYD,H S	Water Production	Domestic			0	0	24		27	32	6	Walled or Shored	
634703	A(1-1)33	382581	3694455.4	BOYD,H S	Water Production	Domestic			30	0	25	1/1/71	32	31	6	Other-Black Steel-Iron-Seamless	
634704	A(1-1)33	382581	3694455.4	BOYD,H S	Water Production	Domestic			30	0	25		32	31	6	Other-Black Steel-Iron-Seamless	
636550	A(1-1)33b	382167.6	3694875	PASILLAS, MARIA	Water Production	Domestic			16	0	120	11/25/72	265	250	8	Steel-Perforated or Slotted Casing	
803718	A(1-1)33bad	382476.5	3694965.3	ODOM, DIANA,D	Water Production	Irrigation	Domestic		35	0	11	1/1/46	280	280	6	Steel-Perforated or Slotted Casing	
557817	A(1-1)33bbb	381852.7	3695194.4	BEVINS, STEVE,	Water Production	Domestic			0	0	0		0	0	0		
804415	A(1-1)33bbb	381852.7	3695194.4	DONAHUE, ROBERT,T	Water Production	Domestic			35	0	17	2/15/73	280	280	8	Steel-Perforated or Slotted Casing	
804416	A(1-1)33bbb	381852.7	3695194.4	DONAHUE, ROBERT,T	Water Production	Domestic			35	0	17	2/12/73	280	280	8		
527839	A(1-1)33bbb	381852.7	3695194.4	AYCOCK, HUGH,F	Water Production	Stock			25	78	45	5/24/90	308	288	6	Steel-Perforated or Slotted Casing	X

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CITY OF AVONDALE - WATER RESOURCES MASTER PLAN

Registry ID	Cadastral Location	UTM X	UTM Y	Owner	Well Use 1	Water Use 1	Water Use 2	Water Use 3	Pump Rate	Draw-down	Water Level	Installed	Well Depth	Casing Depth	Casing Width	Casing Type	Drill Log
543256	A(1-1)33bbb	381852.7	3695194.4	MCMAHON, THOMAS,	Water Production	Domestic	Irrigation	Stock	20	50	30	8/10/94	298	280	6	Steel-Perforated or Slotted Casing	X
576787	A(1-1)33bbb	381852.7	3695194.4	ALANIS, MANUEL	Water Production	Domestic			0	0	0	11/19/99	100	100	5	Plastic or PVC	X
582065	A(1-1)33bbb	381852.7	3695194.4	PHILBIN, PHILIP P & PAME	Water Production	Domestic			0	0	0		0	0	0		
607242	A(2-1)20ccb	380339.1	3706861.8	ROOSEVELT IRR DIST,	Water Production	Irrigation			1725	0	136	5/16/47	714	714	24	Steel-Perforated or Slotted Casing	
607241	A(2-1)20ccc	380335.5	3706660.3	ROOSEVELT IRR DIST,	Water Production	Irrigation			1658	0	130	1/1/71	696	696	24	Steel-Perforated or Slotted Casing	
622080	A(2-1)20cd	380850.7	3706758.9	AM GOLF CORP.,		Irrigation	Domestic		400	0	0		700	700	8	Steel-Perforated or Slotted Casing	
626595	A(2-1)20cdb	380749.5	3706860.3	PHOENIX, CITY OF,	Water Production	Municipal			1200	0	138	1/1/71	696	696	20	Steel-Perforated or Slotted Casing	
604219	A(2-1)20cdd	380952.1	3706657.9	CALIF GOLF TENNIS,	Water Production	Recreation			96	0	700		700	700	8	Steel-Perforated or Slotted Casing	
608437	A(2-1)20daa	381767.1	3707259.9	SALT RIVER PROJECT,	Water Production	Irrigation	Utility		3100	0	137	8/16/50	500	500	20	Steel-Perforated or Slotted Casing	
617100	A(2-1)20ddd	381769	3706654.8	SALT RIVER PROJECT,	Water Production	Irrigation			2500	0	132	10/15/46	560	560	20	Steel-Perforated or Slotted Casing	
806760	A(2-1)28bdd	382555.9	3705866.3	STATE OF ARIZONA	Water Production	Irrigation			2000	0	116	12/31/79	640	640	20	Steel-Perforated or Slotted Casing	
572379	A(2-1)28bdd	382555.9	3705866.3	LONG, JOHN F & MARY	Water Production	Irrigation			2000	69	113	2/5/99	715	695	20	Steel-Perforated or Slotted Casing	X
636387	A(2-1)29aaa	381764.7	3706453.8	TANG ENT LTD,S C	Water Production	Domestic			0	0	0	8/9/51	187	0	0		
612610	A(2-1)29aab	381559.6	3706454.6	BOULAIS,M J	Water Production	Domestic			15	0	0	6/16/45	454	454	6	Steel-Perforated or Slotted Casing	
622740	A(2-1)29ca	380831.3	3705545	GLENARM LAND CO,	Water Production	Domestic			125	0	60	6/30/69	351	351	8	Steel-Perforated or Slotted Casing	
607236	A(2-1)29caa	380934.2	3705646.9	ROOSEVELT IRR DIST,	Water Production	Irrigation			1581	0	132	3/29/51	800	800	20	Steel-Perforated or Slotted Casing	
622741	A(2-1)29cd	380826.3	3705139.9	GLENARM LAND CO,	Water Production	Domestic			70	0	120		375	0	6	Steel-Perforated or Slotted Casing	
807051	A(2-1)29daa	381748	3705652.5	LONG, JOHN,F	Water Production	Domestic			20	0	150	12/31/79	300	0	6	Steel-Perforated or Slotted Casing	
608407	A(2-1)29ddd	381735.5	3705051.6	SALT RIVER PROJECT,	Water Production	Irrigation	Utility		2600	0	128	9/21/46	600	600	20	Steel-Perforated or Slotted Casing	
607239	A(2-1)30bcc	378776.1	3705814.6	ROOSEVELT IRR DIST,	Water Production	Irrigation			1971	0	107	3/12/28	680	680	24	Steel-Perforated or Slotted Casing	
607238	A(2-1)30caa	379354.8	3705624.6	ROOSEVELT IRR DIST,	Water Production	Irrigation			1860	0	112	1/23/51	800	800	20	Steel-Perforated or Slotted Casing	
605159	A(2-1)30cbb	378772.5	3705613.1	TANITA FARMS INC,	Water Production	Domestic			13	0	0		0	0	0		
632232	A(2-1)30cc	378861.1	3705110.6	TROUT,H W	Water Production	Stock	Domestic		12	0	180	10/20/65	262	251	8	Walled or Shored	
636762	A(2-1)30cca	378961.2	3705213.3	THOMPSON,M D	Water Production	Domestic	Stock		0	0	0		0	0	0		
634925	A(2-1)30cd	379252	3705116.8	PENDERGAST,N K	Water Production	Domestic			5	0	150	1/1/46	195	195	6	Steel-Perforated or Slotted Casing	
607237	A(2-1)30daa	380129.5	3705640	ROOSEVELT IRR DIST,	Water Production	Irrigation			2016	0	123	9/23/65	1350	1272	20	Steel-Perforated or Slotted Casing	
608370	A(2-1)30ddd	380126.7	3705028.4	SALT RIVER PROJECT,	Water Production	Irrigation	Utility		3900	0	115	4/6/47	630	630	20	Steel-Perforated or Slotted Casing	
619343	A(2-1)31baa	379342.4	3704815.6	HOLLIDAY PARK REALTY,	Water Production	Domestic			20	0	180	1/1/45	350	350	6	Steel-Perforated or Slotted Casing	
619314	A(2-1)31daa	380109.9	3704023.2	SALT RIVER PROJECT	Water Production	Irrigation			0	0	200	1/1/40	600	600	20	Steel-Perforated or Slotted Casing	
636562	A(2-1)32	381014.5	3704135.7	JOHNSON,C F	Water Production	Domestic			15	0	30		85	85	6	Other-Black Steel-Iron-Seamless	
602814	A(2-1)32abd	381325.8	3704642.9	ROMAN CATHOLIC,	Water Production	Irrigation			275	0	144	1/1/65	685	390	12	Steel-Perforated or Slotted Casing	
622177	A(2-1)32aca	381322	3704441.3	RAY,H	Water Production	Stock	Domestic		21	0	200	6/4/68	422	422	8	Steel-Perforated or Slotted Casing	
634224	A(2-1)32aca	381322	3704441.3	BELL,L A	Water Production	Domestic			26	0	120	11/22/68	425	425	8	Steel-Perforated or Slotted Casing	
624792	A(2-1)32acb	381120.5	3704438.6	BROWN,L L	Water Production	Domestic	Stock		35	0	150	4/17/71	520	480	8	Steel-Perforated or Slotted Casing	
520984	A(2-1)32acd	381318.3	3704239.7	JONES, JESSE,	Water Production	Domestic			35	0	140	4/23/88	397	397	10	Steel-Perforated or Slotted Casing	X
571734	A(2-1)32acd	381318.3	3704239.7	WHITE, JERRY	Water Production	Domestic			0	0	95	1/19/99	220	220	8	Steel-Perforated or Slotted Casing	X
622896	A(2-1)32ad	381621.3	3704344.6	RUNYON,O E	Water Production	Irrigation			35	0	0	6/15/70	500	0	0		
634414	A(2-1)32bc	380413.4	3704328.5	REYNOLDS, D.M., INC,	Water Production	Domestic			10	0	141	1/1/76	560	560	8	Steel-Perforated or Slotted Casing	
602166	A(2-1)32bcb	380314.3	3704427.6	FIRST BAPTIST CHURCH,	Water Production	Domestic			8	0	120	1/15/79	585	540	6	Plastic or PVC	
85929	A(2-1)32bdc	380714.2	3704232	CRANE, CHARLES,J	Water Production	Domestic			10	0	100	12/1/80	350	0	8	Steel-Perforated or Slotted Casing	
631060	A(2-1)32bdd	380915.5	3704234.5	ANDRUS,H J	Water Production	Stock	Domestic		0	0	180	1/1/72	305	305	8	Steel-Perforated or Slotted Casing	
580949	A(2-1)32bdd	380915.5	3704234.5	STONE, REBEKAH	Water Production	Domestic			0	0	0		0	0	0		
607235	A(2-1)32dab	381515.8	3704040.5	ROOSEVELT IRR DIST,	Water Production	Irrigation			1727	0	123	5/15/51	775	775	20	Steel-Perforated or Slotted Casing	
635747	A(2-1)32dad	381712.4	3703840.9	SMITH,E	Water Production	Domestic			34	0	165	3/1/73	452	200	8	Other-Black Steel-Iron-Seamless	
618733	A(2-1)32db	381212.1	3703936.1	BARKER,E	Water Production	Domestic			0	0	0	1/1/71	0	0	0		
510427	A(2-1)32dbd	381310.8	3703836.5	SMITH (TRUST),C J	Water Production	Domestic			27	25	100	5/2/85	425	421	8	Steel-Perforated or Slotted Casing	X
520499	A(2-1)32dda	381708.8	3703639	CITY OF AVONDALE	Water Prod/Recharge	Domestic			0	0	122	8/31/88	660	660	16	Steel-Perforated or Slotted Casing	X

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624474	A(2-1)32ddd	381705.3	3703437.2	NAKAZAWA TRUST,	Water Production	Domestic			8	0	126	1/1/48	283	257	6	Other-Black Steel-Iron-Seamless	
634075	A(2-1)33c	382214.9	3703745.6	SHEELY RANCH,	Water Production	Domestic			0	0	0		0	0	0		
607234	A(2-1)33ccc	381907.2	3703439.4	ROOSEVELT IRR DIST,	Water Production	Irrigation			3226	0	113	1/1/65	1725	900	20	Steel-Perforated or Slotted Casing	
617701	A(2-1)33ccc	381907.2	3703439.4	SALT RIVER PROJECT,	Water Production	Irrigation			0	0	0	5/3/19	483	483	18	Steel-Perforated or Slotted Casing	
607233	A(2-1)33cdd	382512.8	3703444.8	ROOSEVELT IRRIG DIST,	Water Production	Irrigation			2038	0	112	6/15/51	800	800	20	Steel-Perforated or Slotted Casing	
635612	B(1-1)1	377834.2	3702504.2	STOTZ FARMS,	Water Production	Domestic			35	0	0	1/1/74	400	0	0	Steel-Perforated or Slotted Casing	
623980	B(1-1)1ba	377643.1	3703109.4	BRAINARD & NAIFEH,					0	0	0		0	0	0		
603350	B(1-1)1baa	377744.7	3703206.8	ALBERT,G	Water Production	Domestic			0	0	105	1/1/72	312	0	8	Steel-Perforated or Slotted Casing	
639762	B(1-1)1baa	377744.7	3703206.8	BUCKMASTER, DALE,	Water Production	Irrigation			1000	0	41	6/19/40	200	200	20	Steel-Perforated or Slotted Casing	
807954	B(1-1)1bbc	377143.6	3703026.9	ARIZONA DEPARTMENT OF TRA	Water Production	Domestic			0	0	0	1/1/36	0	0	0	Steel-Perforated or Slotted Casing	
610425	B(1-1)1bd	377639.9	3702716.3	NAIFEH JR,G S	Water Production	Stock	Domestic		0	0	0		0	0	0		
639761	B(1-1)1bdb	377541.3	3702818.7	BUCKMASTER, DALE,	Water Production	Domestic			90	0	125	9/9/76	352	339	9	Steel-Perforated or Slotted Casing	
636720	B(1-1)1c	377430.7	3702111.5	ALTSCHUL,B S	Water Production	Irrigation			35	0	0		0	0	0		
613604	B(1-1)1cab	377536.4	3702414.1	I-10 & 119TH AVE PRT,	Water Production	Irrigation	Domestic		90	0	90	11/1/79	398	386	8	Steel-Perforated or Slotted Casing	
582650	B(1-1)1cab	377536.4	3702414.1	HENDERSON, MILLIE	Water Production	Domestic			0	0	0		0	0	0		
625896	B(1-1)1cbc	377131.8	3702214.8	FIRST CITY AZ DEV,	Water Production	Irrigation			1400	0	80	4/15/46	270	270	16	Steel-Perforated or Slotted Casing	
633091	B(1-1)1ccc	377126.7	3701808.7	SCHULKE,R L	Water Production	Domestic			35	0	80	1/1/46	400	400	6	Steel-Perforated or Slotted Casing	
803662	B(1-1)1d	378233.6	3702106.4	WEST 40 LTD,	Water Production	Domestic			35	0	0		0	0	0		
638584	B(1-1)1d	378233.6	3702106.4	WEST 40 LTD,	Water Production	Domestic			0	0	0		0	0	0		
800767	B(1-1)1dad	378535.6	3702204.6	SUMMERS,J C	Water Production	Domestic			1	0	130	9/1/71	365	240	8	Steel-Perforated or Slotted Casing	
551090	B(1-1)1dda	378534	3702004.4	KOKOSING CONST CO,	Monitor	Monitoring			0	0	60	10/27/95	85	85	4	Plastic or PVC	X
551088	B(1-1)1ddd	378532.4	3701804.1	KOKOSING CONST CO,	Monitor	Monitoring			0	0	57	10/4/95	85	85	4	Plastic or PVC	X
570404	B(1-1)2abb	376348.7	3703245.8	AVONDALE, CITY OF, PUBLIC	Piezometer	Monitoring			0	0	0	9/9/98	48	46	4	Plastic or PVC	X
807952	B(1-1)2adb	376741.6	3702832.8	ARIZONA DEPARTMENT OF TRA	Water Production	Domestic			0	0	0	1/1/31	0	0	4	Steel-Perforated or Slotted Casing	
807953	B(1-1)2adb	376741.6	3702832.8	ARIZONA DEPARTMENT OF TRA	Water Production	Domestic			0	0	0	1/1/31	0	0	4	Steel-Perforated or Slotted Casing	
618648	B(1-1)2add	376937.2	3702625.2	ANDERSON,L H	Water Production	Domestic			35	0	75	1/1/49	200	200	6	Steel-Perforated or Slotted Casing	
607157	B(1-1)2bbb	375550.7	3703261.3	ROOSEVELT IRR DIST,	Water Production	Irrigation			1568	0	102	12/17/47	800	650	20	Steel-Perforated or Slotted Casing	
617678	B(1-1)2cbc	375529.4	3702262.2	CITY OF AVONDALE	Water Production	Irrigation			200	0	120	1/1/70	0	0	8	Steel-Perforated or Slotted Casing	
617679	B(1-1)2cbc	375529.4	3702262.2	CITY OF AVONDALE	Water Production	Irrigation			0	0	120	1/1/70	0	0	12	Steel-Perforated or Slotted Casing	
583017	B(1-1)2cbd	375730.6	3702256	AVONDALE, CITY OF, PUBLIC	Water Prod/Recharge	Municipal			0	0	0		0	0	0		
635528	B(1-1)2da	376832.8	3702323.5	BALES,D E	Water Production	Stock	Domestic	Irrigation	35	0	98		150	0	6	Steel-Perforated or Slotted Casing	
624725	B(1-1)2daa	376934.1	3702422.1	B & C INVESTMENTS,	Water Production	Irrigation			0	0	0		0	0	0		
618650	B(1-1)2dbb	376335	3702439.2	STEWART, NELSON	Water Production	Irrigation			2200	0	75	1/1/78	400	400	20	Steel-Perforated or Slotted Casing	
611686	B(1-1)3baa	374553.2	3703279.7	PALM VALLEY GOLF CLUB, IN	Water Production	Irrigation			1900	0	206	7/1/48	714	0	20	Steel-Perforated or Slotted Casing	
532479	B(1-1)3ccb	373929.8	3702074.9	UNIDYNAMICS/PHX INC,	Monitor	Monitoring			0	0	0	7/24/92	145	125	6	Steel-Perforated or Slotted Casing	X
561471	B(1-1)3dab	375133.5	3702468.4	GOODYEAR, CITY OF,	Monitor	Monitoring			0	0	77	4/10/97	540	390	4	Plastic or PVC	X
571170	B(1-1)3dab	375133.5	3702468.4	CITY OF GOODYEAR	Water Production	Test			0	0	82	11/29/98	583	570	16	Steel-Perforated or Slotted Casing	X
566942	B(1-1)3dba	374934.2	3702470.3	CITY OF GOODYEAR	Water Production	Municipal			0	0	84	10/28/98	1037	570	16	Steel-Perforated or Slotted Casing	X
617174	B(1-1)3ddb	375124.6	3702068	GOODYEAR, CITY OF,	Water Production	Municipal			545	0	91	10/20/74	502	500	16	Steel-Perforated or Slotted Casing	
604506	B(1-1)4aba	373356.8	3703302.3	GOODYEAR, CITY OF,	Water Production	Stock	Domestic		200	0	0	11/1/56	603	603	12		
518932	B(1-1)4adb	373547.7	3702893.5	UNIDYNAMICS PHOENIX,	Observation	Monitoring			11	98	0	9/23/87	160	160	8	Plastic or PVC	X
538966	B(1-1)4adc	373543.4	3702691.1	UNIDYNAMICS/PHX INC,	Geotechnical	None			0	0	0	5/4/93	150	0	0		X
609559	B(1-1)4daa	373739.7	3702484	FIRST CITY BURTON,	Water Production	Irrigation			0	0	0		0	0	0		
566241	B(1-1)4dab	373539.2	3702488.7	UNIDYNAMICS/PHOENIX INC	Test	Test			0	0	0		0	0	0		
515917	B(1-1)4dcb	373132	3702094.1	UNIDYNAMICS PHX INC,	Observation	Monitoring			20	10	45	11/4/86	160	160	6	Plastic or PVC	X
515918	B(1-1)4dcb	373132	3702094.1	UNIDYNAMICS PHX INC,	Observation	Monitoring			20	9	45	11/7/86	355	185	6	Steel-Perforated or Slotted Casing	X
548192	B(1-1)4dcd	373327.1	3701886.6	ARIZONA PUBLIC SERVICE	Monitor	Monitoring			0	0	0	3/5/95	116	115	4	Steel-Perforated or Slotted Casing	X

TABLE F-1.1
WELL INVENTORY
CITY OF AVONDALE - WATER RESOURCES MASTER PLAN

Registry ID	Cadastral Location	UTM X	UTM Y	Owner	Well Use 1	Water Use 1	Water Use 2	Water Use 3	Pump Rate	Draw-down	Water Level	Installed	Well Depth	Casing Depth	Casing Width	Casing Type	Drill Log
515916	B(1-1)4ddb	373530.7	3702083.9	UNIDYNAMICS PHX INC,	Observation	Monitoring			20	27	45	10/31/86	176	20	6	Plastic or PVC	X
540523	B(1-1)9aaa	373722.6	3701673.9	AZ PUBLIC SERVICE,	Monitor	Monitoring			0	0	0	9/2/93	110	110	4	Steel-Perforated or Slotted Casing	X
540524	B(1-1)9aaa	373722.6	3701673.9	AZ PUBLIC SERVICE,	Monitor	Monitoring			0	0	0	9/3/93	110	110	4	Steel-Perforated or Slotted Casing	X
510524	B(1-1)9aaa	373722.6	3701673.9	UNIDYNAMICS PHX INC,	Observation	Monitoring			28	13	80	4/3/85	136	21	7	Plastic or PVC	X
532397	B(1-1)9aaa	373722.6	3701673.9	UNIDYNAMICS/PHX INC,	Monitor	Monitoring			0	0	0	5/1/92	280	275	10	Steel-Perforated or Slotted Casing	X
566240	B(1-1)9aaa	373722.6	3701673.9	UNIDYNAMICS/PHOENIX INC	Test	Test			0	0	0		0	0	0		
566238	B(1-1)9aaa	373722.6	3701673.9	UNIDYNAMICS/PHOENIX INC	Test	Test			0	0	0		0	0	0		
566239	B(1-1)9aab	373522.9	3701679.3	UNIDYNAMICS/PHOENIX INC	Test	Test			0	0	0		0	0	0		
509185	B(1-1)9aac	373521.3	3701478.7	UNIDYNAMICS PHX INC,	Observation	Monitoring			26	17	81	10/18/84	130	130	18	Plastic or PVC	X
509186	B(1-1)9aac	373521.3	3701478.7	UNIDYNAMICS PHX INC,	Observation	Monitoring			26	12	78	10/18/84	130	130	18	Plastic or PVC	X
540712	B(1-1)9aac	373521.3	3701478.7	UNIDYNAMICS/PHX INC,	Monitor	Monitoring			0	0	77	1/17/94	160	160	16	Steel-Perforated or Slotted Casing	X
509187	B(1-1)9aac	373521.3	3701478.7	UNIDYNAMICS PHX INC,	Observation	Monitoring			26	17	82	10/20/84	130	130	18	Plastic or PVC	X
540419	B(1-1)9aac	373521.3	3701478.7	UNIDYNAMICS/PHOENIX,	Monitor	Monitoring			0	0	78	1/11/94	280	280	6	Plastic or PVC	X
539283	B(1-1)9aba	373323.3	3701684.7	AZ PUBLIC SERVICE,	Monitor	Monitoring			0	0	90	6/3/93	110	110	4	Steel-Perforated or Slotted Casing	X
515915	B(1-1)9abc	373121.3	3701488.9	UNIDYNAMICS PHX INC,	Observation	Monitoring			20	15	45	11/2/86	160	20	6	Steel-Perforated or Slotted Casing	X
509188	B(1-1)9ada	373719.6	3701273.3	UNIDYNAMICS PHX INC,	Observation	Monitoring			26	9	75	10/12/84	160	160	18	Plastic or PVC	X
510526	B(1-1)9ada	373719.6	3701273.3	UNIDYNAMICS PHX INC,	Observation	Monitoring			28	28	81	4/10/85	135	20	7	Steel-Perforated or Slotted Casing	X
515914	B(1-1)9ada	373719.6	3701273.3	UNIDYNAMICS PHX INC,	Observation	Monitoring			20	5	45	10/30/86	360	20	6	Plastic or PVC	X
536148	B(1-1)9adc	373518	3701077.7	UNIDYNAMICS INC,	Piezometer	Test			0	0	80	8/14/92	84	84	1	Steel-Perforated or Slotted Casing	X
536147	B(1-1)9adc	373518	3701077.7	UNIDYNAMICS INC,	Piezometer	Test			0	0	75	8/14/92	84	84	1	Steel-Perforated or Slotted Casing	X
535073	B(1-1)9add	373718.1	3701072.9	UNIDYNAMICS/PHX INC,	Piezometer	Test			0	0	0	5/10/92	215	211	2	Steel-Perforated or Slotted Casing	X
536145	B(1-1)9add	373718.1	3701072.9	UNIDYNAMICS INC,	Piezometer	Test			0	0	75	8/12/92	84	84	1	Steel-Perforated or Slotted Casing	X
535072	B(1-1)9add	373718.1	3701072.9	UNIDYNAMICS/PHX INC,	Piezometer	Test			0	0	0	5/7/92	278	278	8	Steel-Perforated or Slotted Casing	X
536144	B(1-1)9add	373718.1	3701072.9	UNIDYNAMICS INC,	Piezometer	Test			0	0	75	8/11/92	90	84	4	Steel-Perforated or Slotted Casing	X
536146	B(1-1)9add	373718.1	3701072.9	UNIDYNAMICS, INC,	Piezometer	Test			0	0	75	8/12/92	84	84	1	Steel-Perforated or Slotted Casing	X
510525	B(1-1)9daa	373716.6	3700872.6	UNIDYNAMICS PHX INC,	Observation	Monitoring			28	22	78	4/5/85	135	20	7	Plastic or PVC	X
520112	B(1-1)9dab	373516.4	3700877.1	EPA REGION 9,	Observation	Monitoring			7	14	62	2/10/88	107	105	4	Plastic or PVC	X
617170	B(1-1)9ddb	373513.1	3700476.1	GOODYEAR, CITY OF,					700	0	80	7/4/74	501	501	16	Steel-Perforated or Slotted Casing	
607158	B(1-1)10aaa	375316	3701665.9	ROOSEVELT IRR DIST,	Water Production	Irrigation			2240	0	80	1/26/56	900	900	20	Steel-Perforated or Slotted Casing	
612587	B(1-1)10ab	374817.3	3701567.8	A TUMBLING T RANCHES,	Water Production	Irrigation			0	0	0		0	0	0		
612588	B(1-1)10ab	374817.3	3701567.8	CAMELBACK 240 ACRES,	Water Production	Domestic			0	0	0	1/1/50	0	0	0		
627946	B(1-1)10abb	374718.7	3701669.1	U TOTEM MARKETS,	Water Production	Domestic			6	0	140	1/1/57	335	335	8	Steel-Perforated or Slotted Casing	
556678	B(1-1)10bbb	373922.2	3701670.9	CHEVRON PRODUCTS CO	Monitor	Monitoring			0	0	80	5/23/97	95	65	4	Plastic or PVC	X
556677	B(1-1)10bbb	373922.2	3701670.9	CHEVRON PRODUCTS CO	Monitor	Monitoring			0	0	80	5/22/97	95	65	4	Plastic or PVC	X
556679	B(1-1)10bbb	373922.2	3701670.9	CHEVRON PRODUCTS CO	Monitor	Monitoring			0	0	80	5/24/97	95	65	4	Plastic or PVC	X
566518	B(1-1)10bbb	373922.2	3701670.9	CHEVRON PRODUCTS CO	Test	Monitoring			0	0	83	6/1/98	95	0	0	Plastic or PVC	X
566519	B(1-1)10bbb	373922.2	3701670.9	CHEVRON PRODUCTS CO	Test	Monitoring			0	0	79	6/2/98	95	0	0	Plastic or PVC	X
566520	B(1-1)10bbb	373922.2	3701670.9	CHEVRON PRODUCTS CO	Test	Monitoring			0	0	0	6/3/98	95	65	4	Plastic or PVC	X
566521	B(1-1)10bbb	373922.2	3701670.9	CHEVRON PRODUCTS CO	Test	Monitoring			0	0	0	6/4/98	95	65	4	Plastic or PVC	X
570013	B(1-1)10bbb	373922.2	3701670.9	CHEVRON PRODUCTS CO	Monitor	Test			0	0	78	12/19/98	95	65	4	Plastic or PVC	X
581967	B(1-1)10bbb	373922.2	3701670.9	CHEVRON PRODUCTS CO	Monitor	Test			0	0	0		0	0	0		
532480	B(1-1)10bbc	373920.5	3701470.3	UNIDYNAMICS/PHX INC,	Monitor	Monitoring			0	0	0	5/16/92	282	280	10	Steel-Perforated or Slotted Casing	X
609572	B(1-1)10bcc	373917.2	3701069.5	GOODYEAR, CITY OF,	Water Production	Municipal			350	0	86	1/1/69	610	600	12	Steel-Perforated or Slotted Casing	
602774	B(1-1)10bda	374515.3	3701265.4	AVONDALE ELEMENTARY,	Water Production	Irrigation			1175	0	95	3/17/60	300	300	16	Steel-Perforated or Slotted Casing	
617171	B(1-1)10bdb	374316.5	3701266.9	GOODYEAR, CITY OF,	Water Production	Municipal			650	0	71		385	375	6	Steel-Perforated or Slotted Casing	
609185	B(1-1)10cb	374014.1	3700767.7	SCHULTZ, WILLIAM,R	Water Production	Domestic	Irrigation		750	0	0		0	0	0		
800772	B(1-1)10cb	374014.1	3700767.7	SCHULTZ, WILLIAM,R	Water Production	Irrigation			300	0	89		0	0	5		

TABLE F-1.1
WELL INVENTORY
CITY OF AVONDALE - WATER RESOURCES MASTER PLAN

Registry ID	Cadastral Location	UTM X	UTM Y	Owner	Well Use 1	Water Use 1	Water Use 2	Water Use 3	Pump Rate	Draw-down	Water Level	Installed	Well Depth	Casing Depth	Casing Width	Casing Type	Drill Log
800773	B(1-1)10cb	374014.1	3700767.7	SCHULTZ, WILLIAM,R	Water Production	Domestic			300	0	91		281	281	5	Steel-Perforated or Slotted Casing	
800667	B(1-1)10cc	374010.3	3700366.4	GAGE JR,E R	Water Production	Domestic			35	0	0	9/1/66	386	386	8	Steel-Perforated or Slotted Casing	
800668	B(1-1)10cc	374010.3	3700366.4	GAGE JR,E G	Water Production	Domestic	Irrigation		0	0	35	9/1/66	386	386	8	Steel-Perforated or Slotted Casing	
550228	B(1-1)10ccd	374108.5	3700264.4	ADEQ,	Monitor	Monitoring			0	0	50	6/30/95	100	20	4		X
609571	B(1-1)10ccd	374108.5	3700264.4	GOODYEAR, CITY OF,	Water Production	Municipal			350	0	75		192	160	6	Steel-Perforated or Slotted Casing	
583232	B(1-1)10cdb	374308.7	3700462.2	ARIZONA DEPARTMENT OF ENV	Monitor	Test			0	0	60	10/19/00	135	45	4	Plastic or PVC	X
628770	B(1-1)10db	374808	3700757.9	LUDLOW,M E	Water Production	Domestic			0	0	110	1/1/36	205	200	6	Other-Black Steel-Iron-Seamless	
550230	B(1-1)10dcc	374703.1	3700254.3	ADEQ,	Monitor	Monitoring			0	0	0		0	0	0		
608732	B(1-1)10dcc	374703.1	3700254.3	AVONDALE, CITY OF,	Water Prod/Recharge	Municipal	Domestic		1200	0	108	1/1/53	460	500	20	Steel-Perforated or Slotted Casing	
608731	B(1-1)10ddb	375102	3700450.3	AVONDALE, CITY OF,	Water Prod/Recharge	Municipal	Domestic		1200	0	85	4/3/49	456	500	16	Steel-Perforated or Slotted Casing	
583231	B(1-1)10ddc	375099.5	3700247.5	ARIZONA DEPARTMENT OF ENV	Monitor	Test			0	0	60	10/21/00	135	45	4	Plastic or PVC	X
550229	B(1-1)10ddd	375298.2	3700244.1	ADEQ,	Monitor	Monitoring			0	0	50	6/29/95	100	20	4		X
604520	B(1-1)11aa	376821.6	3701516.4	AVONDALE, CITY OF, PUBLIC	Water Production	Irrigation			1200	0	80	1/1/49	165	165	20	Steel-Perforated or Slotted Casing	
632880	B(1-1)11aaa	376922.9	3701612	COLLIER FARMS LTD,	Water Production	Domestic			35	0	80	1/1/42	500	500	6	Steel-Perforated or Slotted Casing	
608841	B(1-1)11baa	376119	3701640.1	BALL BALL & BROSAMER,	Water Production	Irrigation			1200	0	91	1/1/33	246	246	14	Steel-Perforated or Slotted Casing	
631179	B(1-1)11cbc	375504.2	3700646.8	BOONE,C F	Water Production	Irrigation	Domestic	Stock	19	0	61	9/1/40	114	114	6	Steel-Perforated or Slotted Casing	
515753	B(1-1)11cca	375704.2	3700441.2	MARICOPA COUNTY,	Observation	Monitoring			10	0	33	10/7/86	113	113	4	Steel-Perforated or Slotted Casing	X
634451	B(1-1)11ccb	375501.8	3700444	ROSS,R F	Water Production	Domestic			0	0	0	1/1/43	0	0	0	Steel-Perforated or Slotted Casing	
515752	B(1-1)11ccd	375702.1	3700239.1	MARICOPA COUNTY,	Observation	Monitoring			10	0	31	10/8/86	112	112	4	Steel-Perforated or Slotted Casing	X
515754	B(1-1)11cdb	375906.1	3700438.4	MARICOPA COUNTY,	Observation	Monitoring			10	0	39	10/10/86	112	112	4	Steel-Perforated or Slotted Casing	X
515751	B(1-1)11cdc	375904.1	3700237	MARICOPA COUNTY,	Observation	Monitoring			10	0	30	10/10/86	111	111	4	Steel-Perforated or Slotted Casing	X
580082	B(1-1)11dcc	376308.2	3700232.8	VALLEY UTILITIES WATER CO	Water Production	Municipal			0	0	0		0	0	0		N
605046	B(1-1)12aaa	378530	3701604.9	WEILER,C E	Water Production	Domestic			15	0	126		226	0	0		
605042	B(1-1)12aaa	378530	3701604.9	WEILER,C E	Water Production	Irrigation			2500	0	132	1/1/51	0	0	0		
607579	B(1-1)12baa	377726.8	3701607.2	SCHULKE,M	Water Production	Irrigation			2500	0	80	4/1/46	800	600	20	Steel-Perforated or Slotted Casing	
607580	B(1-1)12baa	377726.8	3701607.2	SCHULKE,M A	Water Production	Irrigation			2200	0	80	1/1/40	600	600	20	Steel-Perforated or Slotted Casing	
605045	B(1-1)12dda	378523.1	3700406.2	WEILER,C E	Water Production	Domestic			15	0	70		204	0	0		
505797	B(1-1)13aaa	378520.5	3700005.1	LITTLETON ELEM SCH,	Water Production	Irrigation			30	6	60	2/14/96	410	410	8	Steel-Perforated or Slotted Casing	X
630182	B(1-1)13aaa	378520.5	3700005.1	LITTLETON SCHOOL,	Water Production	Domestic			32	0	73	1/1/20	299	0	8	Steel-Perforated or Slotted Casing	
617281	B(1-1)13aab	378319.4	3700007.6	LAKIN CATTLE CO,	Water Production	Irrigation			0	0	0		0	0	0		
617283	B(1-1)13aad	378519.3	3699802.1	NIELSEN,T J	Water Production	Domestic			0	0	0		0	0	6		
603632	B(1-1)13cda	377705.7	3698788.9	TRIPLE G FARMS,	Water Production	Domestic			21	0	65	11/1/78	391	363	8	Steel-Perforated or Slotted Casing	
607717	B(1-1)13dbc	377909.3	3698992.4	SALT RIVER PROJECT,	Water Production	Irrigation	Utility		2620	0	63	6/8/29	200	200	20	Steel-Perforated or Slotted Casing	
640751	B(1-1)14aaa	376911.3	3700025.1	WOO SR,D H	Water Production	Domestic			24	0	60		126	126	6	Steel-Perforated or Slotted Casing	
621631	B(1-1)14ab	376405.7	3699929.4	OLSON JR,B	Water Production	Domestic			0	0	40		185	185	8	Steel-Perforated or Slotted Casing	
543674	B(1-1)14abb	376305.4	3700032.2	OLSON, BILL,	Monitor	Monitoring			0	0	25	5/31/94	40	40	4	Plastic or PVC	X
605041	B(1-1)14add	376903.9	3699409.5	WEILER, CARL,	Water Production	Irrigation			2288	0	0	11/19/80	0	0	0		
617343	B(1-1)14c	375799.6	3698929.6	KENATCO HOLDINGS,	Water Production	Domestic			0	0	0		0	0	0		
608575	B(1-1)14cdd	376096.8	3698616.2	FLOOD CONTROL DIST,	Water Production	Irrigation			2750	0	22	9/1/32	135	135	18		
85686	B(1-1)14dbd	376498.2	3699010.2	TRIPLE G FARMS,	Water Production	Industrial			91	0	43	11/2/81	378	363	8	Other-Black Steel-Iron-Seamless	
617881	B(1-1)14ddd	376893.9	3698588.8	AVONDALE, CITY OF,	Water Production	Domestic			180	0	45	6/1/72	363	363	8	Steel-Perforated or Slotted Casing	
551045	B(1-1)15aad	375298.9	3699842.3	SAVEALL INDUSTRIES,	Monitor	Monitoring			0	0	35	8/30/95	60	20	4	Plastic or PVC	X
551044	B(1-1)15aad	375298.9	3699842.3	SAVEALL INDUSTRIES,	Monitor	Monitoring			0	0	31	8/29/95	60	20	4	Plastic or PVC	X
510060	B(1-1)15acc	374706.1	3699452.4	NOEL,S D	Observation	Monitoring			0	0	55	1/13/85	75	69	2	Plastic or PVC	X
510093	B(1-1)15acc	374706.1	3699452.4	CIRCLE K CORP,	Water Production	Other-Prod			0	0	55	1/23/85	100	100	16	Steel-Perforated or Slotted Casing	X
524561	B(1-1)15acc	374706.1	3699452.4	GROUNDWATER TECH INC,	Monitor	Monitoring			0	0	52	6/13/89	69	69	4	Plastic or PVC	X
545378	B(1-1)15acc	374706.1	3699452.4	ADEQ,	Monitor	Monitoring			0	0	49	9/27/94	70	70	4	Plastic or PVC	X

TABLE F-1.1
WELL INVENTORY
CITY OF AVONDALE - WATER RESOURCES MASTER PLAN

Registry ID	Cadastral Location	UTM X	UTM Y	Owner	Well Use 1	Water Use 1	Water Use 2	Water Use 3	Pump Rate	Draw-down	Water Level	Installed	Well Depth	Casing Depth	Casing Width	Casing Type	Drill Log
545388	B(1-1)15acc	374706.1	3699452.4	ADEQ,	Monitor	Monitoring			0	0	48	9/23/94	70	70	4	Plastic or PVC	X
545389	B(1-1)15acc	374706.1	3699452.4	ADEQ,	Monitor	Monitoring			0	0	43	4/11/95	70	69	4	Plastic or PVC	X
510001	B(1-1)15acc	374706.1	3699452.4	NOEL,S D	Observation	Monitoring			0	0	61	1/10/85	75	75	2	Plastic or PVC	X
510059	B(1-1)15acc	374706.1	3699452.4	NOEL,S D	Observation	Monitoring			0	0	60	1/12/85	67	67	2	Plastic or PVC	X
510061	B(1-1)15acc	374706.1	3699452.4	NOEL,S D	Observation	Monitoring			0	0	54	1/13/85	70	62	2	Plastic or PVC	X
524562	B(1-1)15acc	374706.1	3699452.4	GROUNDWATER TECH INC,	Monitor	Monitoring			0	0	52	6/14/89	68	68	4	Plastic or PVC	X
524563	B(1-1)15acc	374706.1	3699452.4	GROUNDWATER TECH INC,	Monitor	Monitoring			0	0	52	6/15/89	68	68	4	Plastic or PVC	X
545379	B(1-1)15acc	374706.1	3699452.4	ADEQ,	Monitor	Monitoring			0	0	51	9/27/94	70	70	4	Plastic or PVC	X
567339	B(1-1)15acc	374706.1	3699452.4	ARIZONA DEPARTMENT OF ENV	Monitor	Monitoring			0	0	55		90	67	4	Plastic or PVC	X
567341	B(1-1)15acc	374706.1	3699452.4	ARIZONA DEPARTMENT OF ENV	Monitor	Monitoring			0	0	0		0	0	0		
567342	B(1-1)15acc	374706.1	3699452.4	ARIZONA DEPARTMENT OF ENV	Geotechnical	None			0	0	0		0	0	0		
800820	B(1-1)15acd	374904.3	3699449	ST CYR,J D	Water Production	Domestic			25	0	60	5/15/47	162	140	8	Steel-Perforated or Slotted Casing	
506456	B(1-1)15acd	374904.3	3699449	ST CYR,J D	Water Production	Domestic			22	0	55	3/19/84	185	168	10	Steel-Perforated or Slotted Casing	X
583229	B(1-1)15bab	374307	3700060.2	ARIZONA DEPARTMENT OF ENV	Monitor	Test			0	0	60	10/13/00	135	45	4	Plastic or PVC	X
602773	B(1-1)15bad	374506.1	3699856.4	AVONDALE ELEMENTARY,	Water Production	Irrigation			1000	0	70	1/1/51	414	400	16	Steel-Perforated or Slotted Casing	
562279	B(1-1)15bba	374108.8	3700063.7	LACY, RAN,	Monitor	Monitoring			0	0	0		0	0	0		
562280	B(1-1)15bba	374108.8	3700063.7	LACY, RAN,	Monitor	Monitoring			0	0	0		0	0	0		
562281	B(1-1)15bba	374108.8	3700063.7	LACY, RAN,	Monitor	Monitoring			0	0	0		0	0	0		
532958	B(1-1)15bbb	373910.4	3700067.2	CITY OF GOODYEAR	Monitor	Monitoring			1	0	59	9/25/91	75	45	4	Plastic or PVC	X
532957	B(1-1)15bbb	373910.4	3700067.2	CITY OF GOODYEAR	Monitor	Monitoring			1	0	59	9/23/91	75	45	4	Plastic or PVC	X
537835	B(1-1)15bbb	373910.4	3700067.2	GOODYEAR, CITY OF,	Monitor	Monitoring			0	0	53	2/17/93	83	83	4	Plastic or PVC	X
515525	B(1-1)15bbc	373910.8	3699866.8	LORAL CORPORATION,	Observation	Monitoring			10	0	51	10/10/86	100	20	4	Plastic or PVC	X
583228	B(1-1)15bbc	373910.8	3699866.8	ARIZONA DEPARTMENT OF ENV	Monitor	Test			0	0	60	10/11/00	135	45	4	Plastic or PVC	X
515520	B(1-1)15bcc	373911.7	3699466.1	LORAL CORPORATION,	Observation	Monitoring			10	0	48	10/11/86	80	20	4	Plastic or PVC	X
583230	B(1-1)15bdb	374308.8	3699659.6	ARIZONA DEPARTMENT OF ENV	Monitor	Test			0	0	60	10/17/00	135	45	4	Plastic or PVC	X
546908	B(1-1)15bdd	374507.9	3699455.8	ADEQ,	Monitor	Monitoring			0	0	51	4/10/95	74	72	4	Plastic or PVC	X
510257	B(1-1)15bdd	374507.9	3699455.8	HANSEN,R N	Mineral Exploration	None			0	0	58	2/15/85	105	100	4	Plastic or PVC	X
516132	B(1-1)15bdd	374507.9	3699455.8	CIRCLE K CORP,	Observation	Monitoring			0	0	53	1/6/87	70	70	30	Plastic or PVC	X
567340	B(1-1)15bdd	374507.9	3699455.8	ARIZONA DEPARTMENT OF ENV	Monitor	Monitoring			0	0	60		70	70	4	Plastic or PVC	X
536703	B(1-1)15cbc	373913.1	3699065.5	CENEX,	Monitor	Monitoring			0	0	0	9/28/92	50	45	4	Plastic or PVC	X
803734	B(1-1)15cc	374014.6	3698763.4	ARNOLD ENTERPRISES,	Water Production	Domestic			0	0	0		0	0	0		
607159	B(1-1)15ccb	373914.7	3698865.1	ROOSEVELT IRR DIST,	Water Production	Irrigation			1568	0	64	4/10/35	203	203	20	Steel-Perforated or Slotted Casing	
600085	B(1-1)15daa	375301.7	3699242	LORENZ,C P	Water Production	Domestic			4	0	100	5/1/54	276	276	0	Steel-Perforated or Slotted Casing	N
574959	B(1-1)15dbb	374707	3699252.2	ARIZONA DEPARTMENT OF ENV	Monitor	Test			0	0	60	6/21/99	70	59	2	Plastic or PVC	X
574960	B(1-1)15dbb	374707	3699252.2	ARIZONA DEPARTMENT OF ENV	Monitor	Test			0	0	60	6/22/99	70	59	2	Plastic or PVC	X
574961	B(1-1)15dbb	374707	3699252.2	ARIZONA DEPARTMENT OF ENV	Monitor	Test			0	0	60	6/23/99	70	59	2	Plastic or PVC	X
574962	B(1-1)15dbb	374707	3699252.2	ARIZONA DEPARTMENT OF ENV	Monitor	Test			0	0	60	6/23/99	70	59	2	Plastic or PVC	X
574963	B(1-1)15dbb	374707	3699252.2	ARIZONA DEPARTMENT OF ENV	Monitor	Test			0	0	60	6/24/99	70	59	2	Plastic or PVC	X
574964	B(1-1)15dbb	374707	3699252.2	ARIZONA DEPARTMENT OF ENV	Monitor	Test			0	0	60	6/24/99	70	59	2	Plastic or PVC	X
574965	B(1-1)15dbb	374707	3699252.2	ARIZONA DEPARTMENT OF ENV	Monitor	Test			0	0	60	6/25/99	70	59	2	Plastic or PVC	X
574966	B(1-1)15dbb	374707	3699252.2	ARIZONA DEPARTMENT OF ENV	Monitor	Test			0	0	60		70	59	2	Plastic or PVC	X
574967	B(1-1)15dbb	374707	3699252.2	ARIZONA DEPARTMENT OF ENV	Monitor	Test			0	0	60	6/29/99	70	59	2	Plastic or PVC	X
574968	B(1-1)15dbb	374707	3699252.2	ARIZONA DEPARTMENT OF ENV	Monitor	Test			0	0	60	6/30/99	70	59	2	Plastic or PVC	X
574969	B(1-1)15dbb	374707	3699252.2	ARIZONA DEPARTMENT OF ENV	Monitor	Test			0	0	60	7/2/99	70	59	2	Plastic or PVC	X
574970	B(1-1)15dbb	374707	3699252.2	ARIZONA DEPARTMENT OF ENV	Monitor	Test			0	0	60	7/2/99	70	59	2	Plastic or PVC	X
574971	B(1-1)15dbb	374707	3699252.2	ARIZONA DEPARTMENT OF ENV	Monitor	Test			0	0	60	7/6/99	70	59	2	Plastic or PVC	X
574972	B(1-1)15dbb	374707	3699252.2	ARIZONA DEPARTMENT OF ENV	Monitor	Test			0	0	60	7/7/99	70	59	2	Plastic or PVC	X

TABLE F-1.1
WELL INVENTORY
CITY OF AVONDALE - WATER RESOURCES MASTER PLAN

Registry ID	Cadastral Location	UTM X	UTM Y	Owner	Well Use 1	Water Use 1	Water Use 2	Water Use 3	Pump Rate	Draw-down	Water Level	Installed	Well Depth	Casing Depth	Casing Width	Casing Type	Drill Log
574973	B(1-1)15dbb	374707	3699252.2	ARIZONA DEPARTMENT OF ENV	Monitor	Test			0	0	60	7/7/99	70	59	2	Plastic or PVC	X
574974	B(1-1)15dbb	374707	3699252.2	ARIZONA DEPARTMENT OF ENV	Monitor	Test			0	0	60	7/8/99	70	59	2	Plastic or PVC	X
574975	B(1-1)15dbb	374707	3699252.2	ARIZONA DEPARTMENT OF ENV	Monitor	Test			0	0	60	7/9/99	70	59	2	Plastic or PVC	X
574976	B(1-1)15dbb	374707	3699252.2	ARIZONA DEPARTMENT OF ENV	Monitor	Test			0	0	60	7/12/99	70	59	2	Plastic or PVC	X
574977	B(1-1)15dbb	374707	3699252.2	ARIZONA DEPARTMENT OF ENV	Monitor	Test			0	0	60	7/14/99	70	59	2	Plastic or PVC	X
576274	B(1-1)15dbb	374707	3699252.2	ARIZONA DEPT OF ENVIRONME	Monitor	Test			0	0	60	7/14/99	70	59	2	Plastic or PVC	X
576275	B(1-1)15dbb	374707	3699252.2	ARIZONA DEPT OF ENVIRONME	Monitor	Test			0	0	60	7/15/99	70	59	2	Plastic or PVC	X
608733	B(1-1)15dca	374907.1	3698848.3	AVONDALE, CITY OF,	Water Prod/Recharge	Municipal	Domestic		1200	0	125	5/31/72	550	500	16	Steel-Perforated or Slotted Casing	
560503	B(1-1)15ddc	375106.3	3698644.9	CITY OF AVONDALE	Monitor	Monitoring			0	0	28	1/14/97	48	0	4	Plastic or PVC	X
560506	B(1-1)15ddc	375106.3	3698644.9	AVONDALE, CITY OF,	Monitor	Monitoring			0	0	0		0	0	0		
560504	B(1-1)15ddc	375106.3	3698644.9	CITY OF AVONDALE	Monitor	Monitoring			0	0	0		0	0	0		
517613	B(1-1)16	373013.1	3699389	EPA REGION 9,	Observation	Monitoring			0	0	0	5/7/87	310	305	10	Steel-Perforated or Slotted Casing	X
509925	B(1-1)16	373013.1	3699389	PHOENIX, CITY OF,	Piezometer	None			0	0	49	1/16/85	56	56	2	Steel-Perforated or Slotted Casing	X
517614	B(1-1)16	373013.1	3699389	EPA REGION 9,	Observation	Monitoring			0	0	0	5/12/87	300	300	10	Steel-Perforated or Slotted Casing	X
529476	B(1-1)16	373013.1	3699389	PHOENIX, CITY OF,	Geotechnical	None			0	0	55	9/14/90	85	0	0		X
510291	B(1-1)16aaa	373710.6	3700071.2	LORAL CORPORATION,	Observation	Monitoring			35	7	57	5/2/85	192	190	8	Steel-Perforated or Slotted Casing	X
518260	B(1-1)16aaa	373710.6	3700071.2	EPA REGION 9,	Observation	Monitoring			0	0	0	7/24/87	60	60	2	Plastic or PVC	X
617071	B(1-1)16aaa	373710.6	3700071.2	LOCKHEED MARTIN,	Water Production	Municipal			1000	0	120	1/1/42	320	320	20	Steel-Perforated or Slotted Casing	
510290	B(1-1)16aaa	373710.6	3700071.2	LORAL CORPORATION,	Observation	Monitoring			35	30	60	4/18/85	309	309	8	Steel-Perforated or Slotted Casing	X
510292	B(1-1)16aaa	373710.6	3700071.2	LORAL CORPORATION,	Mineral Exploration	None			35	50	60	5/10/85	112	110	8	Steel-Perforated or Slotted Casing	X
515524	B(1-1)16aaa	373710.6	3700071.2	LORAL CORPORATION,	Observation	Monitoring			10	0	50	10/15/86	80	20	4	Plastic or PVC	X
515522	B(1-1)16aab	373508.8	3700075.2	LORAL CORPORATION,	Observation	Monitoring			10	0	48	10/22/86	90	20	4	Plastic or PVC	X
518262	B(1-1)16aab	373508.8	3700075.2	EPA REGION 9,	Observation	Monitoring			0	0	0	7/20/87	63	63	2	Plastic or PVC	X
518263	B(1-1)16aab	373508.8	3700075.2	EPA REGION 9,	Observation	Monitoring			0	0	0	7/27/87	60	60	2	Plastic or PVC	X
617069	B(1-1)16aab	373508.8	3700075.2	LORAL CORPORATION,	Water Production	Industrial			0	0	0	8/21/42	360	325	10	Steel-Perforated or Slotted Casing	
617070	B(1-1)16aab	373508.8	3700075.2	LOCKHEED MARTIN,	Water Production	Industrial	Domestic		1000	0	130	7/8/42	330	330	20	Steel-Perforated or Slotted Casing	
517111	B(1-1)16aab	373508.8	3700075.2	EPA REGION 9,	Observation	Monitoring			0	0	0	4/12/87	235	235	10	Steel-Perforated or Slotted Casing	X
517123	B(1-1)16aab	373508.8	3700075.2	EPA REGION 9,	Geotechnical	None			0	0	0	3/28/87	375	0	0		X
515526	B(1-1)16aac	373509.8	3699875.3	PHX GOODYEAR AIRPORT,	Observation	Monitoring			10	0	49	11/6/86	70	20	4	Plastic or PVC	X
518264	B(1-1)16aac	373509.8	3699875.3	EPA REGION 9,	Observation	Monitoring			0	0	0	7/21/87	60	60	2	Plastic or PVC	X
515523	B(1-1)16aac	373509.8	3699875.3	PHX GOODYEAR AIRPORT,	Observation	Monitoring			10	0	47	11/21/86	70	20	4	Plastic or PVC	X
518261	B(1-1)16aac	373509.8	3699875.3	EPA REGION 9,	Observation	Monitoring			0	0	0	7/22/87	65	65	2	Plastic or PVC	X
617072	B(1-1)16aac	373509.8	3699875.3	LOCKHEED MARTIN,	Water Production	Industrial	Domestic		1000	0	160	7/27/44	302	302	20	Steel-Perforated or Slotted Casing	
518123	B(1-1)16aba	373306.9	3700079.3	EPA REGION 9,	Observation	Monitoring			0	0	0	9/7/87	402	400	10	Steel-Perforated or Slotted Casing	X
532910	B(1-1)16aba	373306.9	3700079.3	GOODYEAR TIRE,	Observation	Other-Prod			50	81	55	1/10/92	102	102	8	Steel-Perforated or Slotted Casing	X
532395	B(1-1)16aba	373306.9	3700079.3	GOODYEAR TIRE,	Piezometer	Test			0	0	56	7/19/91	95	95	1	Plastic or PVC	X
524327	B(1-1)16abc	373106.7	3699883.8	PHOENIX, CITY OF,	Monitor	Monitoring			0	0	61	5/9/89	85	75	4	Plastic or PVC	X
529478	B(1-1)16abc	373106.7	3699883.8	PHOENIX, CITY OF,	Monitor	Monitoring			0	0	55	9/28/90	90	90	4	Steel-Perforated or Slotted Casing	X
529480	B(1-1)16abc	373106.7	3699883.8	PHOENIX, CITY OF,	Monitor	Monitoring			0	0	55	9/28/90	85	85	4	Steel-Perforated or Slotted Casing	X
529483	B(1-1)16abc	373106.7	3699883.8	PHOENIX, CITY OF,	Monitor	Monitoring			0	0	55	9/28/90	85	85	4	Steel-Perforated or Slotted Casing	X
533433	B(1-1)16abc	373106.7	3699883.8	PHOENIX, CITY OF,	Monitor	Monitoring			0	0	53	11/6/91	90	90	4	Plastic or PVC	X
533435	B(1-1)16abc	373106.7	3699883.8	PHOENIX, CITY OF,	Monitor	Monitoring			0	0	58	10/31/91	98	98	4	Plastic or PVC	X
533792	B(1-1)16abc	373106.7	3699883.8	PHOENIX, CITY OF,	Monitor	Monitoring			0	0	53	12/3/91	90	90	4	Plastic or PVC	X
541540	B(1-1)16abc	373106.7	3699883.8	PHOENIX, CITY OF,	Monitor	Monitoring			0	0	50	11/24/93	90	90	4	Plastic or PVC	X
518259	B(1-1)16abc	373106.7	3699883.8	EPA REGION 9,	Observation	Monitoring			0	0	0	7/29/87	59	59	2	Plastic or PVC	X
524326	B(1-1)16abc	373106.7	3699883.8	PHOENIX, CITY OF,	Monitor	Monitoring			0	0	65	5/9/89	85	85	4	Plastic or PVC	X
529477	B(1-1)16abc	373106.7	3699883.8	PHOENIX, CITY OF,	Monitor	Monitoring			0	0	55	9/28/90	90	90	4	Steel-Perforated or Slotted Casing	X

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Registry ID	Cadastral Location	UTM X	UTM Y	Owner	Well Use 1	Water Use 1	Water Use 2	Water Use 3	Pump Rate	Draw-down	Water Level	Installed	Well Depth	Casing Depth	Casing Width	Casing Type	Drill Log
529479	B(1-1)16abc	373106.7	3699883.8	PHOENIX, CITY OF,	Monitor	Monitoring			0	0	55	9/28/90	90	90	4	Steel-Perforated or Slotted Casing	X
529481	B(1-1)16abc	373106.7	3699883.8	PHOENIX, CITY OF,	Monitor	Monitoring			0	0	55	9/28/90	85	85	4	Steel-Perforated or Slotted Casing	X
529482	B(1-1)16abc	373106.7	3699883.8	PHOENIX, CITY OF,	Monitor	Monitoring			0	0	55	9/28/90	85	85	4	Steel-Perforated or Slotted Casing	X
529484	B(1-1)16abc	373106.7	3699883.8	PHOENIX, CITY OF,	Monitor	Monitoring			0	0	55	9/28/90	85	85	4	Steel-Perforated or Slotted Casing	X
533432	B(1-1)16abc	373106.7	3699883.8	PHOENIX, CITY OF,	Monitor	Monitoring			0	0	55	10/28/91	97	97	4	Plastic or PVC	X
533434	B(1-1)16abc	373106.7	3699883.8	PHOENIX, CITY OF,	Monitor	Monitoring			0	0	53	11/6/91	95	95	4	Plastic or PVC	X
541541	B(1-1)16abc	373106.7	3699883.8	PHOENIX, CITY OF,	Monitor	Monitoring			0	0	50	11/24/93	90	90	4	Plastic or PVC	X
541542	B(1-1)16abc	373106.7	3699883.8	PHOENIX, CITY OF,	Monitor	Monitoring			0	0	50	11/24/93	90	90	4	Plastic or PVC	X
541545	B(1-1)16abc	373106.7	3699883.8	PHOENIX, CITY OF,	Monitor	Monitoring			0	0	55	12/3/93	110	110	2	Plastic or PVC	X
515515	B(1-1)16abd	373308.2	3699879.5	PHX GOODYEAR AIRPORT,	Observation	Monitoring			10	0	46	11/7/86	68	20	4	Plastic or PVC	X
518256	B(1-1)16aca	373309.5	3699679.7	EPA REGION 9,	Observation	Monitoring			0	0	0	7/28/87	49	49	2	Plastic or PVC	X
518257	B(1-1)16aca	373309.5	3699679.7	EPA REGION 9,	Observation	Monitoring			0	0	0	7/22/87	60	60	2	Plastic or PVC	X
532391	B(1-1)16aca	373309.5	3699679.7	GOODYEAR TIRE,	Piezometer	Test			0	0	57	7/22/91	90	90	1	Plastic or PVC	X
518258	B(1-1)16acb	373108.3	3699684.2	EPA REGION 9,	Observation	Monitoring			0	0	0	7/28/87	54	54	2	Plastic or PVC	X
518254	B(1-1)16acb	373108.3	3699684.2	EPA REGION 9,	Observation	Monitoring			0	0	0	7/23/87	60	60	2	Plastic or PVC	X
585888	B(1-1)16acb	373108.3	3699684.2	GOODYEAR TIRE & RUBBER C/	Monitor	Test			0	0	0		0	0	0		
585889	B(1-1)16acb	373108.3	3699684.2	GOODYEAR TIRE & RUBBER C/	Monitor	Test			0	0	0		0	0	0		
585890	B(1-1)16acb	373108.3	3699684.2	GOODYEAR TIRE & RUBBER C/	Monitor	Test			0	0	0		0	0	0		
559978	B(1-1)16acd	373310.8	3699479.8	PHOENIX, CITY OF,	Monitor	Monitoring			0	0	52	11/22/96	75	75	4	Steel-Perforated or Slotted Casing	X
515510	B(1-1)16acd	373310.8	3699479.8	PHX GOODYEAR AIRPORT,	Observation	Monitoring			10	0	0	10/25/86	100	20	4	Plastic or PVC	X
559979	B(1-1)16acd	373310.8	3699479.8	PHOENIX, CITY OF,	Monitor	Monitoring			0	0	52	11/22/96	75	75	4	Steel-Perforated or Slotted Casing	X
515527	B(1-1)16adb	373510.8	3699675.2	PHX GOODYEAR AIRPORT,	Observation	Monitoring			10	0	50	10/29/86	82	20	4	Plastic or PVC	X
515528	B(1-1)16adb	373510.8	3699675.2	PHX GOODYEAR AIRPORT,	Observation	Monitoring			0	0	51	10/13/86	115	20	4	Plastic or PVC	X
518255	B(1-1)16adb	373510.8	3699675.2	EPA REGION 9,	Observation	Monitoring			0	0	0	7/20/87	65	65	2	Plastic or PVC	X
518267	B(1-1)16adb	373510.8	3699675.2	EPA REGION 9,	Observation	Monitoring			0	0	0	7/27/87	65	65	2	Plastic or PVC	X
515511	B(1-1)16adc	373511.7	3699475.1	PHX GOODYEAR AIRPORT,	Observation	Monitoring			10	0	0	10/26/86	100	20	4	Plastic or PVC	X
516489	B(1-1)16adc	373511.7	3699475.1	LORAL CORPORATION,	Observation	Monitoring			0	0	53	1/13/87	75	75	5	Plastic or PVC	X
516491	B(1-1)16adc	373511.7	3699475.1	LORAL CORPORATION,	Observation	Monitoring			0	0	53	1/15/87	75	75	5	Plastic or PVC	X
516493	B(1-1)16adc	373511.7	3699475.1	LORAL CORPORATION,	Observation	Monitoring			0	0	53	1/16/87	78	78	5	Plastic or PVC	X
518266	B(1-1)16adc	373511.7	3699475.1	EPA REGION 9,	Observation	Monitoring			0	0	0	7/23/87	65	65	2	Plastic or PVC	X
516490	B(1-1)16adc	373511.7	3699475.1	LORAL CORPORATION,	Observation	Monitoring			0	0	53	1/14/87	75	75	5	Plastic or PVC	X
516492	B(1-1)16adc	373511.7	3699475.1	LORAL CORPORATION,	Observation	Monitoring			0	0	53	1/16/87	78	78	5	Plastic or PVC	X
516494	B(1-1)16adc	373511.7	3699475.1	LORAL CORPORATION,	Observation	Monitoring			0	0	53	1/17/87	78	78	5	Plastic or PVC	X
518268	B(1-1)16adc	373511.7	3699475.1	EPA REGION 9,	Observation	Monitoring			0	0	0	7/26/87	60	60	2	Plastic or PVC	X
518265	B(1-1)16add	373713.1	3699470.3	EPA REGION 9,	Observation	Monitoring			0	0	0	7/24/87	60	60	2	Plastic or PVC	X
515512	B(1-1)16dab	373512.7	3699275.1	PHX GOODYEAR AIRPORT,	Observation	Monitoring			10	0	48	11/11/86	70	20	4	Plastic or PVC	X
509970	B(1-1)16dba	373312.2	3699280	ECOLOGY ENVIRONMENT,	Observation	Monitoring			35	10	53	3/19/85	110	110	8	Steel-Perforated or Slotted Casing	X
509969	B(1-1)16dba	373312.2	3699280	ECOLOGY ENVIRONMENT,	Observation	Monitoring			20	29	60	3/7/85	180	180	8	Steel-Perforated or Slotted Casing	X
515513	B(1-1)16dba	373312.2	3699280	PHX GOODYEAR AIRPORT,	Observation	Monitoring			10	0	48	10/24/86	82	20	4	Plastic or PVC	X
532393	B(1-1)16dba	373312.2	3699280	GOODYEAR TIRE,	Piezometer	Test			0	0	55	7/19/91	90	87	1	Plastic or PVC	X
532908	B(1-1)16dba	373312.2	3699280	GOODYEAR TIRE,	Observation	Other-Prod			48	77	60	12/13/91	98	75	8	Steel-Perforated or Slotted Casing	X
515514	B(1-1)16dbb	373111.6	3699285	PHX GOODYEAR AIRPORT,	Observation	Monitoring			10	0	50	10/28/86	100	20	4	Plastic or PVC	X
532392	B(1-1)16dbb	373111.6	3699285	GOODYEAR TIRE,	Piezometer	Test			0	0	57	7/19/91	95	93	1	Plastic or PVC	X
532907	B(1-1)16dbb	373111.6	3699285	GOODYEAR TIRE,	Observation	Other-Prod			20	64	55	12/19/91	82	42	8	Steel-Perforated or Slotted Casing	X
530636	B(1-1)16dbc	373113.3	3699085.4	GOODYEAR TIRE,	Monitor	Monitoring			5	0	55	11/8/86	120	120	6	Steel-Perforated or Slotted Casing	X
807523	B(1-1)16dbd	373313.5	3699080.2	GOODYEAR TIRE,	Water Production	Domestic			0	0	0		120	120	6	Plastic or PVC	
532600	B(1-1)21	373015.8	3697784.9	GOODYEAR TIRE,	Geotechnical	None			0	0	60	3/5/92	101	0	0		X

TABLE F-1.1
WELL INVENTORY
CITY OF AVONDALE - WATER RESOURCES MASTER PLAN

Registry ID	Cadastral Location	UTM X	UTM Y	Owner	Well Use 1	Water Use 1	Water Use 2	Water Use 3	Pump Rate	Draw-down	Water Level	Installed	Well Depth	Casing Depth	Casing Width	Casing Type	Drill Log
630811	B(1-1)21aa	373620.7	3698372.8	GREEN,D	Water Production	Domestic			20	0	69	10/11/69	189	331	6		
639435	B(1-1)21aa	373620.7	3698372.8	GREEN,T H	Water Production	Domestic			15	0	70	11/10/41	250	245	8	Other-Black Steel-Iron-Seamless	
802129	B(1-1)21aba	373320.3	3698480.9	BROADWAY INVESTMENTS,	Water Production	Irrigation			2500	0	100		0	0	20	Steel-Perforated or Slotted Casing	
517924	B(1-1)21adb	373524.4	3698076.8	EPA REGION 9,	Monitor	Monitoring			0	0	0	9/24/87	105	91	10	Steel-Perforated or Slotted Casing	X
525991	B(1-1)22	374621.8	3697748.8	CALMAT CO,	Drainage	Drainage	Mining		0	0	0		0	0	0		N
609093	B(1-1)22acd	374913.5	3697840.5	ALLIED CONCRETE INC,	Water Production	Irrigation			2500	0	28	9/1/49	180	180	16		
608801	B(1-1)22bab	374314.7	3698457.8	VERMEERSCH-AGUA FRIA,	Water Production	Irrigation			0	0	40	9/1/32	190	190	16		
605785	B(1-1)22bbb	373918.3	3698464.9	KIWANIS CLB-LITCHFLD,	Water Production	Irrigation			1200	0	62	1/1/50	147	147	20	Steel-Perforated or Slotted Casing	
611332	B(1-1)22c	374227.9	3697359.8	EMERSON,C E	Water Production	Domestic			50	0	90		250	230	8	Steel-Perforated or Slotted Casing	
636147	B(1-1)22cbb	373927.6	3697668.4	SESOW,P A	Water Production	Domestic			0	0	0	5/19/70	285	278	5		
506680	B(1-1)22cbb	373927.6	3697668.4	LAGESCHULTE,R	Water Production	Domestic			25	0	80	12/12/83	202	202	8	Steel-Perforated or Slotted Casing	X
633775	B(1-1)22cbd	374126.7	3697462.6	WHITE,G L	Water Production	Irrigation	Domestic	Stock	35	0	212	11/1/67	284	268	9	Steel-Perforated or Slotted Casing	
603616	B(1-1)22ccc	373934.6	3697071.3	BOONE, CHARLES,M	Water Production	Domestic	Stock	Irrigation	35	0	30	12/1/79	110	110	8		
626390	B(1-1)22ccc	373934.6	3697071.3	GODMAN,D A	Water Production	Irrigation	Domestic		35	0	50	9/30/57	280	270	6	Steel-Perforated or Slotted Casing	
606293	B(1-1)22ddd	375313.9	3697015.8	LAKIN CATTLE CO,	Water Production	Domestic			33	0	35	8/30/59	495	378	8	Steel-Perforated or Slotted Casing	
578692	B(1-1)22ddd	375313.9	3697015.8	LAKIN ESTRELLA RANCH LIMI	Monitor	Test			0	0	26	1/25/00	43	43	4	Plastic or PVC	X
635605	B(1-1)23	376202.2	3697704.5	FENN,W J	Water Production	Domestic			10	0	325		386	40	6		
803887	B(1-1)23a	376599.2	3698095.8	GOODMAN, E & MEYER, L	Water Production	Irrigation	Stock		0	0	120	3/11/58	0	0	6	Steel-Perforated or Slotted Casing	
636131	B(1-1)23aac	376698.8	3698193.2	YBARRA,A F	Water Production	Domestic			30	0	88	5/30/74	380	379	6	Steel-Perforated or Slotted Casing	
633962	B(1-1)23aba	376498.1	3698400.1	MEAGHER,L M	Water Production	Domestic			0	0	72	7/17/78	379	373	6	Steel-Perforated or Slotted Casing	
632406	B(1-1)23ac	376402.8	3697901.1	WALKER,S	Water Production	Domestic			35	0	0	2/11/67	377	370	6	Walled or Shored	
800101	B(1-1)23ac	376402.8	3697901.1	RICHARDS,R E	Water Production	Domestic	Irrigation		0	0	0		0	0	0		
85012	B(1-1)23aca	376501.6	3697998.8	GOINS,H D	Water Production	Domestic			0	0	50	7/5/80	174	171	8		
800509	B(1-1)23ada	376899.3	3697987.3	SAENZ,J	Water Production	Domestic	Stock		25	0	0	8/30/78	390	384	8		
525990	B(1-1)23b	375802.5	3698119.7	CALMAT CO,	Water Production	Drainage	Mining		0	0	0		0	0	0		N
647983	B(1-1)23cab	375907.7	3697611.3	KETRING,P	Water Production	Domestic	Stock	Irrigation	20	0	115		130	130	6	Steel-Perforated or Slotted Casing	
606289	B(1-1)23cda	376110	3697202.9	LAKIN CATTLE CO,	Water Production	Irrigation			3500	0	35	6/17/40	200	200	20	Steel-Perforated or Slotted Casing	
518375	B(1-1)23dbb	376306	3697601.9	RODARTE, TONY,	Water Production	Domestic			10	57	30	10/16/87	80	80	8	Steel-Perforated or Slotted Casing	X
625220	B(1-1)23dd	376808.2	3697090.5	AVONDALE, CITY OF,	Water Production	Domestic			57	0	0	1/1/66	305	0	8		
634149	B(1-1)24aa	378408.8	3698280.8	FLEMING,M W	Water Production	Domestic			0	0	0	4/21/50	85	0	6		
634148	B(1-1)24aa	378408.8	3698280.8	FLEMING, ELVIN,E	Water Production	Domestic	Stock		25	0	60	1/1/26	126	126	6	Steel-Perforated or Slotted Casing	
609468	B(1-1)24abb	377903.9	3698382	PYLMAN, MICHAEL,	Water Production	Irrigation			2675	0	72	7/1/51	280	280	20	Steel-Perforated or Slotted Casing	
634912	B(1-1)24abb	377903.9	3698382	KUIPER, DARREL,	Water Production	Domestic			20	0	60	11/1/54	120	120	6	Steel-Perforated or Slotted Casing	
625282	B(1-1)24baa	377701.8	3698382.2	PYLMAN, MICHAEL,	Water Production	Domestic	Stock		17	0	140		220	220	6	Steel-Perforated or Slotted Casing	
625281	B(1-1)24baa	377701.8	3698382.2	PYLMAN, MICHAEL,	Water Production	Irrigation			0	0	0		450	0	16		
606290	B(1-1)24cba	377301.2	3697583.2	LAKIN CATTLE CO,	Water Production	Irrigation			3850	0	40	11/24/56	242	242	20	Steel-Perforated or Slotted Casing	
606291	B(1-1)24dda	378502	3697170.8	LAKIN CATTLE CO,	Water Production	Irrigation			3200	0	40	2/24/46	1251	1245	16		
645530	B(1-1)25	377797	3696082.7	HOFWEGEN,S V	Water Production	Stock	Domestic		0	0	0		0	0	0		
605568	B(1-1)25ada	378497.1	3696371.9	EVANS JR,J H	Water Production	Irrigation			3500	66	24	1/1/55	365	365	20	Steel-Perforated or Slotted Casing	X
605567	B(1-1)25add	378495.4	3696173.5	EVANS JR,J H	Water Production	Irrigation			1800	0	19	6/1/69	1092	1092	20	Steel-Perforated or Slotted Casing	
606288	B(1-1)25bab	377505.7	3696781.9	LAKIN CATTLE CO,	Water Production	Irrigation			4000	0	38	7/1/58	325	315	20	Other-Black Steel-Iron-Seamless	
516759	B(1-1)25dab	378294.5	3695977.6	HAUSER, DON,	Piezometer	Test			0	0	12	2/10/87	24	25	2	Steel-Perforated or Slotted Casing	X
635446	B(1-1)25ddd	378488.5	3695379.8	RIGBY WATER CO,	Water Production	Domestic			30	0	22		295	0	6	Steel-Perforated or Slotted Casing	
606292	B(1-1)26cbb	375503.7	3696018.8	LAKIN CATTLE CO,	Water Production	Domestic			23	0	24		267	267	8	Steel-Perforated or Slotted Casing	
800846	B(1-1)26cc	375598	3695522.9	WEHNER,F B	Water Production	Irrigation	Stock		8	0	30	1/1/61	120	120	6	Steel-Perforated or Slotted Casing	
639615	B(1-1)26d	376597.2	3695702.9	PACE,O S	Water Production	Domestic			35	0	25	6/9/52	252	245	6	Steel-Perforated or Slotted Casing	
516760	B(1-1)26dcb	376296.8	3695609.2	PACE, O,	Piezometer	Test			0	0	10	2/10/87	19	20	2	Steel-Perforated or Slotted Casing	X

TABLE F-1.1
WELL INVENTORY
CITY OF AVONDALE - WATER RESOURCES MASTER PLAN

Registry ID	Cadastral Location	UTM X	UTM Y	Owner	Well Use 1	Water Use 1	Water Use 2	Water Use 3	Pump Rate	Draw-down	Water Level	Installed	Well Depth	Casing Depth	Casing Width	Casing Type	Drill Log
572569	B(1-1)26ddb	376695.4	3695602.1	WHITE, JODY	Water Production	Domestic			0	0	10	8/24/99	125	125	6	Steel-Perforated or Slotted Casing	X
629772	B(1-1)26ddd	376892.6	3695399.8	NEWMAN,H A	Water Production	Domestic			0	0	45		350	150	7		
525992	B(1-1)27	374613.8	3696145.2	CALMAT CO,	Drainage	Drainage	Mining		0	0	0		0	0	0		N
557820	B(1-1)27	374613.8	3696145.2	COLORADO SAND/GRAVEL,	Geotechnical	None			0	0	15	6/4/96	40	0	0		X
613224	B(1-1)27add	375307.4	3696221.8	AZ PUBLIC SERVICE,	Observation	Monitoring			0	0	0	4/21/80	20	20	2	Plastic or PVC	
586825	B(1-1)27bdd	374519	3696248.4	CITY OF AVONDALE	Monitor	Monitoring			0	0	15	4/19/01	30	30	4	Plastic or PVC	X
516991	B(1-1)27b	374226.3	3696558.8	CALMAT CO,	Water Production	Industrial	Mining		0	0	0		0	0	0		N
579786	B(1-1)27cbb	373924.9	3696067.5	BUCKEYE IRRIGATION CO					0	0	0		0	0	0		
582997	B(1-1)27cbb	373924.9	3696067.5	BUCKEYE IRRIGATION DISTRI	Water Production	Industrial			35	27	25	11/6/00	205	182	10	Steel-Perforated or Slotted Casing	X
801736	B(1-1)27dab	375108.2	3696030.2	AVONDALE, CITY OF	Water Production	Irrigation			2600	0	18	1/1/56	176	176	20	Steel-Perforated or Slotted Casing	
801734	B(1-1)27dab	375108.2	3696030.2	AVONDALE, CITY OF	Water Production	Irrigation			1800	0	32	10/5/67	602	602	20	Steel-Perforated or Slotted Casing	
801735	B(1-1)27dab	375108.2	3696030.2	AVONDALE, CITY OF	Water Production	Irrigation			1347	0	16	1/1/36	94	94	20	Steel-Perforated or Slotted Casing	
600590	B(1-1)27ddb	375103.9	3695633.8	JONES,R C	Water Production	Domestic			24	0	21	10/1/63	372	370	8	Steel-Perforated or Slotted Casing	N
612583	B(1-1)28aaa	373733.8	3696877	EQUITABLE VARIABLE,	Water Production	Irrigation			0	0	0		0	0	0		
612584	B(1-1)28aaa	373733.8	3696877	EQUITABLE VARIABLE,	Water Production	Irrigation			0	0	0	1/1/69	0	0	0		
635717	B(1-1)28ab	373217.8	3696783.3	DEEN,R G	Water Production	Domestic			0	0	0		0	0	0		
803409	B(1-1)28ab	373217.8	3696783.3	AMATOR, FRED,L	Water Production	Domestic	Irrigation		0	0	0		0	0	0		
613509	B(1-1)28abb	373116.3	3696885.9	EQUITABLE VARIABLE,	Water Production	Domestic			0	0	0		0	0	0		
619781	B(1-1)28ada	373728.4	3696474.4	CALMAT CO OF AZ,	Water Production	Monitoring	Mining		3400	0	22	3/1/64	337	337	20	Steel-Perforated or Slotted Casing	
562238	B(1-1)33bbd	372475.8	3695069.9	CENTER FOR ENVRNMNTL,	Monitor	Monitoring			0	0	4	7/7/97	12	12	1	Steel-Perforated or Slotted Casing	X
562237	B(1-1)33bbd	372475.8	3695069.9	CENTER FOR ENVRNMNTL,	Monitor	Monitoring			0	0	3	7/7/97	12	12	1	Steel-Perforated or Slotted Casing	X
562239	B(1-1)33bbd	372475.8	3695069.9	CENTER FOR ENVRNMNTL,	Monitor	Monitoring			0	0	5	7/7/97	12	12	1	Steel-Perforated or Slotted Casing	X
623552	B(1-1)33bcc	372266.1	3694670.8	MARICOPA COUNTY,	Water Production	Domestic			10	0	20	6/24/54	151	147	8	Steel-Perforated or Slotted Casing	
623547	B(1-1)33cbb	372264	3694471.1	MARICOPA COUNTY,		Domestic			460	0	22	10/6/48	52	52	20	Steel-Perforated or Slotted Casing	
618642	B(1-1)33daa	373703.7	3694472	WATER FOWL PRESERVTN,	Water Production	Irrigation	Stock	Domestic	0	0	0		0	0	0		
804389	B(1-1)34aa	375195.8	3695134.5	HJU PROPERTIES,	Water Production	Irrigation			3200	0	50		300	200	10	Steel-Perforated or Slotted Casing	
516761	B(1-1)34bab	374308.9	3695255.4	DUNCAN, MICHAEL,	Piezometer	Test			0	0	10	2/11/87	19	20	2	Steel-Perforated or Slotted Casing	X
806129	B(1-1)34bb	374011.7	3695163.1	MARICOPA COUNTY,	Water Production	Stock	Irrigation		0	0	13	6/10/80	396	381	8	Steel-Perforated or Slotted Casing	
634921	B(1-1)35ab	376394.9	3695109.6	BOYS FROM BRAZIL,	Water Production	Domestic			0	0	0		0	0	0		
566807	B(1-1)36	377791.9	3694488	SUNDT CORPORATION	Water Production	Dewatering			0	0	0		0	0	0		
566806	B(1-1)36	377791.9	3694488	SUNDT CORPORATION	Water Production	Dewatering			0	0	0		0	0	0		
544516	B(1-1)36	377791.9	3694488	MARICOPA COUNTY,	Geotechnical	None			0	0	0	11/4/94	130	0	0		X
566808	B(1-1)36	377791.9	3694488	SUNDT CORPORATION	Water Production	Dewatering			0	0	0		0	0	0		
566809	B(1-1)36	377791.9	3694488	SUNDT CORPORATION	Water Production	Dewatering			0	0	0		0	0	0		
566810	B(1-1)36	377791.9	3694488	SUNDT CORPORATION	Water Production	Dewatering			0	0	0		0	0	0		
566811	B(1-1)36	377791.9	3694488	SUNDT CORPORATION	Water Production	Dewatering			0	0	0		0	0	0		
566812	B(1-1)36	377791.9	3694488	SUNDT CORPORATION	Water Production	Dewatering			0	0	0		0	0	0		
566813	B(1-1)36	377791.9	3694488	SUNDT CORPORATION	Water Production	Dewatering			0	0	0		0	0	0		
566814	B(1-1)36	377791.9	3694488	SUNDT CORPORATION	Water Production	Dewatering			0	0	0		0	0	0		
566815	B(1-1)36	377791.9	3694488	SUNDT CORPORATION	Water Production	Dewatering			0	0	0		0	0	0		
566816	B(1-1)36	377791.9	3694488	SUNDT CORPORATION	Water Production	Dewatering			0	0	0		0	0	0		
566817	B(1-1)36	377791.9	3694488	SUNDT CORPORATION	Water Production	Dewatering			0	0	0		0	0	0		
617882	B(1-1)36aa	378385.8	3695080.3	SHAHAN, GARLON,E	Water Production	Domestic			35	0	26	9/1/45	245	245	6	Steel-Perforated or Slotted Casing	
804289	B(1-1)36aa	378385.8	3695080.3	SHAHAN, GARLON,E	Water Production	Domestic			30	0	15	6/10/40	247	247	7	Steel-Perforated or Slotted Casing	
609458	B(1-1)36aaa	378486.2	3695179.7	BURELSON,L E	Water Production	Irrigation	Stock		400	0	40	1/1/49	203	200	8	Steel-Perforated or Slotted Casing	
609459	B(1-1)36aaa	378486.2	3695179.7	BURLESON,L E	Water Production	Domestic			35	0	40	1/1/78	203	200	6	Steel-Perforated or Slotted Casing	
502583	B(1-1)36aaa	378486.2	3695179.7	FARMER, BERT,A	Water Production	Domestic			60	12	40	5/3/82	280	255	8	Steel-Perforated or Slotted Casing	X

TABLE F-1.1
WELL INVENTORY
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Registry ID	Cadastral Location	UTM X	UTM Y	Owner	Well Use 1	Water Use 1	Water Use 2	Water Use 3	Pump Rate	Draw-down	Water Level	Installed	Well Depth	Casing Depth	Casing Width	Casing Type	Drill Log
635445	B(1-1)36ac	377986	3694682.9	RIGBY WATER CO,	Water Production	Domestic			92	0	75		310	0	6	Steel-Perforated or Slotted Casing	
800507	B(1-1)36acb	377887.5	3694784.7	PADADA, LIONEL,	Water Production	Domestic	Stock		35	0	30		225	0	6	Other-Black Steel-Iron-Seamless	
516763	B(1-1)36acc	377887	3694583.5	MORGAN, RAY,	Piezometer	Test			0	0	13	2/10/87	19	20	2	Steel-Perforated or Slotted Casing	X
516764	B(1-1)36ada	378481.8	3694776.4	AMATOR, WILLIAM,	Piezometer	Test			0	0	12	2/10/87	28	30	2	Steel-Perforated or Slotted Casing	X
633502	B(1-1)36ada	378481.8	3694776.4	AMATOR,W L	Water Production	Domestic			0	0	14	12/20/70	247	235	5	Walled or Shored	
630383	B(1-1)36cab	377493.5	3694388.3	LIVESEY,E E	Water Production	Domestic			17	0	50	11/5/60	210	192	8	Steel-Perforated or Slotted Casing	
611677	B(2-1)23dbb	376400.6	3707264.4	LITCHFIELD PK SER CO,	Water Production	Domestic			1200	0	200	7/31/72	850	850	16	Steel-Perforated or Slotted Casing	
611678	B(2-1)23dbc	376398.4	3707065.4	LITCHFIELD PK SER CO,	Water Production	Domestic			1200	0	170	6/1/66	685	685	20	Steel-Perforated or Slotted Casing	
533836	B(2-1)23dcc	376394	3706667.3	LITCHFIELD PK SER CO,	Water Production	Municipal	Irrigation		1500	149	170	12/17/91	616	40	16	Steel-Perforated or Slotted Casing	X
501288	B(2-1)23ddd	376993.4	3706656.1	AVONDALE, CITY OF,	Water Prod/Recharge	Municipal			2255	145	138	11/20/81	530	520	18	Steel-Perforated or Slotted Casing	X
617986	B(2-1)24cc	377294.9	3706748.5	HOLSUM BAKERY INC,	Water Production	Irrigation			2000	0	370	1/1/41	480	0	20		
639903	B(2-1)24ccb	377196	3706850	NEWPORT INTER PROP,	Water Production	Domestic			34	0	138	1/1/41	480	420	6	Steel-Perforated or Slotted Casing	
636836	B(2-1)24cd	377695.2	3706739.3	CLAYTON,A	Water Production	Domestic			2	0	140	6/1/67	314	314	8		
603815	B(2-1)25aca	378183	3706024.9	JOHNSON-STEWART CO	Water Production	Irrigation			1250	0	157	1/1/48	607	607	16	Steel-Perforated or Slotted Casing	
566423	B(2-1)25aca	378183	3706024.9	SUNWARD MATERIALS	Monitor	Monitoring			0	0	112	2/19/98	140	90	4	Plastic or PVC	X
566424	B(2-1)25aca	378183	3706024.9	SUNWARD MATERIALS	Monitor	Monitoring			0	0	0		0	0	0		
566484	B(2-1)25aca	378183	3706024.9	SUNWARD MATERIALS	Geotechnical	None			0	0	0	2/23/98	110	0	0		X
572925	B(2-1)25aca	378183	3706024.9	SUNWARD MATERIALS	Monitor	Test			0	0	110	3/3/99	140	140	4	Plastic or PVC	X
572924	B(2-1)25aca	378183	3706024.9	SUNWARD MATERIALS	Monitor	Test			0	0	110	3/2/99	140	140	4	Plastic or PVC	X
572923	B(2-1)25aca	378183	3706024.9	SUNWARD MATERIALS	Monitor	Test			0	0	110		140	140	4	Plastic or PVC	X
604593	B(2-1)25bac	377587.5	3706240.1	CALMAT CO,	Water Production	Domestic	Industrial		1200	0	200	11/30/72	705	705	16	Steel-Perforated or Slotted Casing	
527720	B(2-1)25bac	377587.5	3706240.1	CALMAT CO,	Monitor	Monitoring			0	0	125	5/18/90	203	200	4	Steel-Perforated or Slotted Casing	X
535067	B(2-1)25bac	377587.5	3706240.1	CALMAT CO,	Monitor	Monitoring			0	0	0	7/12/97	110	110	4	Plastic or PVC	X
527719	B(2-1)25bba	377390.7	3706446.7	CALMAT CO,	Monitor	Monitoring			0	0	125	5/18/90	203	200	4	Steel-Perforated or Slotted Casing	X
609048	B(2-1)25bbb	377190.8	3706451.4	KACHINA FAIRWAYS INC,	Water Production	Irrigation			2000	0	130	11/6/79	408	405	16	Steel-Perforated or Slotted Casing	
527721	B(2-1)25bbc	377188.1	3706249.3	CALMAT CO,	Monitor	Monitoring			0	0	125	5/18/90	203	200	4	Steel-Perforated or Slotted Casing	X
608796	B(2-1)25bcc	377182.8	3705845.6	CALMAT CO,	Water Production	Irrigation			3000	0	95	1/1/46	850	850	20	Steel-Perforated or Slotted Casing	
580237	B(2-1)25bcc	377182.8	3705845.6	VULCANS MATERIALS, CALMAT	Monitor	Test			0	0	120	5/16/00	200	200	4	Plastic or PVC	X
608798	B(2-1)26	376283.7	3705763.1	RAYNER, JACK,M	Water Production	Domestic	Stock		35	0	95	1/1/50	600	600	6	Steel-Perforated or Slotted Casing	
501247	B(2-1)26aaa	376990.9	3706455.8	AVONDALE, CITY OF,	Water Prod/Recharge	Municipal			2204	0	132	11/15/81	608	604	18	Steel-Perforated or Slotted Casing	X
628740	B(2-1)26aab	376791	3706459.5	GRENGER,F J	Water Production	Domestic			30	0	180	1/1/57	200	0	6	Steel-Perforated or Slotted Casing	
607156	B(2-1)26aca	376586.3	3706059.6	ROOSEVELT IRR DIST,	Water Production	Irrigation			1288	0	132	1/7/47	800	600	20	Steel-Perforated or Slotted Casing	
611719	B(2-1)26cbb	375583.3	3705676.1	SUNCOR DEVELOPMENT CO	Water Production	Irrigation			1500	0	270	9/1/48	702	0	20		
539024	B(2-1)26daa	376980.8	3705648.3	SIERSMA, ANDY,	Monitor	Monitoring			0	0	75	5/14/93	200	200	4	Plastic or PVC	X
539023	B(2-1)26dab	376781	3705652.2	SIERSMA, ANDY,	Monitor	Monitoring			0	0	75	5/14/93	205	205	4	Plastic or PVC	X
611680	B(2-1)27aad	375390.4	3706283.8	LITCHFIELD PK SER CO,	Water Production	Domestic			700	0	168	1/1/61	700	700	12	Steel-Perforated or Slotted Casing	
583454	B(2-1)27acb	374788.4	3706091.4	LITCHFIELD PARK SERVICE C	Water Production	Municipal			0	0	0		0	0	0		
611690	B(2-1)27cbc	373981	3705498.2	SUNCOR DEVELOPMENT CO	Water Production	Irrigation			1700	0	260	1/1/52	902	0	20	Steel-Perforated or Slotted Casing	
611689	B(2-1)27dcc	374776.3	3705083.9	SUNCOR DEVELOPMENT,	Water Production	Irrigation			1800	0	250	6/1/52	930	0	20	Steel-Perforated or Slotted Casing	
611681	B(2-1)28dcb	373180.2	3705314.1	SUNCOR DEVELOPMENT CO	Water Production	Irrigation			2100	0	220	7/1/62	593	0	16	Steel-Perforated or Slotted Casing	
518933	B(2-1)33abc	373171.5	3704710.8	UNIDYNAMICS PHOENIX,	Observation	Monitoring			11	131	110	10/15/87	180	180	8	Plastic or PVC	X
532478	B(2-1)33acd	373367.4	3704305.6	UNIDYNAMICS/PHX INC,	Monitor	Monitoring			0	0	0		148	138	6	Steel-Perforated or Slotted Casing	X
805808	B(2-1)33dc	373261.1	3703606.1	KREJCI, FRANK R,	Capped	Domestic			0	0	0		0	0	0		
400037	B(2-1)33ddb	373561.2	3703700.4	SUNCOR DEVELOPMENT CO	Water Production	Irrigation			0	0	0		0	0	0		
611688	B(2-1)34caa	374563.7	3704082.9	PALM VALLEY GOLF CLUB, IN	Water Production	Irrigation			2000	0	265	1/1/51	1014	0	20	Steel-Perforated or Slotted Casing	
518934	B(2-1)34cab	374364	3704086.2	UNIDYNAMICS PHOENIX,	Observation	Monitoring			11	119	0	10/22/87	160	160	8	Plastic or PVC	X
582205	B(2-1)34cbb	373966	3704092.7	CRANE CO	Monitor	Test			0	0	100	8/4/00	185	110	4	Plastic or PVC	X

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611687	B(2-1)34dad	375359.9	3703868.6	SUNCOR DEVELOPMENT,	Water Production	Irrigation			2000	0	260	1/1/54	926	0	20	Steel-Perforated or Slotted Casing	
648882	B(2-1)35aa	376868.9	3704742.8	CONTINENTAL HOMES,	Water Production	Domestic	Irrigation		0	0	0		0	0	0		
608795	B(2-1)35abd	376568.3	3704648.6	CHI CONSTRUCTION CO,	Water Production	Irrigation			3000	0	85	1/1/48	600	600	20	Steel-Perforated or Slotted Casing	
608797	B(2-1)35abd	376568.3	3704648.6	CHI CONSTRUCTION CO,	Water Production	Domestic	Stock		35	0	85	12/31/60	600	600	8	Steel-Perforated or Slotted Casing	
613664	B(2-1)35baa	376172	3704857.9	CHI CONSTRUCTION CO,	Water Production	Irrigation			0	0	0		0	0	0		
608793	B(2-1)35daa	376957.9	3704038.3	AVONDALE, CITY OF	Water Prod/Recharge	Municipal			3000	0	85	6/1/77	458	867	20	Steel-Perforated or Slotted Casing	
588631	B(2-1)35dcc			AVONDALE, CITY OF	Water Prod/Recharge	Municipal						2002					
800297	B(2-1)36	377855.5	3704112.9	PETERSON,W G	Water Production	Irrigation			0	0	0		0	0	0		
639035	B(2-1)36aca	378158.7	3704415.7	KULIKOV,A A	Water Production	Domestic			35	0	180	7/15/38	200	200	4	Steel-Perforated or Slotted Casing	
640406	B(2-1)36aca	378158.7	3704415.7	SMILEY,L S	Water Production	Domestic			35	0	125	1/8/80	425	4	8	Steel-Perforated or Slotted Casing	
603441	B(2-1)36ad	378455.8	3704309.6	WOOTTEN, PEGGY,	Water Production	Irrigation			1600	0	68	4/20/40	265	165	20	Steel-Perforated or Slotted Casing	
500548	B(2-1)36add	378554.3	3704207.6	TREGUBOFF,	Water Production	Domestic			0	23	97	11/30/81	326	322	8	Other-Black Steel-Iron-Seamless	X
800766	B(2-1)36baa	377765.6	3704824.5	WOOTTEN,R	Water Production	Domestic			45	0	250	8/1/70	250	200	8	Steel-Perforated or Slotted Casing	
608790	B(2-1)36bba	377368.4	3704832.5	RAYNER,J M	Water Production	Irrigation			2500	0	85	1/1/64	800	800	18	Steel-Perforated or Slotted Casing	
608792	B(2-1)36bba	377368.4	3704832.5	AVONDALE, CITY OF,	Water Prod/Recharge	Municipal	Industrial		1500	0	86	9/20/95	850	866	20	Steel-Perforated or Slotted Casing	X
502231	B(2-1)36bc	377261.4	3704332.8	TREGUBOFF,P J	Water Production	Domestic			0	28	113	8/5/82	383	363	8	Steel-Perforated or Slotted Casing	X
504634	B(2-1)36bca	377363.3	3704431.3	CONTINENTAL HOMES,	Water Production	Irrigation			2700	155	80	3/20/83	925	640	18	Steel-Perforated or Slotted Casing	X
605816	B(2-1)36bd	377660.3	3704325.1	BAKER,W L	Water Production	Domestic			35	0	150	1/1/60	400	400	8	Other-Black Steel-Iron-Seamless	
570405	B(2-1)36cac	377554.8	3703825.9	AVONDALE, CITY OF, PUBLIC	Monitor	Test			0	0	70	12/22/98	101	90	2	Plastic or PVC	X
608791	B(2-1)36cba	377358.2	3704030.2	AVONDALE, CITY OF,	Water Prod/Recharge	Municipal			1500	0	85	1/1/33	618	250	18	Steel-Perforated or Slotted Casing	
608794	B(2-1)36cba	377358.2	3704030.2	AVONDALE, CITY OF,	Water Production	Irrigation			3000	0	85	1/1/50	630	630	20	Steel-Perforated or Slotted Casing	
605821	B(2-1)36cdd	377749.6	3703408.1	BAKER,D	Water Production	Domestic	Stock		35	0	150	1/1/67	400	400	8	Other-Black Steel-Iron-Seamless	
605817	B(2-1)36db	378053.7	3703916.6	BAKER, WILBUR LEE,	Water Production	Irrigation			1600	0	150	1/1/45	400	350	20	Other-Black Steel-Iron-Seamless	
800746	B(2-1)36dc	378048	3703504.7	EGGINK,C N	Water Production	Domestic			25	0	19	1/1/67	195	195	6	Steel-Perforated or Slotted Casing	
636773	B(2-1)36dd	378446.3	3703504.7	HINEMAN,P M	Water Production	Domestic			10	0	110	1/1/35	220	0	5	Steel-Perforated or Slotted Casing	
627430	B(2-1)36dda	378548.2	3703606.8	WOOD,A E	Water Production	Domestic			25	0	100	8/18/51	252	252	6		
636457	B(2-1)36dda	378548.2	3703606.8	HAMMOND,R	Water Production	Domestic			30	0	277	11/21/78	405	464	8		
634274	C(1-1)1a	378157	3693270	PHOENIX SPEEDWY CORP,	Water Production	Domestic			35	0	0		0	0	0		
611893	C(1-1)1b	377351.1	3693283.8	PHOENIX SPEEDWAY COR,	Water Production	Domestic	Irrigation		40	0	0		0	0	0		
611894	C(1-1)1baa	377659.9	3693581.3	PHOENIX SPEEDWAY,	Water Production	Domestic	Irrigation		220	0	0		0	0	0		
582986	C(1-1)1baa	377659.9	3693581.3	PHOENIX SPEEDWAY CORP	Water Production	Industrial			0	0	23	10/24/00	257	257	12	Steel-Perforated or Slotted Casing	X
607061	C(1-1)3aa	375146	3693537.8	BILLINGSLEY,F A	Water Production	Irrigation			300	0	16	10/1/48	85	85	12	Steel-Perforated or Slotted Casing	
617064	C(1-1)3aa	375146	3693537.8	BILLINGSLEY,F A	Water Production	Irrigation	Domestic		35	0	40	12/1/74	110	110	8	Steel-Perforated or Slotted Casing	
556177	C(1-1)3aad	375245.4	3693434	BILLINGSLEY,F A	Water Production	Irrigation	Domestic		0	0	65	7/26/97	220	185	6	Steel-Perforated or Slotted Casing	X
634061	C(1-1)3aca	374837.9	3693239.1	QUAMME,E W	Water Production	Stock	Domestic	Irrigation	20	0	46		130	130	6		
640353	C(1-1)3acb	374636.4	3693243.2	BARBA,J	Water Production	Domestic			20	0	34	1/1/70	120	12	8	Steel-Perforated or Slotted Casing	
521781	C(1-1)3acc	374633	3693039.9	NANDIN, GILBERT,C	Water Production	Domestic			20	120	80	7/19/88	235	235	7	Plastic or PVC	X
516573	C(1-1)3acd	374834.5	3693036	CALLOWAY, RITA,	Water Production	Domestic			12	0	125	5/15/87	125	125	8	Plastic or PVC	X
584345	C(1-1)3ada	375241.6	3693231.1	ADDINGTON, GENE	Water Production	Domestic			0	0	35	12/14/00	120	120	5	Plastic or PVC	X
550314	C(1-1)3adb	375039.4	3693235.1	DELL, STANLEY,	Water Production	Domestic			0	0	60	12/13/95	115	115	7	Steel-Perforated or Slotted Casing	X
563927	C(1-1)3adb	375039.4	3693235.1	CHANDLER, WILLIAM S	Water Production	Domestic			0	0	50		100	100	7	Steel-Perforated or Slotted Casing	X
521932	C(1-1)3adb	375039.4	3693235.1	HICKMAN, RANDALL,	Water Production	Domestic			20	95	80	7/29/88	150	150	7	Plastic or PVC	X
550153	C(1-1)3adc	375036	3693032	LESKOUAR, BRANKO,	Water Production	Domestic			20	0	62	3/29/96	150	150	7	Plastic or PVC	X
804365	C(1-1)3ba	374338.9	3693556.5	PATTINI, LUIGIC.,	Water Production	Domestic			30	0	25	1/1/65	70	0	6	Steel-Perforated or Slotted Casing	
516014	C(1-1)3bad	374438.2	3693450.5	HARDISON, KEN,	Water Production	Domestic	Irrigation		0	0	34	1/4/87	52	36	6	Steel-Perforated or Slotted Casing	X
512784	C(1-1)3bba	374038.3	3693665.3	MADRID, ANTONIO,R	Water Production	Domestic			32	25	25	11/25/85	85	85	8	Steel-Perforated or Slotted Casing	X
525153	C(1-1)3bbd	374035	3693458.8	LIDNER, MARK,	Water Production	Domestic			15	140	80	7/5/89	220	220	7	Plastic or PVC	X

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525057	C(1-1)3cbc	373821.6	3692648.4	BELLIARD, ENRIQUE,	Water Production	Domestic			0	0	145	7/3/89	280	20	7	Steel-Perforated or Slotted Casing	X
611109	C(1-1)3cbd	374021.9	3692644.7	WILLAND,O O	Water Production	Domestic	Stock	Irrigation	35	0	170		500	20	6	Steel-Perforated or Slotted Casing	
580391	C(1-1)3ccc	373814.9	3692240.9	LAFOND, JOSEPH	Water Production	Domestic			0	0	137	5/3/00	235	135	5	Plastic or PVC	X
566046	C(1-1)3ccd	374015.4	3692237.6	LEWIS, GREGORY & MARY	Water Production	Domestic			0	0	400	5/30/98	475	475	8	Plastic or PVC	X
581174	C(1-1)3daa	375234	3692825.2	FOXFORD, ROGER	Water Production	Domestic			0	0	70	6/5/00	140	120	5	Plastic or PVC	X
531803	C(1-1)3dab	375032.6	3692829	FISHER, RONNIE,	Water Production	Domestic			18	0	62	5/17/91	170	170	8	Steel-Perforated or Slotted Casing	X
521163	C(1-1)3dac	375029.1	3692625.9	MOORE, WILLIAM,	Water Production	Domestic			15	100	89	5/14/88	180	180	7	Plastic or PVC	X
567581	C(1-1)3dac	375029.1	3692625.9	GLOVER, ROY AND KAYLEEN	Water Production	Domestic			0	0	200	5/27/98	300	300	8	Plastic or PVC	X
578351	C(1-1)3dba	374831.1	3692832.8	MCGRAW, MACI	Water Production	Domestic			0	0	30		200	200	8	Steel-Perforated or Slotted Casing	X
87464	C(1-1)3dbb	374629.6	3692836.7	SCOTT,H F	Water Production	Domestic			0	0	200	1/1/81	300	300	5	Steel-Perforated or Slotted Casing	
561061	C(1-1)3dbd	374827.7	3692629.7	VEGA, SALVADOR,	Water Production	Domestic			0	0	190	3/16/97	384	384	7	Steel-Perforated or Slotted Casing	X
564874	C(1-1)3dbd	374827.7	3692629.7	OLVEY, JAMES E	Water Production	Domestic			0	0	120		300	300	4	Plastic or PVC	X
634741	C(1-1)3dca	374824.3	3692426.6	LOERZEL, WALTER,	Water Production	Domestic	Stock	Irrigation	12	0	90	1/1/70	270	140	6	Steel-Perforated or Slotted Casing	
514903	C(1-1)3dca	374824.3	3692426.6	LOERZEL, WALTER,	Water Production	Domestic	Stock	Irrigation	10	525	175	7/10/86	575	575	4	Plastic or PVC	X
584427	C(1-1)3dca	374824.3	3692426.6	KING, BOB	Water Production	Domestic			0	0	0		0	0	0		
513754	C(1-1)3dcc	374619.5	3692226.8	SWANSON, MILTON,S	Water Production	Domestic			7	400	225	7/3/86	725	725	8	Steel-Perforated or Slotted Casing	X
510315	C(1-1)3dcd	374820.9	3692223.3	LATHAM, JOEL,R	Water Production	Domestic			10	311	340	4/3/95	640	640	8	Plastic or PVC	X
634419	C(1-1)3dcd	374820.9	3692223.3	CAMPBELL,C K	Water Production	Domestic			18	0	140	10/29/74	270	128	8	Steel-Perforated or Slotted Casing	
574872	C(1-1)3ddb	375025.7	3692422.9	STARKEY, JODY R	Water Production	Domestic			0	0	80	6/2/99	260	260	4	Plastic or PVC	X
575323	C(1-1)3ddc	375022.3	3692219.7	MC DANIEL, RICHARD	Water Production	Domestic			0	0	195		505	505	8	Steel-Perforated or Slotted Casing	X
580584	C(1-1)3ddd	375223.7	3692216.1	BRUTCHER, MARK	Water Production	Domestic			0	0	0		0	0	0		
580585	C(1-1)3ddd	375223.7	3692216.1	WEBB, GLEN	Water Production	Domestic			0	0	0		0	0	0		
580400	C(1-1)4aac	373431.7	3693466.5	KANE, KENNETH	Water Production	Domestic			0	0	60	7/10/00	140	140	5	Plastic or PVC	X
603283	C(1-1)4aad	373633.1	3693465.8	FOUGHT,J W	Water Production	Domestic			0	0	101	1/1/74	220	5	8	Steel-Perforated or Slotted Casing	
801803	C(1-1)4abc	373030.5	3693467.9	SERGEANT ET AL,W A	Water Production	Domestic			20	0	70		125	125	6	Steel-Perforated or Slotted Casing	
804152	C(1-1)4abc	373030.5	3693467.9	KANE, KENNETH	Water Production	Domestic			35	0	79	7/8/60	109	108	6	Steel-Perforated or Slotted Casing	
517091	C(1-1)4abc	373030.5	3693467.9	FISHMAN, CARL,L	Water Production	Domestic			10	0	60	3/18/87	200	200	8	Plastic or PVC	X
503920	C(1-1)4abd	373231.1	3693467.3	LINSTROM, TIMOTHY	Water Production	Domestic			30	20	60	11/27/82	200	191	8	Steel-Perforated or Slotted Casing	X
586119	C(1-1)4acc	373024.4	3693062.8	WESTLANDER, DUANE	Water Production	Domestic			0	0	0		0	0	0		
512653	C(1-1)4bbd	372428.7	3693470.1	WATKINS, LARRY,B	Water Production	Domestic			20	0	55	11/3/85	75	75	8	Steel-Perforated or Slotted Casing	X
500713	C(1-1)4bda	372826.9	3693266.4	MARICOPA CO PKS-REC,	Water Production	Domestic			0	14	75	12/31/80	250	250	8	Steel-Perforated or Slotted Casing	X
515805	C(1-1)4dab	373422.1	3692856.9	SLADE, LAURA,	Water Production	Domestic			0	0	100	10/21/86	145	145	8	Steel-Perforated or Slotted Casing	X
550531	C(1-1)4dba	373221.8	3692858.6	HARTLEY, TAMARA,	Water Production	Domestic			0	0	80	11/24/95	165	165	7	Plastic or PVC	X
585761	C(1-1)4dba	373221.8	3692858.6	ORONA, GILBERTO A	Water Production	Domestic			0	0	0		0	0	0		
562531	C(1-1)4dca	373215.5	3692452.8	WILLIAMSON, J. D.	Water Production	Domestic			0	0	110	4/9/98	360	360	6	Plastic or PVC	X
565997	C(1-1)4dca	373215.5	3692452.8	SIMPSON, SHIRLEY	Water Production	Domestic			0	0	110		160	160	6	Plastic or PVC	X
567600	C(1-1)4dca	373215.5	3692452.8	ORONA, GILBERTO A					0	0	145	4/19/98	260	260	8	Steel-Perforated or Slotted Casing	X
576688	C(1-1)4dca	373215.5	3692452.8	DONOVAN, LORETTA	Water Production	Domestic			0	0	120	9/20/99	180	180	4	Plastic or PVC	X
558032	C(1-1)4dcc	373012.3	3692252.1	BLEDSOE, CHESLENE,T	Water Production	Domestic			0	0	145	6/16/96	380	380	6	Steel-Perforated or Slotted Casing	X
638086	C(1-1)4dda	373617.3	3692448.1	MCBRAYER,A	Water Production	Domestic	Stock		25	0	0	1/1/64	0	0	0	Other-Black Steel-Iron-Seamless	
515870	C(1-1)4ddb	373415.7	3692450.5	FIELDS, NELSON,	Water Production	Domestic			0	0	120	12/23/86	150	150	8	Steel-Perforated or Slotted Casing	X
518627	C(1-1)4ddc	373412.5	3692247	BOONE, CHARLES,M	Water Production	Domestic			5	80	180	7/30/87	300	300	7	Plastic or PVC	X

Note:
Data from ADWR Well Registry Database (August, 2001)

Appendix F-1.2 Water Level Elevations

TABLE F-1.2
WATER LEVEL ELEVATIONS - WINTER 1997
CITY OF AVONDALE - WATER RESOURCES MASTER PLAN

Cadastral Location	UTM East*	UTM North*	Water Level Date	Depth to Water (ft below land surface)	Water Level Elevation (ft above mean sea level)
A(1-1)6cbb	378691.57	3702484.11	11/14/97	82	913
A(1-1)9bac	382370.34	3701360.48	12/12/97	88	918
A(1-1)9bbb	381883.15	3701643.65	11/18/97	81	925
A(1-1)17bbb	380185.01	3700062.78	11/14/97	58	932
A(1-1)17daa	381750.85	3699273.42	11/14/97	48	938
A(1-1)19abb	379441.97	3698470.24	11/14/97	44	931
A(1-1)19dcd	379758.6	3696926.12	10/28/97	33	932
A(1-1)28bcb	381793.71	3696439	11/14/97	45	935
A(1-1)30aac1	379857.34	3696555.25	11/14/97	46	928
A(1-1)30aac2	379960.67	3696553.97	11/14/97	42	932
A(1-1)30baa	379266.63	3696839.84	11/14/97	32	928
A(2-1)20cac	380735.87	3707017.58	11/4/97	120	908
A(2-1)20ccc	380214.41	3706592.8	11/13/97	114	908
A(2-1)20daa	381745.68	3707282.38	11/14/97	108	927
A(2-1)20dcc	381041.35	3706674.97	11/14/97	115	912
A(2-1)20ddd	381814.41	3706573.05	11/14/97	109	923
A(2-1)29caa	380952.15	3705721.16	11/13/97	114	909
A(2-1)29ddd	381846.4	3704970.88	11/14/97	111	917
A(2-1)30caa	379402.86	3705678.79	11/13/97	114	900
A(2-1)30cbb	378782.28	3705594.16	11/13/97	116	895
A(2-1)30daa	380177.51	3705699.94	11/13/97	113	905
A(2-1)30ddd	380219.56	3704929.33	11/14/97	115	902
A(2-1)32aac	381454.32	3704575.24	11/14/97	112	913
A(2-1)32dab	381448.27	3704082.46	11/13/97	109	914
A(2-1)33ccc	381852.23	3703338.22	11/13/97	106	919
A(2-1)33cdd	382575.43	3703360.2	11/13/97	104	919
B(1-1)1bac	377664.72	3702959.12	11/14/97	74	909
B(1-1)1caa	377813.38	3702464.37	11/14/97	68	917
B(1-1)2bbb	375629.98	3703354.76	11/13/97	92	902
B(1-1)3baa	374648.6	3703336.65	10/28/97	96	897
B(1-1)3dac	375227.23	3702158.59	10/27/97	82	904
B(1-1)4aba	373407.83	3703229.62	10/27/97	97	893
B(1-1)10aaa	375376.58	3701725.41	10/29/97	76	906
B(1-1)10bda	374519.72	3701366.85	11/17/97	74	900
B(1-1)10ccd	374065.52	3700202.19	10/27/97	69	896
B(1-1)10ddb	375206.15	3700526.24	11/18/97	67	908
B(1-1)11aaa	376977.02	3701674.09	11/17/97	51	921
B(1-1)11aab	376667.57	3701708.84	11/17/97	52	920
B(1-1)11bab	375970.44	3701717.76	11/17/97	54	919
B(1-1)12aaa	378604.05	3701684.31	11/17/97	75	918
B(1-1)12baa	377828.68	3701632.47	10/28/97	69	911
B(1-1)13dbc	377872.67	3698982.79	11/14/97	51	926
B(1-1)15bad	374578	3699887.48	11/17/97	71	900
B(1-1)15ccb	374023.24	3698939.76	11/13/97	62	904
B(1-1)15dca	374849.71	3698929.03	12/18/97	47	908
B(1-1)22acd	374912.46	3697788.47	11/17/97	30	910
B(1-1)24abb	377814.4	3698459.86	11/17/97	53	922
B(1-1)25ada	378538.29	3696448.5	11/17/97	17	926

TABLE F-1.2
WATER LEVEL ELEVATIONS - WINTER 1997
CITY OF AVONDALE - WATER RESOURCES MASTER PLAN

Cadastral Location	UTM East*	UTM North*	Water Level Date	Depth to Water (ft below land surface)	Water Level Elevation (ft above mean sea level)
B(1-1)25baa	377794.56	3696889.12	11/17/97	17	923
B(1-1)27dab	375149.3	3696121.99	10/28/97	19	910
B(2-1)23dbb	376352.91	3707380.84	10/28/97	194	838
B(2-1)23dcb	376321.18	3706919.18	10/28/97	190	841
B(2-1)23dcc	376318.02	3706672.79	10/28/97	189	840
B(2-1)25adc	378293.85	3705754.33	11/13/97	113	891
B(2-1)25bbb	377270.11	3706444.99	11/18/97	164	844
B(2-1)26aaa	377063.66	3706447.62	12/18/97	157	853
B(2-1)26aca	376671.04	3706021.38	11/13/97	141	871
B(2-1)26cbc	375503.7	3705574.31	10/28/97	138	879
B(2-1)27cbc	373978.52	3705409.28	10/28/97	123	885
B(2-1)27dcc	374721.82	3704999.14	10/28/97	119	888
B(2-1)34caa	374633.18	3704137.77	10/28/97	108	890
B(2-1)34dda	375454.04	3703726.68	10/28/97	100	896
B(2-1)36baa	377817.58	3704836.23	11/19/97	105	892
B(2-1)36bbc	377272.02	3704565.91	12/18/97	100	895
B(2-1)36cbb	377137.08	3704105.57	12/18/97	88	902
B(2-1)36cdd	377773.05	3703358.2	11/19/97	83	910
C(1-1)2bda	376067.75	3693183.82	11/6/97	81	915

Notes:

*Well coordinates were taken from the ADWR Well Registry Database (August, 2001), which reports well locations at the center of a 1/4 1/4 1/4 of a section.

Water level data from the ADWR GWSI Database (February, 2000).

Appendix F-1.3 Water Quality

TABLE F-1.3
WATER QUALITY
CITY OF AVONDALE - WATER RESOURCES MASTER PLAN

Owner/Well Name	Well Location	UTM X	UTM Y	Date of Sample	TDS (mg/l)	Nitrate (mg/l)	Fluoride (mg/l)	Arsenic (ug/l)	Chromium (mg/l)	Data Source	Screen Interval (feet bls)	Well Depth
COA #1	B(1-1)10ddb	375102.0	3700450.3	3/26/01	535	7	0.2	3	0.005	COA	244-264, 386-398	456
COA #6	B(2-1)26aaa	376990.9	3706455.8	7/93	340	4.3	0.009	26	NA	COA	364-604	608
COA #7	B(2-1)23ddd	376993.4	3706656.1	3/98	292	2.6	1	24	NA	COA	320-520	530
COA #8	A(2-1)32dda	381708.8	3703639.0	5/29/01	475	8.4	0.4	5	NA	COA	460-660	660
COA #10	B(2-1)36bba	377368.4	3704832.5	5/18/99	508	6.8	0.7	5	NA	COA	200-866	866
COA #11	B(2-1)36cba	377358.2	3704030.2	7/2/99	669	7.9	0.4	30	0.02	COA	100-240	618
COA #12	B(2-1)35daa	376957.9	3704038.2	3/17/98	641	7.4	0.1	3.7	ND	COA	200-867	867
COA #14	B(1-1)2cad	375730.6	3702256	2/24/01	320	1.6	1.2	40	0.038	COA	367-547	588
COA #15	B(1-1)11abb	376457.4	3701592.6	1/11/01	370	2.9	ND	16	0.039	COA	370-530	1400
PIR	C(1-1)1baa	377659.9	3693581.3	1998-1999	3050	2.2	0.6	3.4	0.011	ADEQ	164-244	257
RID #1	A(2-1)29caa	380934.2	3705646.9	7/16/01	776	10.3	NA	4	NA	COA	112-780	800
RID #2	A(2-1)30daa	380129.5	3705640	7/16/01	764	11.5	NA	4	NA	COA	225-840	1350
RID #3	A(2-1)30caa	379354.8	3705624.6	7/16/01	656	9.7	NA	4	NA	COA	126-780	800
RID	A(2-1)30bcc	378776.1	3705814.6	6/8/00	540	9	1.5	NA	NA	COA	100-660	680
RID	A(2-1)32dab	381515.8	3704040.5	6/8/00	691	13	0.4	NA	NA	COA	140-750	775
RID	B(2-1)25acd	378247.7	3705717.1	6/8/00	557	4	1.5	NA	NA	COA	100-735	750
RID	B(1-1)2bbb	375550.7	3703261.3	5/14/97	1000	5.1	0.18	6	NA	COA	150-650	800
SRP	0E5.5N	378734.0	3702404.8	12/13/01	1370	21.7	0.17	7	ND	SRP	225-1215	1230
SRP	0.5E3N	379486.8	3698393.2	6/5/01	1880	32.5	1.23	ND	0.011	SRP	50-140	151
SRP	0.5W3.3N	377909.3	3698992.4	12/13/01	1670	25.3	0.78	11	ND	SRP	40-190	200
SRP	1E7N	380126.7	3705028.4	12/13/01	1090	19.5	ND	5	ND	SRP	170-618	630
SRP	2E5N	381903.1	3701630.4	6/6/01	1640	20.5	ND	ND	0.013	SRP	144-488	500
SRP	2E7N	381735.5	3705051.6	3/28/01	1050	15.4	0.3	ND	0.011	SRP	160-588	600

Notes:

NA=Not analyzed, ND=Not detected

ADEQ=Arizona Dept. of Environmental Quality

COA=City of Avondale

PIR=Phoenix International Raceway

RID=Roosevelt Irrigation District

SRP=Salt River Project

Appendix F-1.4 Weighted Prioritization Values

TABLE F-1.4. Weighted Prioritization Values		Rank and Values																					
Cadastral		B(2-1)21d		B(2-1)28a		B(2-1)28d		B(2-1)33a		B(2-1)33d		B(1-1)4a		B(1-1)4d		B(1-1)9a		B(1-1)9d		B(1-1)16a		B(1-1)16d		B(1-1)21a	
Column		1		1		1		1		1		1		1		1		1		1		1		1	
Row		1		2		2		3		3		4		4		5		5		6		6		7	
Quarter Section		Southeast		Northeast		Southeast		Northeast		Southeast		Northeast		Southeast		Northeast		Southeast		Northeast		Southeast		Northeast	
Criteria	Multiplier	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V
Non-Member Land	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Proximity to Existing Pipelines	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Impacts on Existing Wells	3	2	6	2	6	1	3	2	6	1	3	1	3	1	3	2	6	1	3	1	3	1	3	1	3
Groundwater Quality	5	2	10	2	10	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5
Aquifer Characteristics	8	1	8	1	8	1	8	1	8	1	8	1	8	1	8	1	8	1	8	1	8	1	8	2	16
Aquifer Thickness	10	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20
	TOTAL		**47**		**47**		**39**		**42**		**39**		**39**		**39**		**42**		**39**		**39**		**39**		**47**

Cadastral		B(1-1)21d		B(1-1)28a		B(1-1)28d		B(1-1)33a		B(1-1)33b		B(1-1)33c		B(1-1)33d		C(1-1)4a		C(1-1)4b		C(1-1)4c		C(1-1)4d		B(2-1)22c	
Column		1		1		1		1		1		1		1		1		1		1		1		2	
Row		7		8		8		9		9		9		9		10		10		10		10		1	
Quarter Section		Southeast		Northeast		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Southwest	
Criteria	Multiplier	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V
Non-Member Land	1	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	2	2
Proximity to Existing Pipelines	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Impacts on Existing Wells	3	2	6	1	3	2	6	2	6	1	3	1	3	1	3	1	3	1	3	2	6	1	3	2	6
Groundwater Quality	5	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10
Aquifer Characteristics	8	2	16	4	32	4	32	4	32	4	32	4	32	4	32	4	32	4	32	4	32	4	32	2	16
Aquifer Thickness	10	3	30	3	30	2	20	2	20	1	10	1	10	1	10	1	10	1	10	1	10	1	10	2	20
	TOTAL		**65**		**78**		**71**		**71**		**58**		**57**		**57**		**57**		**57**		**60**		**57**		**55**

Cadastral		B(2-1)22d		B(2-1)27a		B(2-1)27b		B(2-1)27c		B(2-1)27d		B(2-1)34a		B(2-1)34b		B(2-1)34c		B(2-1)34d		B(1-1)3a		B(1-1)3b		B(1-1)3c	
Column		2		2		2		2		2		2		2		2		2		2		2		2	
Row		1		2		2		2		2		3		3		3		3		4		4		4	
Quarter Section		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest	
Criteria	Multiplier	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V
Non-Member Land	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Proximity to Existing Pipelines	1	2	2	2	2	1	1	1	1	2	2	2	2	1	1	1	1	2	2	2	2	1	1	1	1
Impacts on Existing Wells	3	2	6	1	3	2	6	1	3	1	3	2	6	2	6	1	3	1	3	2	6	1	3	2	6
Groundwater Quality	5	2	10	2	10	2	10	2	10	2	10	3	15	1	5	1	5	3	15	3	15	1	5	1	5
Aquifer Characteristics	8	2	16	2	16	2	16	2	16	2	16	2	16	2	16	2	16	2	16	2	16	2	16	2	16
Aquifer Thickness	10	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20
	TOTAL		**56**		**53**		**55**		**52**		**53**		**61**		**50**		**47**		**58**		**61**		**47**		**50**

Cadastral		B(1-1)3d		B(1-1)10a		B(1-1)10b		B(1-1)10c		B(1-1)10d		B(1-1)15a		B(1-1)15b		B(1-1)15c		B(1-1)15d		B(1-1)22a		B(1-1)22b		B(1-1)22c	
Column		2		2		2		2		2		2		2		2		2		2		2		2	
Row		4		5		5		5		5		6		6		6		6		7		7		7	
Quarter Section		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest	
Criteria	Multiplier	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V
Non-Member Land	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Proximity to Existing Pipelines	1	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Impacts on Existing Wells	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3
Groundwater Quality	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	2	10	2	10	2	10
Aquifer Characteristics	8	2	16	2	16	2	16	2	16	2	16	2	16	2	16	2	16	2	16	2	16	2	16	2	16
Aquifer Thickness	10	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20	3	30	3	30	3	30
	TOTAL		**48**		**48**		**48**		**47**		**47**		**47**		**47**		**47**		**47**		**62**		**62**		**62**

TABLE 5A-4 (Continued). Weighted Prioritization Values		Rank and Values																					
Cadastral		B(1-1)22d		B(1-1)27a		B(1-1)27b		B(1-1)27c		B(1-1)27d		B(1-1)34a		B(1-1)34b		B(1-1)34c		B(1-1)34d		C(1-1)3a		C(1-1)3b		C(1-1)3c	
Column		2		2		2		2		2		2		2		2		2		2		2		2	
Row		7		8		8		8		8		9		9		9		9		10		10		10	
Quarter Section		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest	
Criteria	Multiplier	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V
Non-Member Land	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Pipelines	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Impacts on Existing Wells	3	1	3	2	6	1	3	1	3	1	3	1	3	1	3	2	6	2	6	1	3	1	3	1	3
Groundwater Quality	5	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10
Aquifer Characteristics	8	2	16	3	24	3	24	3	24	3	24	4	32	4	32	4	32	4	32	4	32	4	32	4	32
Aquifer Thickness	10	3	30	3	30	3	30	3	30	3	30	2	20	2	20	1	10	1	10	1	10	1	10	1	10
	TOTAL		**61**		**72**		**70**		**70**		**69**		**67**		**67**		**60**		**60**		**57**		**57**		**57**

	Cadastral	C(1-1)3d		B(2-1)23c		B(2-1)23d		B(2-1)26a		B(2-1)26b		B(2-1)26c		B(2-1)26d		B(2-1)35a		B(2-1)35b		B(2-1)35c		B(2-1)35d		B(1-1)2a	
	Column	2		3		3		3		3		3		3		3		3		3		3		3	
	Row	10		1		1		2		2		2		2		3		3		3		3		4	
	Quarter Section	Southeast		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast	
Criteria	Multiplier	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V
Non-Member Land	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1
Proximity to Existing Pipelines	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Impacts on Existing Wells	3	1	3	2	6	1	3	1	3	1	3	1	3	2	6	1	3	1	3	2	6	2	6	1	3
Groundwater Quality	5	2	10	1	5	1	5	1	5	1	5	1	5	1	5	3	15	3	15	3	15	3	15	3	15
Aquifer Characteristics	8	4	32	3	24	3	24	3	24	3	24	3	24	3	24	2	16	2	16	2	16	2	16	1	8
Aquifer Thickness	10	1	10	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20
	TOTAL		**57**		**59**		**56**		**56**		**56**		**56**		**59**		**58**		**58**		**61**		**61**		**49**

	Cadastral	B(1-1)2b		B(1-1)2c		B(1-1)2d		B(1-1)11a		B(1-1)11b		B(1-1)11c		B(1-1)11d		B(1-1)14a		B(1-1)14b		B(1-1)14c		B(1-1)14d		B(1-1)23a	
	Column	3		3		3		3		3		3		3		3		3		3		3		3	
	Row	4		4		4		5		5		5		5		6		6		6		6		7	
	Quarter Section	Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast	
Criteria	Multiplier	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V
Non-Member Land	1	2	2	2	2	1	1	1	1	2	2	2	2	1	1	1	1	2	2	2	2	1	1	1	1
Proximity to Existing Pipelines	1	2	2	2	2	2	2	2	2	2	2	1	1	1	1	2	2	1	1	1	1	2	2	2	2
Impacts on Existing Wells	3	2	6	1	3	1	3	1	3	1	3	1	3	1	3	1	3	2	6	1	3	1	3	1	3
Groundwater Quality	5	3	15	1	5	1	5	1	5	1	5	3	15	1	5	1	5	3	15	2	10	1	5	2	10
Aquifer Characteristics	8	1	8	1	8	1	8	2	16	2	16	2	16	2	16	2	16	2	16	2	16	2	16	2	16
Aquifer Thickness	10	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20	3	30
	TOTAL		**53**		**40**		**39**		**47**		**48**		**57**		**46**		**47**		**60**		**52**		**47**		**62**

	Cadastral	B(1-1)23b		B(1-1)23c		B(1-1)23d		B(1-1)26a		B(1-1)26b		B(1-1)26c		B(1-1)26d		B(1-1)35a		B(1-1)35b		B(1-1)35c		B(1-1)35d		C(1-1)2a	
	Column	3		3		3		3		3		3		3		3		3		3		3		3	
	Row	7		7		7		8		8		8		8		9		9		9		9		10	
	Quarter Section	Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast	
Criteria	Multiplier	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V
Non-Member Land	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Pipelines	1	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Impacts on Existing Wells	3	1	3	1	3	1	3	2	6	2	6	1	3	1	3	1	3	2	6	2	6	2	6	2	6
Groundwater Quality	5	2	10	2	10	2	10	2	10	2	10	2	10	2	10	1	5	2	10	2	10	1	5	1	5
Aquifer Characteristics	8	2	16	2	16	2	16	4	32	4	32	4	32	4	32	4	32	4	32	4	32	4	32	4	32
Aquifer Thickness	10	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30	2	20	2	20	1	10
	TOTAL		**62**		**62**		**62**		**81**		**81**		**77**		**77**		**72**		**80**		**70**		**65**		**55**

TABLE 5A-4 (Continued). Weighted Prioritization Values		Rank and Values																					
Cadastral		C(1-1)2b		C(1-1)2c		C(1-1)2d		B(2-1)24c		B(2-1)24d		B(2-1)25a		B(2-1)25b		B(2-1)25c		B(2-1)25d		B(2-1)36a		B(2-1)36b		B(2-1)36c	
Column		3		3		3		4		4		4		4		4		4		4		4		4	
Row		10		10		10		1		1		2		2		2		2		3		3		3	
Quarter Section		Northwest		Southwest		Southeast		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest	
Criteria	Multiplier	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V
Non-Member Land	1	1	1	1	1	1	1	2	2	1	1	1	1	2	2	2	2	1	1	1	1	2	2	1	1
Proximity to Existing Pipelines	1	1	1	1	1	1	1	2	2	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2
Impacts on Existing Wells	3	2	6	2	6	2	6	1	3	2	6	1	3	1	3	2	6	2	6	1	3	1	3	1	3
Groundwater Quality	5	2	10	2	10	1	5	1	5	3	15	3	15	1	5	3	15	3	15	3	15	3	15	3	15
Aquifer Characteristics	8	4	32	4	32	4	32	2	16	2	16	3	24	3	24	3	24	3	24	2	16	2	16	2	16
Aquifer Thickness	10	1	10	1	10	1	10	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20
	TOTAL		**60**		**60**		**55**		**48**		**59**		**64**		**56**		**69**		**68**		**57**		**58**		**57**

	Cadastral	B(2-1)36d		B(1-1)1a		B(1-1)1b		B(1-1)1c		B(1-1)1d		B(1-1)12a		B(1-1)12b		B(1-1)12c		B(1-1)12d		B(1-1)13a		B(1-1)13b		B(1-1)13c	
	Column	4		4		4		4		4		4		4		4		4		4		4		4	
	Row	3		4		4		4		4		5		5		5		5		6		6		6	
	Quarter Section	Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest	
Criteria	Multiplier	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V
Non-Member Land	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Pipelines	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	2	2	2	2	2	2	2	2
Impacts on Existing Wells	3	1	3	2	6	1	3	1	3	1	3	1	3	1	3	2	6	1	3	1	3	2	6	1	3
Groundwater Quality	5	3	15	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5
Aquifer Characteristics	8	2	16	2	16	2	16	2	16	2	16	2	16	2	16	2	16	2	16	2	16	2	16	2	16
Aquifer Thickness	10	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20
	TOTAL		**57**		**50**		**47**		**47**		**47**		**47**		**47**		**49**		**47**		**47**		**50**		**47**

	Cadastral	B(1-1)13d		B(1-1)24a		B(1-1)24b		B(1-1)24c		B(1-1)24d		B(1-1)25a		B(1-1)25b		B(1-1)25c		B(1-1)25d		B(1-1)36a		B(1-1)36b		B(1-1)36c	
	Column	4		4		4		4		4		4		4		4		4		4		4		4	
	Row	6		7		7		7		7		8		8		8		8		9		9		9	
	Quarter Section	Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest	
Criteria	Multiplier	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V
Non-Member Land	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Pipelines	1	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Impacts on Existing Wells	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	2	6	1	3	1	3	1	3	2	6
Groundwater Quality	5	1	5	1	5	1	5	2	10	2	10	2	10	2	10	2	10	1	5	1	5	1	5	1	5
Aquifer Characteristics	8	2	16	2	16	2	16	2	16	2	16	2	16	2	16	2	16	2	16	4	32	4	32	4	32
Aquifer Thickness	10	2	20	2	20	3	30	3	30	2	20	3	30	3	30	3	30	3	30	2	20	3	30	2	20
	TOTAL		**47**		**47**		**57**		**62**		**51**		**61**		**61**		**64**		**61**		**62**		**72**		**65**

	Cadastral	B(1-1)36d		C(1-1)1a		C(1-1)1b		C(1-1)1c		C(1-1)1d		A(2-1)19c		A(2-1)19d		A(2-1)30a		A(2-1)30b		A(2-1)30c		A(2-1)30d		A(2-1)31a	
	Column	4		4		4		4		4		5		5		5		5		5		5		5	
	Row	9		10		10		10		10		1		1		2		2		2		2		3	
	Quarter Section	Southeast		Northeast		Northwest		Southwest		Southeast		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast	
Criteria	Multiplier	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V
Non-Member Land	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Pipelines	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Impacts on Existing Wells	3	2	6	1	3	1	3	2	6	2	6	2	6	2	6	2	6	1	3	1	3	1	3	2	6
Groundwater Quality	5	1	5	1	5	1	5	1	5	1	5	3	15	1	5	1	5	3	15	3	15	1	5	1	5
Aquifer Characteristics	8	4	32	4	32	4	32	4	32	4	32	3	24	3	24	4	32	4	32	4	32	4	32	3	24
Aquifer Thickness	10	2	20	1	10	1	10	1	10	1	10	2	20	2	20	2	20	2	20	2	20	2	20	2	20
	TOTAL		**65**		**52**		**52**		**55**		**55**		**68**		**58**		**66**		**73**		**73**		**63**		**58**

TABLE 5A-4 (Continued). Weighted Prioritization Values		Rank and Values																					
Cadastral		A(2-1)31b		A(2-1)31c		A(2-1)31d		A(1-1)6a		A(1-1)6b		A(1-1)6c		A(1-1)6d		A(1-1)7a		A(1-1)7b		A(1-1)7c		A(1-1)7d		A(1-1)18a	
Column		5		5		5		5		5		5		5		5		5		5		5		5	
Row		3		3		3		4		4		4		4		5		5		5		5		6	
Quarter Section		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast	
Criteria	Multiplier	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V
Non-Member Land	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Pipelines	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1
Impacts on Existing Wells	3	1	3	2	6	1	3	1	3	1	3	1	3	1	3	1	3	2	6	1	3	1	3	1	3
Groundwater Quality	5	3	15	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	2	10	2	10	1	5
Aquifer Characteristics	8	3	24	3	24	3	24	3	24	3	24	3	24	3	24	3	24	3	24	3	24	3	24	3	24
Aquifer Thickness	10	2	20	1	10	2	20	1	10	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20
	TOTAL		**65**		**48**		**55**		**45**		**55**		**55**		**55**		**55**		**58**		**60**		**59**		**54**

	Cadastral	A(1-1)18b		A(1-1)18c		A(1-1)18d		A(1-1)19a		A(1-1)19b		A(1-1)19c		A(1-1)19d		A(1-1)30a		A(1-1)30b		A(1-1)30c		A(1-1)30d		A(1-1)31a	
	Column	5		5		5		5		5		5		5		5		5		5		5		5	
	Row	6		6		6		7		7		7		7		8		8		8		8		9	
	Quarter Section	Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast	
Criteria	Multiplier	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V
Non-Member Land	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Pipelines	1	2	2	2	2	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Impacts on Existing Wells	3	1	3	2	6	2	6	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3
Groundwater Quality	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	2	10	2	10	2	10	2	10	2	10
Aquifer Characteristics	8	3	24	3	24	3	24	2	16	2	16	2	16	2	16	2	16	2	16	2	16	2	16	4	32
Aquifer Thickness	10	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20
	TOTAL		**55**		**58**		**57**		**46**		**47**		**46**		**46**		**51**		**51**		**51**		**51**		**67**

	Cadastral	A(1-1)31b		A(1-1)31c		A(1-1)31d		D(1-1)6a		D(1-1)6b		D(1-1)6c		D(1-1)6d		A(2-1)20c		A(2-1)20d		A(2-1)29a		A(2-1)29b		A(2-1)29c	
	Column	5		5		5		5		5		5		5		6		6		6		6		6	
	Row	9		9		9		10		10		10		10		1		1		2		2		2	
	Quarter Section	Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Southwest		Southeast		Northeast		Northwest		Southwest	
Criteria	Multiplier	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V
Non-Member Land	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Pipelines	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	2	2	2	2
Impacts on Existing Wells	3	1	3	1	3	2	6	2	6	2	6	2	6	2	6	1	3	1	3	1	3	2	6	1	3
Groundwater Quality	5	1	5	1	5	2	10	2	10	1	5	1	5	2	10	1	5	1	5	1	5	1	5	1	5
Aquifer Characteristics	8	4	32	4	32	4	32	4	32	4	32	4	32	4	32	4	32	4	32	4	32	4	32	4	32
Aquifer Thickness	10	2	20	1	10	1	10	1	10	1	10	1	10	1	10	2	20	2	20	2	20	2	20	2	20
	TOTAL		**62**		**52**		**60**		**60**		**55**		**55**		**60**		**63**		**62**		**62**		**66**		**63**

	Cadastral	A(2-1)29d		A(2-1)32a		A(2-1)32b		A(2-1)32c		A(2-1)32d		A(1-1)5a		A(1-1)5b		A(1-1)5c		A(1-1)5d		A(1-1)8a		A(1-1)8b		A(1-1)8c	
	Column	6		6		6		6		6		6		6		6		6		6		6		6	
	Row	2		3		3		3		3		4		4		4		4		5		5		5	
	Quarter Section	Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest	
Criteria	Multiplier	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V
Non-Member Land	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Pipelines	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	2	2	1	1
Impacts on Existing Wells	3	1	3	1	3	1	3	2	6	1	3	1	3	1	3	1	3	2	6	1	3	2	6	1	3
Groundwater Quality	5	1	5	1	5	1	5	3	15	3	15	3	15	3	15	1	5	1	5	1	5	1	5	1	5
Aquifer Characteristics	8	4	32	4	32	4	32	4	32	4	32	3	24	3	24	3	24	3	24	4	32	4	32	4	32
Aquifer Thickness	10	2	20	2	20	2	20	2	20	2	20	2	20	2	20	1	10	1	10	1	10	1	10	1	10
	TOTAL		**62**		**63**		**63**		**76**		**73**		**65**		**65**		**45**		**47**		**52**		**56**		**52**

TABLE 5A-4 (Continued). Weighted Prioritization Values		Rank and Values																					
Cadastral		A(1-1)8d		A(1-1)17a		A(1-1)17b		A(1-1)17c		A(1-1)17d		A(1-1)20a		A(1-1)20b		A(1-1)20c		A(1-1)20d		A(1-1)29a		A(1-1)29b		A(1-1)29c	
Column		6		6		6		6		6		6		6		6		6		6		6		6	
Row		5		6		6		6		6		7		7		7		7		8		8		8	
Quarter Section		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest	
Criteria	Multiplier	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V
Non-Member Land	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Pipelines	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Impacts on Existing Wells	3	2	6	2	6	1	3	1	3	1	3	2	6	1	3	1	3	1	3	1	3	1	3	1	3
Groundwater Quality	5	1	5	2	10	1	5	1	5	2	10	2	10	1	5	2	10	2	10	2	10	2	10	2	10
Aquifer Characteristics	8	4	32	4	32	4	32	4	32	4	32	2	16	2	16	2	16	2	16	2	16	2	16	2	16
Aquifer Thickness	10	1	10	1	10	1	10	1	10	1	10	1	10	1	10	1	10	1	10	1	10	1	10	2	20
	TOTAL		**55**		**60**		**52**		**52**		**57**		**44**		**36**		**41**		**41**		**41**		**41**		**51**

	Cadastral	A(1-1)29d		A(1-1)32a		A(1-1)32b		A(1-1)32c		A(1-1)32d		D(1-1)5a		D(1-1)5b		D(1-1)5c		D(1-1)5d		A(2-1)21c		A(2-1)28b		A(2-1)28c	
	Column	6		6		6		6		6		6		6		6		6		7		7		7	
	Row	8		9		9		9		9		10		10		10		10		1		2		2	
	Quarter Section	Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Southwest		Northwest		Southwest	
Criteria	Multiplier	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V
Non-Member Land	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Pipelines	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Impacts on Existing Wells	3	1	3	1	3	1	3	2	6	1	3	2	6	2	6	2	6	2	6	2	6	1	3	2	6
Groundwater Quality	5	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	1	5	1	5
Aquifer Characteristics	8	2	16	4	32	4	32	4	32	4	32	4	32	4	32	4	32	4	32	3	24	4	32	4	32
Aquifer Thickness	10	2	20	2	20	2	20	1	10	1	10	1	10	1	10	1	10	1	10	2	20	2	20	2	20
	TOTAL		**51**		**67**		**67**		**60**		**57**		**60**		**60**		**60**		**60**		**62**		**62**		**65**

	Cadastral	A(2-1)33b		A(2-1)33c		A(1-1)4b		A(1-1)4c		A(1-1)9b		A(1-1)9c		A(1-1)16b		A(1-1)16c		A(1-1)21b		A(1-1)21c		A(1-1)28b		A(1-1)28c	
	Column	7		7		7		7		7		7		7		7		7		7		7		7	
	Row	3		3		4		4		5		5		6		6		7		7		8		8	
	Quarter Section	Northwest		Southwest		Northwest		Southwest		Northwest		Southwest		Northwest		Southwest		Northwest		Southwest		Northwest		Southwest	
Criteria	Multiplier	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V	R	V
Non-Member Land	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Pipelines	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Impacts on Existing Wells	3	2	6	1	3	1	3	1	3	1	3	2	6	1	3	2	6	1	3	1	3	1	3	1	3
Groundwater Quality	5	1	5	3	15	3	15	1	5	1	5	1	5	2	10	2	10	2	10	2	10	2	10	2	10
Aquifer Characteristics	8	5	40	5	40	4	32	4	32	4	32	4	32	4	32	4	32	2	16	2	16	2	16	2	16
Aquifer Thickness	10	2	20	2	20	2	20	2	20	1	10	1	10	1	10	1	10	1	10	1	10	1	10	2	20
	TOTAL		**73**		**81**		**73**		**62**		**52**		**55**		**57**		**60**		**41**		**41**		**41**		**51**

	Cadastral	A(1-1)33b		A(1-1)33c		D(1-1)4b		D(1-1)4c	
	Column	7		7		7		7	
	Row	9		9		10		10	
	Quarter Section	Northwest		Southwest		Northwest		Southwest	
Criteria	Multiplier	R	V	R	V	R	V	R	V
Non-Member Land	1	1	1	1	1	1	1	1	1
Proximity to Existing Pipelines	1	1	1	1	1	1	1	1	1
Impacts on Existing Wells	3	1	3	1	3	1	3	1	3
Groundwater Quality	5	2	10	2	10	2	10	2	10
Aquifer Characteristics	8	4	32	4	32	4	32	4	32
Aquifer Thickness	10	2	20	1	10	1	10	1	10
	TOTAL		**67**		**57**		**57**		**57**

Appendix F-2 Well Driller Reports

	Registration No.	Cadastral Location
F-2.01	55-533836	B (2-1) 23 dcc
F-2.02	55-501247	B (2-1) 26 aaa
F-2.03	55-608792	B (2-1) 36 bba
F-2.04	55-504634	B (2-1) 36 bca
F-2.05	55-578749	N / A
F-2.06	55-559740	B (1-1) 26 add
F-2.07	55-582986	C (1-1) 1 baa
F-2.08	55-510527	B (1-1) 9 caa
F-2.09	55-532397	B (1-1) 9 aaa
F-2.10	55-608428	A (1-1) 6 cbb
F-2.11	55-605643	A (1-1) 6 daa
F-2.12	55-520499	A (2-1) 32 dda
F-2.13	55-567975	A (1-1) 20 ccc
F-2.14	55-527839	A (1-1) 33 bbb
F-2.15	55-567600	C (1-1) 4 dca
F-2.16	55-525153	C (1-1) 3 bbd
F-2.17	55-605568	B (1-1) 25 ada
F-2.18	55-533267	A (1-1) 30 bca

ARIZONA DEPARTMENT OF WATER RESOURCES
15 South 15th Avenue
Phoenix, Arizona 85007

RECEIVED
JAN 15 1992
OPERATIONS DIV.

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Name: Litchfield Park Service Company (>700 Clay bottom)
   Address: 114 N. Litchfield Rd. Litchfield Park Az 85340
   Street City State Zip
2. Driller Name: LAYNE WESTERN Co. INC.
   Address: 12030 E. Riggs Rd Chandler Az 85249
   Street City State Zip
3. Location: 2 (N)S | 1 E/(W) | 23 | SW 1/4 | SW 1/4 | SE 1/4
   Township | Range | Section | 10-acre | 40-acre | 160-acre
4. Well Registration No. 55- 533836 (Required)
5. Permit No. _____ (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 615 ft.
7. Type of casing low Carbon Steel
8. Diameter and length of casing 16 in. from 0' to 328', 26 in from 0' to 40'.
9. Method of sealing at reduction points N/A
10. Perforated from 328 to 388, from 408 to 488, from 500 to 606.
11. Size of cuts .030 inch Number of cuts per foot Wire Wrapped
12. If screen was installed: Length 240 ft. Diam 16" in. Type Johnson Wire Wrapped HI CAP
13. Method of construction Drilled Reverse Circulation
    (drilled, dug, driven, bored, jetted, etc)
14. Date started 12 (Month) 6 (Day) 1991 (Year)
15. Date completed 12 (Month) 17 (Day) 1991 (Year)
16. Depth to water 170 FT ft. (If flowing well, so state)
17. Describe point from which depth measurements were made and give land surface elevation if available
    Ground Surface
18. If flowing well, state method of flow regulation: _____
19. Remarks: Cement Grout 0'-285'
    Bentonite Seal from 285'-310'
    Silica Sand Gravel Pack 310'-610'
    Bentonite Seal from 610'-630'

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-533836
File No. B(2-1)23 dcc
Received _____ By _____
Entered _____ By ENTERED JAN 16 1992

DWR-55-55-7/91 (Rev.)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encounterd, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	6	Topsoil
6	27	Sand
27	34	Sand & Gravel
34	65	Sand & Gravel & Boulders
65	125	Sand & Gravel
125	150	Sand & Gravel with Clay
150	165	Sand & Gravel
165	220	Sand Gravel & Clay
220	250	Clay
250	340	Sand & Clay
340	360	Sand & Gravel
360	500	Sand & Clay
500	700	Mostly Clay with Sand
		Pilot hole drilled To 700 FT
		Well Completed To 615 FT

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: LAYNE WESTERN Co., INC.

12030 E. Riggs Rd
Street

Chandler AZ 85249
City State Zip

Date 1/8/92

Well No. 6

STATE OF ARIZONA

DEPARTMENT OF WATER RESOURCES

DEC 1981

DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

~609' bls (Clay bottom)

This report should be prepared by the driller in detail and filed with the Department within 30 days following completion of the well.

1. Owner City of Avondale
Name
City Hall, 525 North Central Avenue, Avondale, AZ 85323
Address

2. Lessee or Operator Layne-Western Company, Inc.
Name
Address

3. Driller Layne-Western Company, Inc.
Name
9002 S. Hardy DRive, Tempe, AZ 85284
Address

4. Location of well: Twp 2N. Rge 1W, Section 26, NE¼, NE¼, NE¼

5. Permit No. (if issued) Q-501247

DESCRIPTION OF WELL

6. Total depth of hole 608 ft.

7. Type of Casing Steel

8. Diameter and length of casing 18 in. from 0 to 604, _____ in from _____ to _____.

9. Method of sealing at reduction points Weld

10. Perforated from _____ to _____, from _____ to _____, from _____ to _____

11. Size of cuts _____ Number of cuts per foot _____

12. If screen was installed: Length 240 ft. Diam 18 in. Type #100 Hycap Johnson

13. Method of construction Drilled
drilled, dug, driven, bored, jetted, etc.

14. Date started 11 (Month) 11 (day) 81 (year)

15. Date completed 11 (Month) 15 (day) 81 (year)

16. Depth to water _____ ft. (If flowing well, so state.)

17. Describe point from which depth measurements were made, and give sea-level elevation if available.
Ground level

18. If flowing well, state method of flow regulation _____

19. REMARKS: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55-501247
Received _____ By _____
Entered 12-14-81 By MB
File No. B(2-1)26 aaa

(Well log to appear on Reverse side)

Well No 6

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

FROM (FEET)	TO (FEET)	DESCRIPTION OF FORMATION MATERIAL
0'	30'	Fine sandy loam
30'	110'	Sand, gravel and boulders
110'	120'	Sand and gravel
120'	130'	Sand, gravel and boulders
130'	140'	Sand and gravel
140'	160'	Sand, gravel and boulders
160'	210'	Sand, gravel with red clay
210'	230'	Hard clay with sand
230'	240'	Sandy clay
240'	250'	Sand
250'	270'	Sandy clay
270'	330'	Clay
330'	340'	Clay and gravel
340'	350'	Clay, gravel and sand
350'	360'	Clay and sand
360'	370'	Clay
370'	390'	Clay with streaks of sand
390'	420'	Clay and sand
420'	430'	Clay
430'	590'	Clay with sand and gravel
590'	609'	Clay

I hereby certify that this well was drilled by me (or under my supervision), and that each and all of the statements herein contained are true to the best of my knowledge and belief.

Driller David Bowen

David Bowen for Irving Hulbert
District Manager
9002 S. Hardy Drive, Tempe, AZ 85284
Address

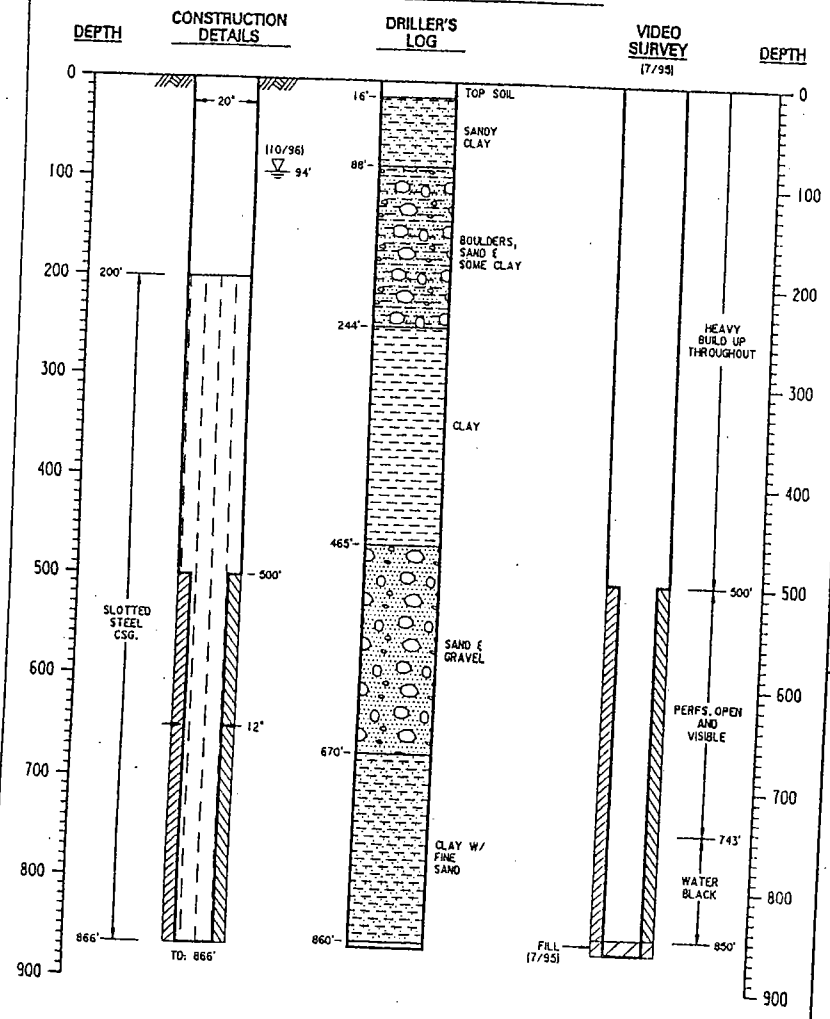
November 19, 1981

2-73

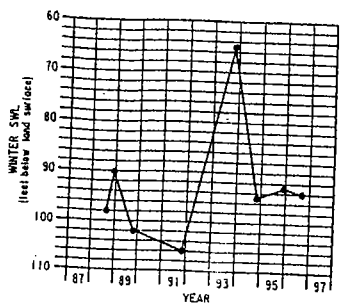
AVONDALE WELL NO. 10

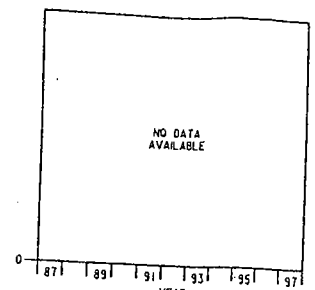
ADWR REG. NO.: 55-608792 **LOCATION: B(2-1)36 bba3** **12105 W. THOMAS ROAD**

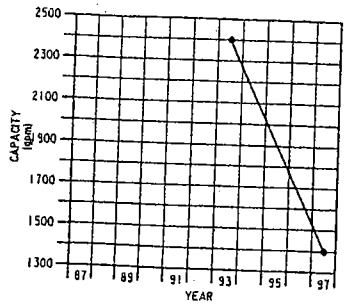
PHYSICAL WELL DATA

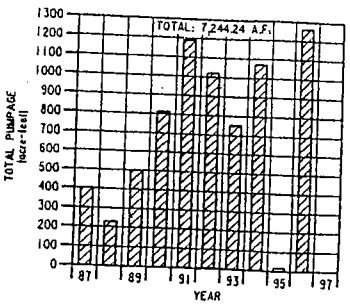


WATER QUANTITY DATA









MISC. DATA

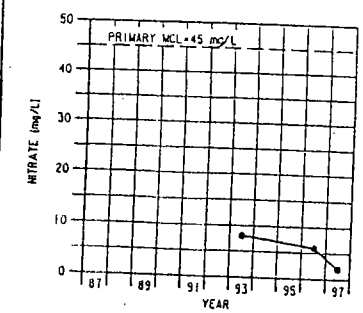
DRILLED: 7-1977

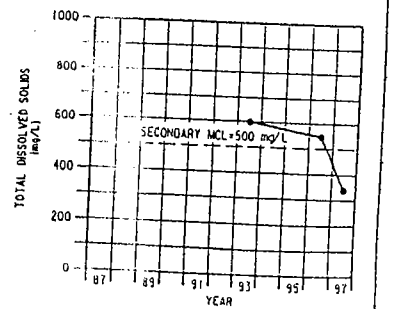
DRILLING METHOD: ROTARY

TRANSMISSIVITY: N/A

REGISTERED CAPACITY: 3000 GPM

COMMENTS:





WATER QUALITY DATA

ORGANICS	93	97	STANDARD
1,1,1-TRICHLOROETHANE (TCA). .ug/L	<0.5	<0.5	200.0 (MCL)
TRICHLOROETHENE (TCE). . . . .ug/L	<0.5	<0.5	5.0 (MCL)
TETRACHLOROETHYLENE (PCE). . .ug/L	<0.5	<0.5	5.0 (MCL)
CHLOROFORM. . . . . ug/L	<0.5	<0.5	100.0 (MCL)
DIBROMOCHLOROPROPANE (DBCP). .ug/L	--	<0.5	0.2 (MCL)
ETHYLENE DIBROMIDE (EDB). . . ug/L	--	<0.5	0.05 (MCL)
TRACE METALS			
ARSENIC (As). . . . . ug/L	<10.0	3.7	50.0 (MCL)
BARIUM (Ba). . . . . ug/L	140.0	140.0	1000 (MCL)
CADMIUM (Cd). . . . . ug/L	<0.5	<2.0	5.0 (MCL)
CHROMIUM (Cr). . . . . ug/L	6.0	<5.0	100.0 (MCL)
LEAD (Pb). . . . . .ug/L	<0.5	<0.2	15.0 (MCL)
MERCURY (Hg). . . . . ug/L	<1.0	0.3	2.0 (MCL)
SELENIUM (Se). . . . . .ug/L	<5.0	<2.0	50.0 (MCL)
SILVER (Ag). . . . . .ug/L	--	--	50.0 (MCL)

* NOTE: WATER QUALITY DATA AVERAGED OVER SAMPLE PERIOD (PER CITY OF AVONDALE)

STATE OF ARIZONA

DEPARTMENT OF
WATER RESOURCES

WELL DRILLER REPORT

275 - 925
> 925'
(clay bottom)

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Jack M. Rayner, PO Box 146, Litchfield Park, AZ 85340
   Name
   Address

2. Lessee or Operator
   Name
   Address

3. Driller BC & M DRILLING, INC
   Name
   1128 S Lewis, Mesa, AZ 85202
   Address

4. Location of well: Litchfield Park, AZ 85340

5. Permit No. (if issued) Q-504634

DESCRIPTION OF WELL

6. Total depth of hole 925 ft.
7. Type of Casing 18" x .312 DRI BPE Carbon Steel Water Casing
8. Diameter and length of casing 18 in. from 0' to 200', 18 in from 620' to 640'.
9. Method of sealing at reduction points 30" surface casing - 40'
10. Perforated from 200' to 620', from ____ to ____, from ____ to ____
11. Size of cuts 24 row 1/8 x 3' per 1. ft Number of cuts per foot ____
12. If screen was installed: Length -- ft. Diam ____ in. Type ____
13. Method of construction Reverse Rotary
    drilled, dug, driven, bored, jetted, etc.
14. Date started 3 (Month) 7 (day) 1983 (year)
15. Date completed 3 (Month) 20 (day) 1983 (year)
16. Depth to water 85' ft. (If flowing well, so state.)
17. Describe point from which depth measurements were made, and give sea-level elevation if available. 1200'
18. If flowing well, state method of flow regulation
19. REMARKS:

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55-504634 Q
Received ____ By ____
Entered 4.18.83 By ____
File No. D(2-1) 36 bca

(Well log to appear on Reverse side)

RECEIVED
APR 14 1983
DEPT. OF
WATER RESOURCES

FROM (feet)	TO (feet)	Description of formation material
11	20	Rock, sand & gravel
20	60	Rock, gravel
60	68	Rock, clay

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

FROM (FEET)	TO (FEET)	DESCRIPTION OF FORMATION MATERIAL
68	85	Clay, gravel & rock
85	90	Gravel
90	120	Gravel, clay
120	145	Gravel, 5% clay
145	165	Clay
165	180	Fine sand
180	195	Clay
195	205	Red clay
205	215	Clay
215	240	Clay, w/some sand
240	250	Clay, gravel
250	255	Sandy clay, rock
255	265	Gravel, clay
265	275	Gravel
275	360	Clay
360	367	Clay, 5% rock
367	397	Clay
397	400	Clay, sand
400	550	Clay
550	551	Fine sand
551	570	Clay, gravel
570	610	Clay
610	615	Gravel
615	620	Gravel, clay
620	647	Clay
647	650	Red clay
650	660	Gray clay
660	665	Red clay
665	685	Brown clay
685	920	Brown clay
920	925	T.D.

I hereby certify that this well was drilled by me (or under my supervision), and that each and all of the statements herein contained are true to the best of my knowledge and belief.

Driller [signature] Name

1128 S. Lewis, Mesa, AZ 85002 Address

Date April 7, 1983

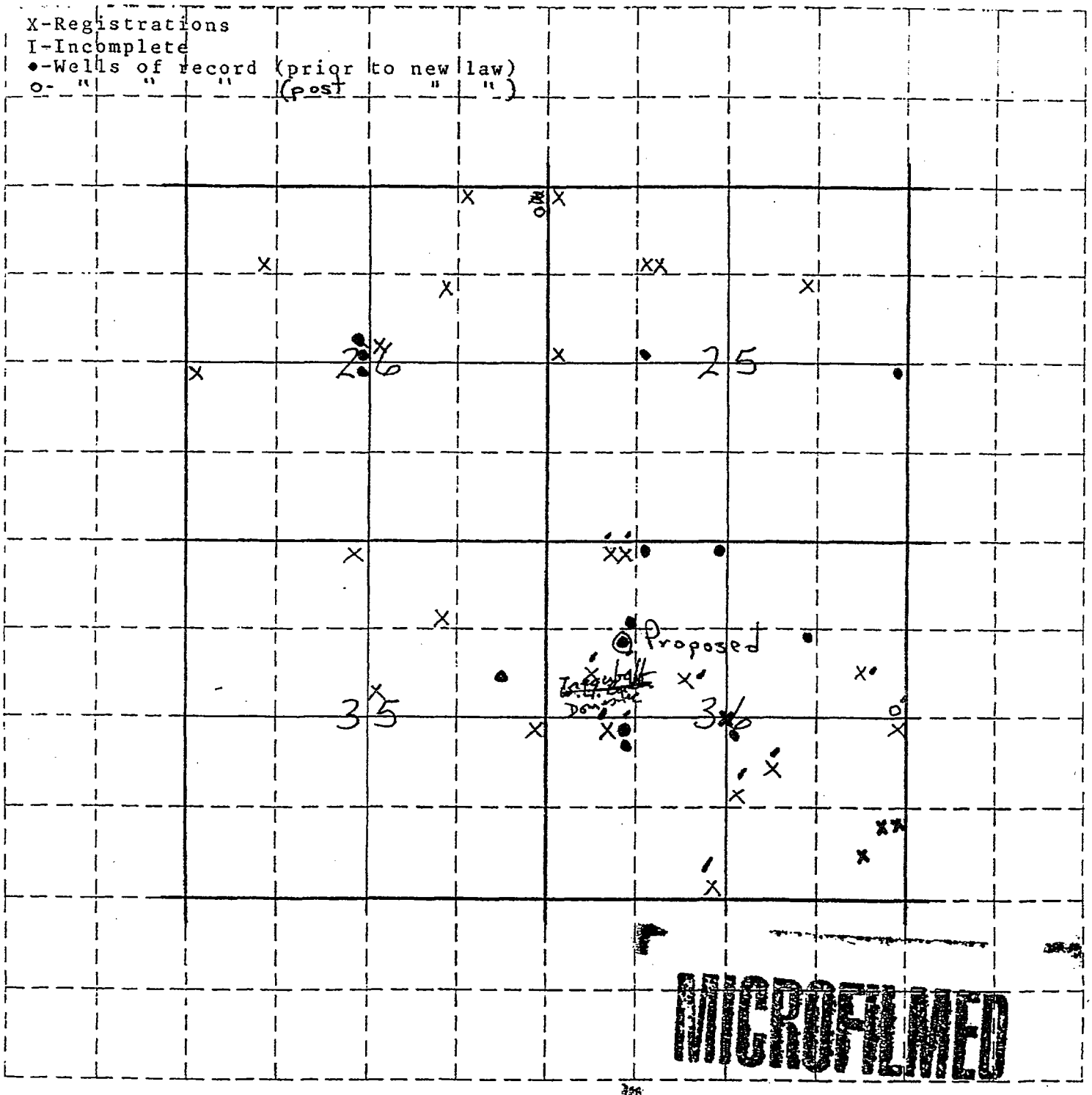
2-73

FILE # B(2-1)36 bca 55- 504634-Q

SEC. 36 | TWP. 2N | RGE. 1W | N

DEPT. OF WATER RESOURCES

● Existing Well to be replaced or supplemented
XOI● Wells of record owned by applicant
XOI● Wells of record owned by other than applicant
Service area or area to be irrigated
(Within) (Not Within) service area



1 MI = 5280'
2640' 1/2 MI | 1320' 1/4 MI | 660' 1/8 MI | 660' 1/8 MI

1 MILE =
5280 FEET
80 CHAINS
320 RODS
1760 YARDS
1609.3 METERS

1-ROD = 16½ FEET
1-CHAIN = 66 FEET
1-ACRE = 43560 SQ. FT.

0 CHAINS 10 20 30 40 50 60 70 80 CHAINS

0 FEET 1000 2000 3000 4000 5000 6000 7000 8000 FEET

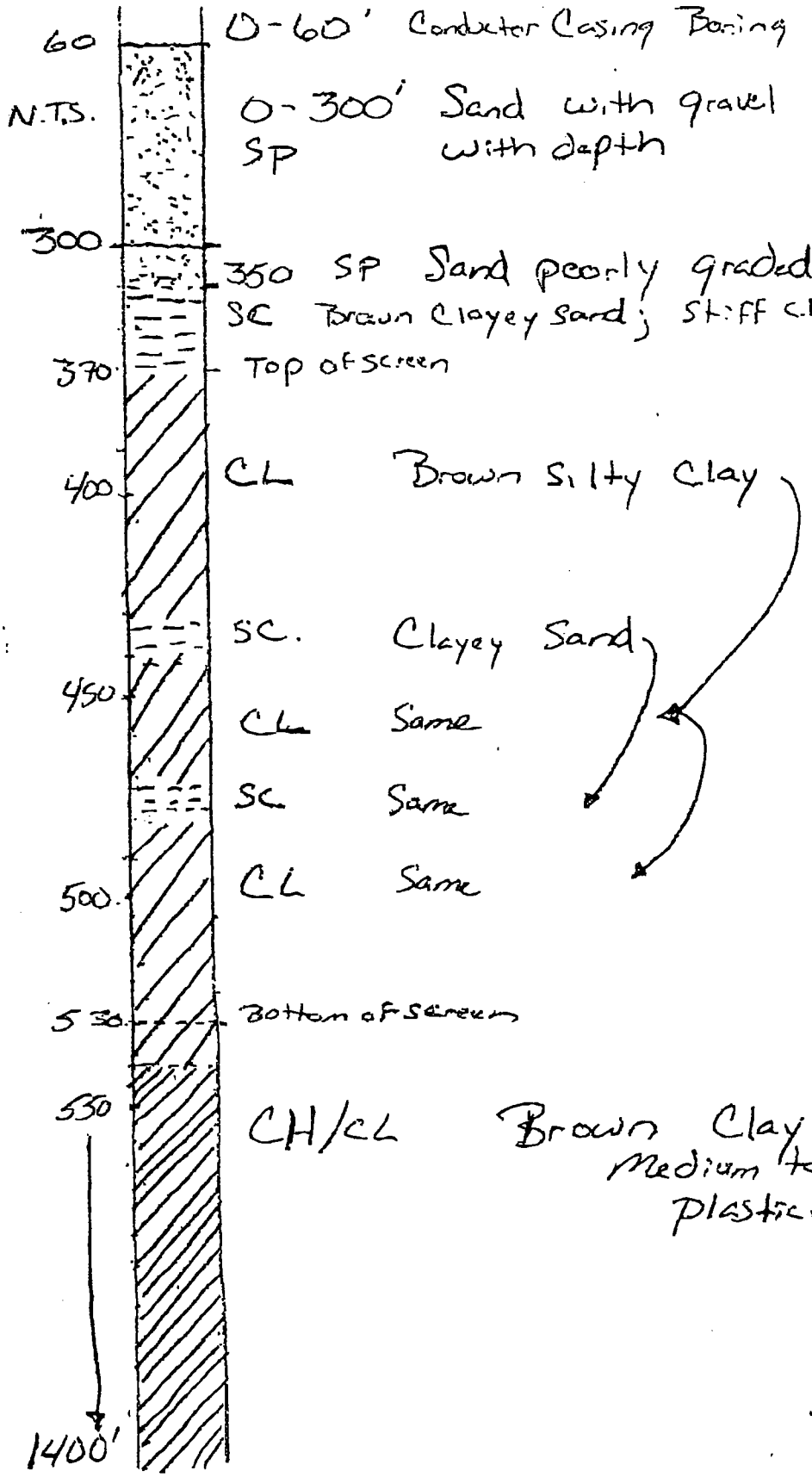
1-44, 3-1-72

DAMES & MOORE
A DAMES & MOORE GROUP COMPANY

55-578749

Sheet No. P.2/2 of
Calc. No.
Rev. No.
By SBH Date 01/15/00
Chk'd. Date

Job No. 44996 Job City of Avondale Well #15
Client City of Avondale Subject



F-132(7/91)

STATE OF ARIZONA
DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

500 North Third Street - Phoenix, Arizona 85004-3903
Phone (602) 417-2470

>415 clay bottom

RECEIVED
APR - 9 1997
RECORDS MGT

WELL DRILLER REPORT

This report should be prepared by the Driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner's Name: ARIZONA PUBLIC SERVICE
   Address: P.O. Box 52034, Phoenix, Arizona 85702-2034 (602) 393-1988
   (Street, City, State, Zip, Telephone Number)
2. Drilling Firm: UNIVERSAL DRILLING
   Address: P.O. Box 1027, Wickenburg, Arizona 85358 (520) 684-2886
   (Street, City, State, Zip, Telephone Number)
3. Location: SE ¼ (10 Acre) SE ¼ (40 Acre) NE ¼ (160 Acre) of Section 26 Township 1N Range 1W
4. Well Registration No. 55- 559740 (Required)
5. Permit No. _____ (If issued)

ENTERED APR 10 1997

DESCRIPTION OF WELL

6. Total Depth of Hole 415 ft.
7. Type of Casing STEEL
8. Diameter and length of casing 10 inches from 0 to 147, inches from _____ to _____
9. Method of sealing at reduction points _____
10. Perforated from _____ to _____ from _____ to _____ from _____ to _____
11. Size of cuts _____ Number of cuts per foot _____
12. If screen was installed: Length _____ feet. Diameter _____ inches. Type _____
13. Method of construction DRILLED (drilled, dug, driven, bored, jetted, etc.)
14. Date started 2 (Month) 3 (Day) 97 (Year)
15. Date completed 2 (Month) 7 (Day) 97 (Year)
16. Depth to water _____ ft. (If flowing well, so state).
17. Describe point from which depth measurements were made, and give sea-level elevation if available GROUND LEVEL
18. If flowing well, state method of flow regulation:
19. Remarks: _____

FOR DEPARTMENT USE ONLY
Registration No. 55-559740
File No. B(1-1)26Add,
Received _____ By ____
Entered _____ By ____

DWR-55-55 (Rev 5/96)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	
0	40	CLAY
40	180	UNCONSOLIDATED GRAVELS
180	415	CLAY
		FIRST WATER 40'
		STATIC 35'

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller's Name (Qualifying Party): _____

Street

City State Zip

Phone Number Date

DWR 55-55 (Rev 5/96)

Poor Data

ARIZONA DEPARTMENT OF WATER RESOURCES

500 North Third Street
Phoenix, Arizona 85004

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

RECEIVED
DEC - 4 2000
RECORDS MGT

1. Drilling Firm: WEBER GROUP, L.C.
16825 S. WEBER DRIVE
CHANDLER, AZ 85226

2. Owner Name: PHOENIX SPEEDWAY CORP.
P.O.BOX 13088
Address: PHOENIX (City) AZ. (State) 85002 (Zip) (602) 252-3833 (Telephone Number)

3. Location: 1 N(S) 1 E(W) 1/4 N.E. 1/4 N.E. 1/4 N.W.
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55- 582986 (Required)
5. Permit No. _____ (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 257 ft.
7. Type of casing STEEL
8. Diameter and length of casing 16 in. from 0' to 176', 12 in from 154 to 257
9. Method of sealing at reduction points STEEL SHOE
10. Perforated from 164' to 244', from _____ to _____, from _____ to _____
11. Size of cuts 3/16" X 2 1/2 Number of cuts per foot 24
12. If screen was installed: Length _____ ft. Diam _____ in. Type _____
13. Method of construction CABLE TOOL DRILLED
(drilled, dug, driven, bored, jetted, etc)
14. Date started 9 (Month) 28 (Day) 2000 (Year)
15. Date completed 10 (Month) 24 (Day) 2000 (Year)
16. Depth to water 23 ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
GROUND LEVEL
18. If flowing well, state method of flow regulation: _____
19. Remarks: 16" BORENOLE TO 257', SET 12" PREFORATED LINER FROM 154' TO 257'

DWR-55-55-3/2000 (Rev.)

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-582986
File No. C (1-1) 1 BAA
Received _____ By _____
Entered _____ By _____

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	4	TOP SOIL, SAND
4	24	ROCK, SAND
24	45	ROCK, GRAVEL, SAND
45	65	ROCK
65	75	ROCK, SAND
75	120	SAND, GRAVEL
120	140	CLAY
140	145	CONGLOMERATE
145	165	SAND, CONGLOMERATE
165	180	CONGLOMERATE
180	200	CONGLOMERATE, SANDY CLAY
200	255	CONGLOMERATE
255	257	SOLID GRANITE

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: WEBER GROUP LC

16825 S. WEBER DRIVE

Address

CHANDLER AZ 85226 480-961-1141

City State Zip Phone No.

Fred Negakes 11-30-00

Signature of Driller Date

STATE OF ARIZONA
DEPARTMENT OF WATER RESOURCES
99 EAST VIRGINIA AVENUE
PHOENIX, ARIZONA 85004

STATE OF ARIZONA

DEPARTMENT OF
WATER RESOURCES

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner UNIDYNAMICS PHOENIX INC
Name
1000 N LITCHFIELD ROAD
Address

2. Lessee or Operator
Name
Address

3. Driller STEWART BROS
Name
BOX 2067 GRANTS NEW MEXICO 87020
Address

4. Location of well: 1/4 1/4 SEC 7 NE¼ NE¼ SW¼

5. Permit No. 55-510527
(if issued)

DESCRIPTION OF WELL

6. Total depth of hole 350 ft.
7. Type of Casing 9⅝ STEEL PVC SCH 80
8. Diameter and length of casing 9⅝ in. from 0 to 300, 0 in from to 302.
9. Method of sealing at reduction points
10. Perforated from 302 to 342, from to , from to
11. Size of cuts .004" 72 SLOTS PER 8 ROW PER FOOT Number of cuts per foot 12 SLOTS/IN
12. If screen was installed: Length 39½ ft. Diam 6⅝ in. Type SCH. 80
13. Method of construction MUD ROTARY
drilled, dug, driven, bored, jetted, etc.
14. Date started 4 (Month) 17 (day) 85 (year)
15. Date completed 4 (Month) 23 (day) 85 (year)
16. Depth to water 80 ft. (If flowing well, so state.)
17. Describe point from which depth measurements were made, and give sea-level elevation if available.
SURFACE
18. If flowing well, state method of flow regulation
19. REMARKS: NATURAL GRAVEL PAC
5' BENTONITE SEAL OVER PAC.
5' SANITARY SEAL @ SURFACE

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55-510527
Received By
Entered 4.30.85 By
File No. B(1-1)9caa

(Well log to appear on Reverse side)

RECEIVED
APR 26 1985
DEPT OF
WATER RESOURCES

MICROFILMED

DWR-55-6-5/83

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	10	SILTY CLAY
10	40	SILTY SAND
40	55	SANDY CLAY
55	100	SANDY GRAVEL
100	140	SILTY GRAVEL
140	160	SANDY GRAVEL
160	170	SILTY SAND
170	190	SANDY SILT
190	195	GRAVEL SAND
195	210	CLAY - SILT - SAND
210	235	SANDY CLAY
235	270	CLAY SAND
270	280	GRAVEL SAND
280	300	CLAY SAND
300	305	SANDY CLAY
305	325	SANDY GRAVEL
325	335	GRAVEL SAND
335	350	SANDY GRAVEL

I hereby certify that this well was drilled by me (or under my supervison), and that each and all of the statements herein contained are true to the best of my knowledge and belief.

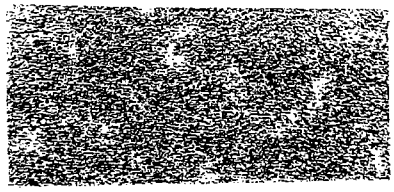
Driller John Hazlewood
Name

Box 2067
Address

GRANTS NEW MEXICO 87020
City State Zip

Date 4/24/85

STATE OF ARIZONA
DEPARTMENT OF WATER RESOURCES
15 South 15th Avenue
Phoenix, Arizona 85007



WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Unidynamics/Phoenix Inc.
Name
120 Litchfield Rd. Goodyear AZ. 85338-1295
Mailing Address

2. Driller Stewart Brothers Drilling
Name
P.O. Box 2067 Milan, New Mexico
Mailing Address

3. Location of well: 1N 1W 9 NE NE NE

4. Permit No. _____
(If issued)

RECEIVED
MAY 19 1992

DESCRIPTION OF WELL

5. Total depth of hole 280 ft.

6. Type of casing Low Carbon Steel & Flush Threaded PVC

7. Diameter and length of casing 10.75 in. from 0 to 180, 6 in from 0 to 275.

8. Method of sealing at reduction points Neat Cement.

9. Perforated from 275 to 255, from ____ to ____, from ____ to ____.

10. Size of cuts .020 Number of cuts per foot 576

11. If screen was installed: Length ____ ft. Diam ____ in. Type ____

12. Method of construction Mud Rotary
drilled, dug, driven, bored, jetted, etc

13. Date started 4/27/92
Month Day Year

14. Date completed 5/1/92
Month Day Year

15. Depth to water N/A ft. (If flowing well, so state)

16. Describe point from which depth measurements were made, and give sea-level elevation if available Ground Level

17. If flowing well, state method of flow regulation: _____

18. Remarks: MW-20
Moniter Well

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

REG. No. 55-532397

File No. B)1-1)9aaa

Entered ENTERED MAY 27 1992

DWR-55-55-2/89

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	10	Silty Sand
10	25	Gravel and silty sand
25	50	Gravely sand
50	60	Sandy Gravels
60	90	Gravely Sand
90	125	Clayey Gravels
125	160	Sand with Silt and Clay
160	180	Silty sandy Gravels
180	225	Sandy Clay and Silty Clay
225	250	Clayey Sand
250	280	Silty Sand

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name

P.O. Box 2067
Address

Milan, New Mexico 87021
City State Zip

Date 5/17/92

DEPARTMENT OF WATER RESOURCES
99 EAST VIRGINIA AVENUE
PHOENIX, ARIZONA 85004

> 1230
clay bottoms

REGISTRATION OF EXISTING WELLS

READ INSTRUCTIONS ON BACK OF THIS FORM BEFORE COMPLETING
PRINT OR TYPE — FILE IN DUPLICATE

04 06 07

REGISTRATION FEE (CHECK ONE)	
EXEMPT WELL (NO CHARGE)	☐
NON-EXEMPT WELL — $10.00	☒

ARIZONA DEPT. OF WATER RESOURCES
82 MAY 11 A3:22

FOR OFFICE USE ONLY
REGISTRATION NO. 55- 608428
FILE NO. A(1-1)6CBb
FILED 5/11/82 (DATE) AT 3:22 (TIME)
INA —
AMA PHOENIX

1. Name of Registrant:
Salt River Project Agricultural Improvement and Power District

P. O. Box 1980 (Address) | Phoenix (City) | Arizona (State) | 85001 (Zip)

2. File and/or Control Number under previous groundwater law:
A01001006CBBGS1 (File Number) 35- None (Control Number)

3. a. The well is located within the NW ¼ NW ¼ SW ¼, Section 6, of Township 1N N/S, Range 1E E/W, G & SRB & M, in the County of Maricopa.

b. If in a subdivision: Name of subdivision _____, Lot No. _____, Address _____.

4. The principal use(s) of water (Examples: irrigation - stockwater - domestic - municipal - industrial)
Irrigation and non-irrigation uses by SRP.

5. If for irrigation use, number of acres irrigated from well SRP member lands

6. Owner of land on which well is located. If same as Item 1, check this box ☒

_____
(Address) (City) (State) (Zip)

7. Well data (If data not available, write N/A)
a. Depth of Well 1230 feet
b. Diameter of casing 20 inches
c. Depth of casing 1230 feet
d. Type of casing 10 ga double-wall stove pipe.
e. Maximum pump capacity 3640 gallons per minute.
f. Depth to water 80 static (Jan. 1982) feet below land surface.
g. Date well completed October (Month) 27 (Day) 1952 (Year).

8. The place(s) of use of water. If same as Item 3, check this box ☐.
____¼ ____¼ ____¼, Section ____ Township ____ Range ____
____¼ ____¼ ____¼, Section ____ Township ____ Range ____
SRP member lands through distribution system
Attach additional sheet if necessary.

9. DATE MAY 11 1982 SIGNATURE OF REGISTRANT Carl E. Sanders
SALT RIVER PROJECT AGRICULTURAL IMPROVEMENT AND POWER DISTRICT

FORM W-6 1M 3-49 JAHN-TYLER Appl. S-155 (A-1-1)6 cbb Permit # 8-145

Land Department
Ground Water Division
State of Arizona

REPORT OF WELL DRILLED IN CRITICAL AREA

Report of Well Drilled in Critical Area is required to be made and filed with the State Land Commissioner upon completion of the construction of such well, pursuant to Section 10, Chapter 5, House Bill No. 2, Eighteenth Legislature, Sixth Special Session, 1948.

OE-S'2 IV

1. Owner THE SALT RIVER VALLEY WATER USERS' ASSOCIATION
   Name — Address
2. Lessee or Operator 55 608428
   Name — Address
3. Driller ROSCOE MOSS COMPANY — Los Angeles, California
   Name — Address
4. Location of Well: Twp. 1 N Rge. 1 E Sec. 6 Legal Subdivision NW¼ NW ¼ SW ¼
   10 acre subdivision
   It is _____ yards _____ from the nearest irrigation well.
   if less than ¼ mile — direction
5. Purpose of use IRRIGATION
6. Place of use: Twp. _____ Rge. _____ Section(s) _____, _____ Acres _____
   Legal Subdivision
7. If well is part of Irrigation District, Association, or Company, omit 6 and give name of project:
   S. R. V. W. U. A.

DESCRIPTION OF WELL

8. Total depth of hole 1230 ft. 9. Type of Casing Hard red steel
10. Diameter and length of casing: 20 in. from 0 ft. to 1230 ft; _____ in. from _____ ft. to _____ ft; _____ in. from _____ ft. to _____ ft; _____ in. from _____ ft. to _____ ft.
11. Method of sealing at reduction points Not Reduced
12. Perforated from 1215 ft. to 225 ft; from _____ ft. to _____ ft; from _____ ft. to _____ ft.
13. Size of cuts 5/8 x 4-1/2 Number of cuts per foot 10 per 12 inches
14. If screen was installed: Length _____ ft. Diameter _____ in. Type _____
15. Method of drilling California Type Cable Tool
    drilled, dug, driven, bored, etc.
16. Date completed October 27, 1952 (Month, Year) 17. Depth to water 80 ft. (if flowing well, so state)
18. Describe points from which depth measurements were made Ground Surface
    Sea-level elevation _____ (if available)
19. Method of flow regulation if flowing well _____

REPORT OF PUMP INSTALLATION AND TEST

20. Tested well capacity 3640 GPM (gallons per minute) Method of measurement Pitot (weir, orifice, meter, etc.)
21. Depth immediately prior to capacity test, from land surface to static water level 84.9 ft.
22. Non-flowing well: Drawdown 20 ft. ft. measured after 72 hrs. (at least 4) hours of continuous operation, and while pump is still operating.
23. Flowing well: Shut-in pressure _____ ft. above the land surface, or _____ pounds per square inch at the land surface.
24. Kind of Pump deepwell turbine
    turbine, centrifugal, etc.
25. Kind of Power 150 hp electric motor
    electric, natural gas, etc.
26. Horsepower Rating of Motor 150
27. Permittee Joseph A. Hale Pump Div. S.R.V.W.U.A.
    Signature 55 608428

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Received 2-19-53 by lec

Filed 2-19-53 by lec

File No. (A-1-1)6cbb

Cross-referenced (Name) _____ by _____

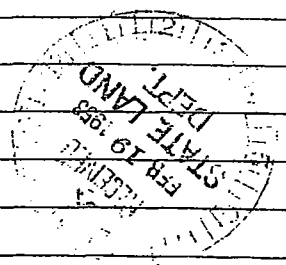
Cross-referenced (Basin) _____ by _____

Cross-referenced _____ by _____

LOG OF WELL 55 608428

Indicate depth at which water was first encountered, and the depth and thickness of water-bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

FROM (feet)	TO (feet)	DESCRIPTION OF FORMATION MATERIAL
0	12	Brown xlay
12	30	Sand
30	88	Sand and gravel 1/2"
88	135	Brown clay and gravel
135	159	Cemented sand
159	285	Cemented sand
285	347	Cemented sand
347	373	Brown sandy clay
373	376	Conglomerate
376	622	Brown sticky sand and clay
622	625	Grey sticky clay
625	1035	Brown clay
1035	1230	Brown clay with salt streaks



I hereby certify that this well was drilled by me (or under my supervision), and that each and all of the statements herein contained are true to the best of my knowledge and belief.

Driller Roscoe Moss Company
Name

4360 Worth Street,
Address

Date December 11, 1952

NOTE: Report and Log are to be completed by the permittee and driller, and mailed by the permittee to the Ground Water Division of the State Land Department immediately upon completion of the well and pumping test.

"Clay Bottom ?
>430'

DEPARTMENT OF WATER RESOURCES
99 EAST VIRGINIA AVENUE
PHOENIX, ARIZONA 85004

RECEIVED
MAR 31 1982
DEPT OF WATER RESOURCES

REGISTRATION OF EXISTING WELLS

READ INSTRUCTIONS ON BACK OF THIS FORM BEFORE COMPLETING
PRINT OR TYPE — FILE IN DUPLICATE

04 06

REGISTRATION FEE (CHECK ONE)	
EXEMPT WELL (NO CHARGE)	☐
NON-EXEMPT WELL — $10.00	XXX

FOR OFFICE USE ONLY
REGISTRATION NO. 55- 605683
FILE NO. A(1-1)6 daa
FILED 3-31-82 (DATE) AT 4 (TIME)
INA —
AMA PHOENIX

1. Name of Registrant:
John E. Anderson
P. O. Box 37 (Address) Tolleson (City) Ariz. (State) 85353 (Zip)

2. File and/or Control Number under previous groundwater law:
None (File Number) 35- None (Control Number)

3. a. The well is located within the NE ¼ NE ¼ SE ¼, Section 6, of Township 1 North N/S, Range 1 East E/W, G & SRB & M, in the County of Maricopa.
   b. If in a subdivision: Name of subdivision Not in Subdivision, Lot No. _____, Address _____.

4. The principal use(s) of water (Examples: irrigation - stockwater - domestic - municipal - industrial)
Irrigation

5. If for irrigation use, number of acres irrigated from well 310.

6. Owner of land on which well is located. If same as Item 1, check this box XXX
(Address) (City) (State) (Zip)

7. Well data (If data not available, write N/A)
   a. Depth of Well 430 feet
   b. Diameter of casing 20 inches
   c. Depth of casing 430 feet
   d. Type of casing Perforated Steel.
   e. Maximum pump capacity 2300 gallons per minute.
   f. Depth to water N/A feet below land surface.
   g. Date well completed 1 (Month) 30 (Day) 1946 (Year).

8. The place(s) of use of water. If same as Item 3, check this box ☐.
All¼ of ¼ SE ¼, Section 6 Township 1 North Range 1 East
All¼ of ¼ NE ¼, Section 7 Township 1 North Range 1 East
Attach additional sheet if necessary.

9. DATE 3/30/82 SIGNATURE OF REGISTRANT John E Anderson

FORM W-3 10-45 JAHN-TYLER

LAND DEPARTMENT
WATER DIVISION
STATE OF ARIZONA

REPORT OF WELL DRILLER

Report of Well Driller is required to be made and filed with the State Land Commissioner as required by Section 7, Chapter 12, Senate Bill No. 3, Seventeenth Legislature, First Special Session, 1945. A separate report shall be made for each well and filed within 30 days after completion of the well.

1. Owner L.D. Anderson P.O. Box 155 (Name)
Tolleson, Arizona (Address)

RECEIVED
JUL 29 1946
STATE LAND DEPT.
OF ARIZONA

2. Lessee or Operator L.D. Anderson (Name)
Tolleson, Arizona (Address)

3. Driller C.W. Freelove (Name)
1348 E. McDowell Phoenix, Arizona (Address)

4. Location of well: Twp. 1N Rge. 1E Section 6 NE ¼ NE ¼ SE ¼ (10-acre subdivision)

DESCRIPTION OF WELL

5. Total depth of hole 430 ft.

6. Type of casing Stove Pipe

7. Diameter and length of casing 20 in. from Surf to 430, ____ in. from ____ to ____, ____ in. from ____ to ____

8. Method of sealing at reduction points ____

9. Perforated from 200 to 430, from ____ to ____, from ____ to ____, from ____ to ____

10. Size of cuts ½ x 4 In. Number cuts per foot ____

11. If screen was installed: Length ____ ft. Diam. ____ in. Type ____

12. Method of construction ____ (drilled, dug, driven, bored, jetted, etc.)

13. Date completed Feb. 5, 1946 (Month, Year)

14. Depth to water 48 Ft. ft. (If flowing well, so state.)

15. Describe point from which depth measurements were made, and give sea-level elevation if available Ground Level

16. If flowing well, state method of flow regulation ____

DISCHARGE DATA

17. Well discharge 4130 Gal. per. Min. (gal. per min. or cu. ft. per sec. or miner's inches.)

18. Method of discharge measurement Weir (weir, orifice, current meter, etc.)

19. Drawdown 53 Ft. ft.

20. Purpose of use Irrigation

21. Place of use: (See 22) Twp. 1N Rge. 1E Section 6 SE ¼ (Legal subdivision) Acres 160
Twp. 1N Rge. 1E Section 7 NE ¼ (Legal subdivision) Acres 160

22. If well is part of irrigation system of Irrigation District, Association or Company, omit 21 and give name of project.

____ (Name of Project)

(A-1-1)6 daa

EQUIPMENT DATA

23. Kind of pump Johnston Turbine (turbine, centrifugal, etc.)

24. Kind of power Electric (electric, natural gas, etc.)

25. Horsepower rating of motor 125 HP

DO NOT WRITE IN THIS SPACE
OFFICE RECORDS 55 605643

Received 7-29-46 by lj
Filed 7-30-46 by lj
File No. (A-1-1)6 daa
Cross-referenced (Name) ____ by ____
Cross-referenced (Basin) ____ by ____
Cross-referenced ____ by ____

(See Other Side)

LOG OF WELL 55 605643

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
Surface	20	Clay
20	33	Cemented conglomerate
33	60	Sand, Gravel & small boulders
60	79	Pack sand
70	99	Clay
99	105	Hard caleche shell
105	132	Clay
132	135	Gravel
135	250	Clay
250	260	Pack sand small gravel
260	280	Clay
280	296	Pack sand
290	302	Sandy clay
302	310	Sand, gravel small boulders
310	340	Clay
340	350	Sand stone
350	365	Clay
365	377	Sand, gravel
377	430	Clay

I hereby certify that this well was drilled by me (or under my supervision), and that each and all of the statements herein contained are true to the best of my knowledge and belief.

Driller C. M. Faulds
Name

1348 E McDonell Phoenix
Address

Date

STATE OF ARIZONA
DEPARTMENT OF WATER RESOURCES
99 EAST VIRGINIA AVENUE
PHOENIX, ARIZONA 85004

WELL DRILLER REPORT

> 675
clay bottom

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner CITY OF AVONDALE
   Name
   525 N. CENTRAL AVONDALE, AZ 85323
   Mailing Address
2. Driller LAYNE-WESTERN COMPANY, INC.
   Name
   12030 E. RIGGS ROAD CHANDLER, AZ 85249
   Mailing Address
3. Location of well: T 2N R 1E S 32 NE¼ SE¼ SE¼
4. Permit No. _____ (if issued)

RECEIVED SEP 7 1988 DEPT OF WATER RESOURCES

DESCRIPTION OF WELL

5. Total depth of hole 660 ft.
6. Type of casing 16" STEEL
7. Diameter and length of casing 16 in from 0 to 380, 16 in from 640 to 660.
8. Method of sealing at reduction points NO REDUCTIONS
9. Perforated from _____ to _____, from _____ to _____, from _____ to _____.
10. Size of cuts _____ Number of cuts per foot _____
11. If screen was installed: Length 280 ft. Diam 16 in. Type JOHNSON .080" SLOT
12. Method of construction REVERSE ROTARY DRILLED
    drilled, dug, driven, bored, jetted, etc.
13. Date started 8 (Month) 25 (Day) 88 (Year)
14. Date completed 8 (Month) 31 (Day) 88 (Year)
15. Depth to water 122 ft. (If flowing well, so state.)
16. Describe point from which depth measurements were made, and give sea-level elevation if available GROUND LEVEL
17. If flowing well, state method of flow regulation: _____
18. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
REG. NO. 55-520499
File No. A(2-1)32 dda
Entered ENTERED SEP 09 1988 By _____

RECEIVED SEP 7 1988 HYDROLOGY DIV.

MICROFILMED

DWR-55-6-Rev. 8/85

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	3	TOP SOIL
3	40	CLAY WITH SOME CEMENTED SAND & GRAVEL
40	55	SAND, GRAVEL
55	70	CLAY WITH SAND AND GRAVEL STREAKS
70	80	SAND, GRAVEL.
80	90	CLAY
90	100	SAND AND GRAVEL
100	140	GRAVELLY CLAY
140	170	CEMENTED SAND AND GRAVEL
170	200	CEMENTED SAND AND GRAVEL
200	240	SAND, GRAVEL, CLAY
240	260	SANDY CLAY
260	275	SANDY CLAY, SOME GRAVEL
275	295	CEMENTED SAND AND GRAVEL
295	415	SAND AND GRAVEL WITH CLAY STREAKS
415	440	CLAYEY SAND
440	455	SAND WITH SOME GRAVEL
455	480	CLAY WITH SOME GRAVEL
480	505	SAND
505	520	CLAY
520	675	CLAY WITH SMALL SAND/GRAVEL LAYERS

I hereby certify that this well was drilled by me (or under my supervision), and that each and all of the statements herein contained are true to the best of my knowledge and belief.

Driller LAYNE-WESTERN CO., INC.
Name

12030 E. RIGGS RD.
Address

CHANDLER AZ 85249
City State Zip

Date 9/6/88

ARIZONA DEPARTMENT OF WATER RESOURCES
500 North Third Street
Phoenix, Arizona 85004

RECEIVED
NOV 15 1999
RECORDS MGT

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well

> 815
(Clay bottom)

1 ODOM'S INC
327 NORTH FIRST STREET
BUCKEYE, AZ 85326

2 Owner Name PAUL VANHOFWEGEN
Address 4215 S 107th AVE TOLLESON, ARIZ 85353
City State Zip

3 Location 1 N/S 1 E/W 20 ¼ SW ¼ SW ¼ SW
Township Range Section 10-acre 40-acre 160-acre

4 Well Registration No 55-567975 (Required)
5 Permit No _____ (If issued)

DESCRIPTION OF WELL

6 Total depth of hole 815' ft
7 Type of casing STEEL
8 Diameter and length of casing 6" in from 0 to 789 , in from _____ to _____
9 Method of sealing at reduction points _____
10 Perforated from 350 to 367 ,from 395 to 423 from _____ to _____
11 Size of cuts 1/4" X 1½" Number of cuts per foot 5
12 If screen was installed Length _____ ft Diam _____ in Type _____
13 Method of construction DRILLED
(drilled, dug, driven, bored, jetted, etc)
14 Date started SEPT 13 1999
Month Day Year
15 Date completed NOV. 09 1999
Month Day Year
16 Depth to water 47' ft (If flowing well, so state)
17 Describe point from which depth measurements were made, and give sea-level elevation if available
TOP OF CASING
18 If flowing well, state method of flow regulation _____

19 Remarks _____

ENTERED NOV 15 1999

DWR-55-55-7/95 (Rev)

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No 55-567975
File No A (1-1) 20 CCC
Received _____ By _____
Entered _____ By _____

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds If water is artesian, indicate depth at which encountered, and depth to which it rose in well

From (feet)	To (feet)	Description of formation material
239	250	SAND
250	285	CLAY
285	295	SILTY CLAY
295	300	SAND
300	331	CLAY
331	338	SILTY CLAY
338	345	CLAY
345	356	SILTY CLAY
356	361	SAND
361	375	SILTY CLAY
375	401	RED CLAY
401	419	SILTY CLAY
419	815	RED CLAY

I hereby certify that this well was drilled by me(or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief

Driller Name ODOM'S INC

327 N 1st STREET

Address

BUCKEYE, ARIZ 85326 623-386-2502

City State Zip . Phone No

Ert R. Parker NOV 11,1999

Signature of Driller Date

STATE OF ARIZONA
DEPARTMENT OF WATER RESOURCES
15 South 15th Avenue
Phoenix Arizona 85007

Clay Bottom
>308

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well

1 Owner HUGH AYCOCK
Name
9711 W. SOUTHERN TOLLESON ARIZONA 85353
Mailing Address

2 Driller ODOM'S INC.
Name
327 N. 1st STREET BUCKEYE ARIZONA 85326
Mailing Address

3 Location of well Twn 1N, Rge 1E, Sec. 33 NW, NW, NW

4 Permit No 55-527839
(If issued)

DESCRIPTION OF WELL

5 Total depth of hole 308' ft

6 Type of casing STEEL

7 Diameter and length of casing 6 in from 0' to 288' ____ in from ____ to ____

8 Method of sealing at reduction points ____

9 Perforated from ____ to ____, from ____ to ____ from ____ to ____

10 Size of cuts ____ Number of cuts per foot ____

11 If screen was installed Length ____ ft Diam ____ in Type ____

12 Method of construction DRILLED
drilled, dug, driven, bored, jetted, etc

13 Date started MAY (Month) 15 (Day) 1990 (Year)

14 Date completed MAY (Month) 24 (Day) 1990 (Year)

15 Depth to water 45 ft (If flowing well, so state)

16 Describe point from which depth measurements were made, and give sea-level elevation if available GROUND LEVEL

17 If flowing well, state method of flow regulation ____

18 Remarks ____

RECEIVED
MAY 29 1990
OPERATIONS DIV.

DO
55-527839
A(1-1)33bbb
REG No
File No
Entered ENTERED MAY 31 1990

DWR-55-55-2/89

MICROFILMED

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds
If water is artesian, indicate depth at which encountered and depth to which it rose in well

From (feet)	To (feet)	Description of formation material
0	8	Top Soil
8	165	Sand and Boulders
165	185	Sandy Clay
185	230	Sand
230	240	Large Gravel and Sand
240	245	Small Gravel and Sand
245	260	Sand
260	290	Clay
290	308	Clay with Strips of Sand

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief

Driller Ernest R. Parker

Name Ernest R Parker

327 N. 1st Street
Address

Buckeye, Arizona 85326
City State Zip

Date MAY 25, 1990

ARIZONA DEPARTMENT OF WATER RESOURCES
500 North Third Street
Phoenix, Arizona 85004

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

RECEIVED
MAY 26 1998
RECORDS MGT

1. SOUTHLAND WELL DRILLING
P.O. BOX 374
TONOPAH, AZ 85354-0374

2. Owner Name: GILBERTO A ORONA
Address: P.O. BOX 477 CASHION, AZ 85329
City State Zip

3. Location: 1 N/S 1 E/W 4 ¼ NE ¼ SW ¼ SE
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55- 567600 (Required)
5. Permit No. _____ (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 260 ft.
7. Type of casing STEEL & P.V.C.
8. Diameter and length of casing 8 in. from +1 to 20, _____ in from 4 to 260
9. Method of sealing at reduction points CEMENT
10. Perforated from 220 to 260, from _____ to _____ from _____ to _____
11. Size of cuts .032 Number of cuts per foot 120
12. If screen was installed: Length _____ ft. Diam _____ in. Type _____
13. Method of construction DRILLED
(drilled, dug, driven, bored, jetted, etc)
14. Date started 4 (Month) 17 (Day) 98 (Year)
15. Date completed 4 (Month) 19 (Day) 98 (Year)
16. Depth to water 145 ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
GROUND LEVEL
18. If flowing well, state method of flow regulation: _____
19. Remarks: WELL TEST 15 GPM, AIR TEST

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-567600
File No. C(1-1) 4 DCA
Received _____ By _____
Entered _____ By _____
ANSWERED JUN 12 1998

DWR-55-55-7/95 (Rev.)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	11	SOIL
11	15	CLAY (GRAY) DRY AND HARD.
15	18	GRANITE BROKEN
18	190	GRANITE HARD
190	260	GRANITE W/B

bedrock

I hereby certify that this well was drilled by me(or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: SOUTHLAND WELL DRILLING

P.O. BOX 374
Street

TONOPAH, AZ 85354-0374 931-2620
City State Zip Phone No.

Signature of Driller 5-18-98
Date

DEPARTMENT OF WATER RESOURCES
15 South 15th Avenue
Phoenix, Arizona 85007

RECEIVED
JUL 12 1989
OPERATIONS DIV.

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner MARK LIDNER
611 N. 129 AVE Litchfield PARK AZ 85340
Name Mailing Address

2. Driller ~~BEEMAN DRILLING CO.~~ ARIZONA
P.O. Box 3370
Apache Junction, AZ 85278
Name Mailing Address

3. Location of well: 1S 1W 3 SE NW NW

4. Permit No. 55-52513 (If issued)

DESCRIPTION OF WELL

5. Total depth of hole 220 ft.

6. Type of casing 4½ Sch 40 PVC WELL Casing

7. Diameter and length of casing 7 in. from 0 to 20. 4½ in from 0 to 220.

8. Method of sealing at reduction points

9. Perforated from 120 to 220. from ____ to ____, from ____ to ____.

10. Size of cuts 1/8 SLOT ∝ 4" Number of cuts per foot 4

11. If screen was installed: Length ____ ft. Diam ____ in. Type ____

12. Method of construction Air Rotary Drilled.
drilled, dug, driven, bored, jetted, etc

13. Date started 7 (Month) 3 (Day) 89 (Year)

14. Date completed 7 (Month) 5 (Day) 89 (Year)

15. Depth to water 80 ft. (If flowing well, so state)

16. Describe point from which depth measurements were made, and give sea-level elevation if available

17. If flowing well, state method of flow regulation:

18. Remarks:

55-525153
C(1-1)3 bbd

Entered ____ By ____
ENTERED JUL 14 19

DWR-55-6-Rev. 2/89

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	12	Topsil + Caliche
12	35	Decomposed Granite
35	120	Solid Grey Granite
↓ bedrock	120	1st WATER ZONE 8 GPM
120	200	Solid Grey + Green Granite
	200	2nd WATER ZONE 12 GPM.
200	220	Very Green + Grey Granite
		TOTAL 20 GPM
		WELL

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller ARIZONA DEEMAN DRILLING CO
Name
P.O. Box 3370
Address
Apache Junction, AZ 85278
City State Zip

Date 7-7-89

LAND DEPARTMENT
WATER DIVISION
STATE OF ARIZONA

REPORT OF WELL DRILLER

Clay Bottom
>365

EXCERPT OF 1945 GROUNDWATER LAW

Report of Well Driller must be prepared by the driller in all detail and filed with the State Land Commissioner as required by Section 7, Chapter 12, Senate Bill No. 3, First Special Session, 1945. This report should be in the mail within 30 days following completion of the well. Section 8 of the law provides: "Any person (includes any individual, firm, public or private corporation, or governmental agency) who shall fail or refuse to make any of the reports, give the notices required, or fail to cooperate with the State Land Commissioner or his representative, under the provisions of this Act, shall be guilty of a misdemeanor and shall be fined a sum not exceeding One Hundred Dollars."

1. OWNER ROBERT W. HEIDEN
Name
Rt. 1, Box 101-A, Tolleson, Arizona.
Address

2. Lessee or Operator
Name
Address

3. DRILLER J. C. Click
Name
Mesa, Arizona.
Address

4. Location of well: Twp. 1 N Rge. 1 W Section 25 NE ¼ SE ¼ NE ¼
10-acre subdivision

5. ~~Intention to Drill~~ File No. (B-1-1)25 ada Permit No. S-292
Appl/ S-315

DESCRIPTION OF WELL

6. Total depth of hole 365 ft.

7. Type of casing stove-pipe

8. Diameter and length of casing 20 in. from 0 to 254, 16 in. from 254 to 365, in. from to

9. Method of sealing at reduction points

10. Perforated from 16" 360 up to 254, from 20" 240 up to 172, from to, from to

11. Size of cuts (16") 1/4"X5"; (20") 1/2"X5" Number of cuts per foot (16") 6 per 18" (20") 8 per foot

12. If screen was installed: Length ft. Diam. in. Type

13. Method of construction drilled
drilled, dug, driven, bored, jetted, etc.

14. Date started
Month Day Year

15. Date completed 12-20-55
Month Day Year

16. Depth of water ft.
If flowing well, so state.

17. Describe point from which depth measurements were made, and give sea-level elevation if available

18. If flowing well, state method of flow regulation

55-605568

19. REMARKS:

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Received 9-21-56 by KK
Filed 9-21-56 by KK
File No. (B-1-1) 25 ada

(Well Log to Appear on Reverse Side)

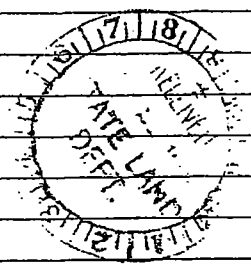
WD FORM G-301
REV. 4-27-53
1
2M 5-54

LOG OF WELL 55 606 - 8

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

FROM (FEET)	TO (FEET)	DESCRIPTION OF FORMATION MATERIAL
0	18	Top Soil
18	27	Quick sand
27	39	Sand & Coarse gravel
39	61	Sand & gravel solid
61	88	Sand & pea gravel stks of cement
88	91	Sand & stks of clay
91	92	Cemented Sand
92	106	Coarse sand & gravel
106	112	Tight sand & gravel
112	116	Coarse sand & gravel
116	121	Sand & pea gravel
121	146	Sandy clay
146	164	Sticky clay
164	172	Hard cemented sand
172	175	Very sandy
175	177	Sticky clay
177	210	Coarse sand stks of cemented sand
210	226	Sticky clay
226	236	Sandy clay & stks of pea gravel
236	248	Cemented sand & caliche
248	253	Sandy clay
253	365	Sticky clay & stks of sandy clay & pea gravel - bottom

1134



I hereby certify that this well was drilled by me (or under my supervision), and that each and all of the statements herein contained are true to the best of my knowledge and belief.

Driller I. D. Cassidy for J. C. Click, Contractor
Name

P. Box 736 Mesa, Arizona
Address

Date August 1956

ARIZONA DEPARTMENT OF WATER RESOURCES
15 South 15th Avenue
Phoenix, Arizona 85007

>330 Clay Bottom

NOV 1 1991
OPERATIONS DIV

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well

1 Owner Name MARK KING/JAMES KING
Address 4817 South 115th Avenue, Tolleson, Az 85326
Street City State Zip

2 Driller Name ODOM'S INC
Address 327 N 1st St Buckeye, AZ 85326
Street City State Zip

3 Location

1 (N)/S	1 (E)/W	30	NE 1/4	SW 1/4	NW 1/4
Township	Range	Section	10-acre	40-acre	160-acre

4 Well Registration No 55- 533267 (Required)

5 Permit No _____ (If issued)

DESCRIPTION OF WELL

6 Total depth of hole 330 ft

7 Type of casing STEEL

8 Diameter and length of casing 6 in from 0 to 315', _____ in from _____ to _____

9 Method of sealing at reduction points _____

10 Perforated from _____ to _____, from _____ to _____, from _____ to _____

11 Size of cuts _____ Number of cuts per foot _____

12 If screen was installed Length _____ ft Diam _____ in Type _____

13 Method of construction DRILLED
(drilled, dug, driven, bored, jetted, etc)

14 Date started October 11, 1991
Month Day Year

15 Date completed October 29, 1991
Month Day Year

16 Depth to water 16' ft (If flowing well, so state)

17 Describe point from which depth measurements were made, and give sea-level elevation if available
Ground

18 If flowing well, state method of flow regulation _____

19 Remarks _____

DO NOT WRITE IN THIS SPACE

55-533267
Registrat A(1-1)30BCA
File No
Received
Entered ENTERED NOV - 5 1991 By

DWR 55-55-7/91 (Rev)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds If water is artesian, indicate depth at which encounterd, and depth to which it rose in well

From (feet)	To (feet)	Description of formation material
0	2	Top soil
2	35	Sandy clay
35	115	Boulders & sand
115	125	Silty sand & boulders
125	126	Boulders & sand
126	161	Cemented boulders 7 gravel
161	180	Boulders, clay & sand
180	218	Boulders & sandy clay
218	225	Gravel & sand
225	245	Clay
245	261	Clay & sand strips
261	265	Clay
265	282	Clay & sand strips
282	286	Clay
286	292	Clay & sand strips
292	298	Clay
298	312	Sand
312	318	Clay
318	324	Clay & sand strips
324	330	Clay

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief

Driller Name Ernest R. Parker

ERNEST R PARKER

327 N. 1st Street

Street

Buckeye, AZ 85326

City State Zip

Date October 31, 1991

Appendix F-3 Legal Description of Well Locations

Legal Description of Well Location

The terms *cadastral location* and *legal description* both refer to a method of locating land according to a rectangular coordinate system commonly known as the Public Lands Survey. Much of Arizona has been mapped according to this system. The initial point of reference was arbitrarily chosen as the confluence of the Gila and Salt Rivers. From this initial point, a north-south *meridian*, and an east-west *baseline*, divide the state into four unequal **quadrants** (A, B, C, D). (Baseline Road in Phoenix is named for our state's baseline. See the map below.)

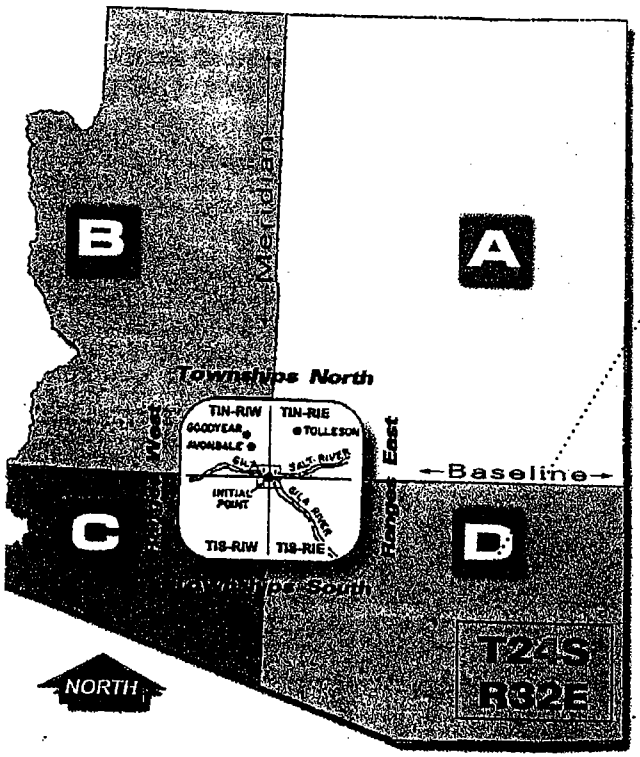
Each quadrant was surveyed and subdivided into congressional *townships*, with each square-shaped township typically six miles on each side, or 36 square miles in all. (Not all townships are exactly the same size due to landform variations and the curvature of the earth.) Beginning at the initial point and the number 1, each township is designated as being so many six-mile units – called **Townships** (capital T) – north or south of the baseline, and so many six-mile units – called **Ranges** – east or west of the meridian. The Township and Range together define a particular township.

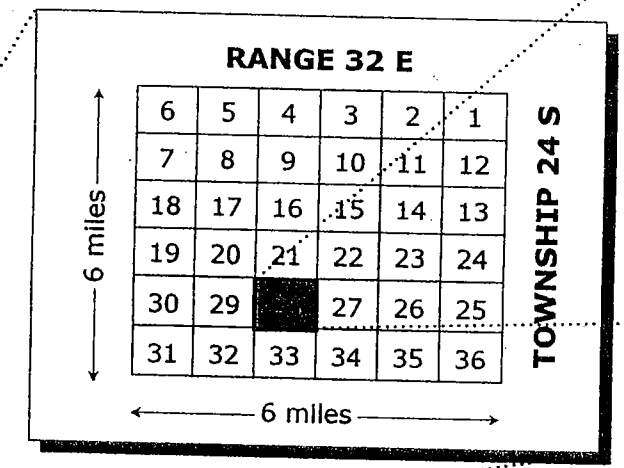
Each township is divided into 36 equal parts called **sections.** Each section is approximately one square mile, about 640 acres. Each 640-acre section can be subdivided into four 160-acre quarters. Each 160-acre quarter is further subdivided into four 40-acre quarters, and each 40-acre quarter is further subdivided into four 10-acre quarters. Each 160-, 40- and 10-acre quarter is designated as the northeast, northwest, southwest, or southeast quarter (a, b, c, d respectively).

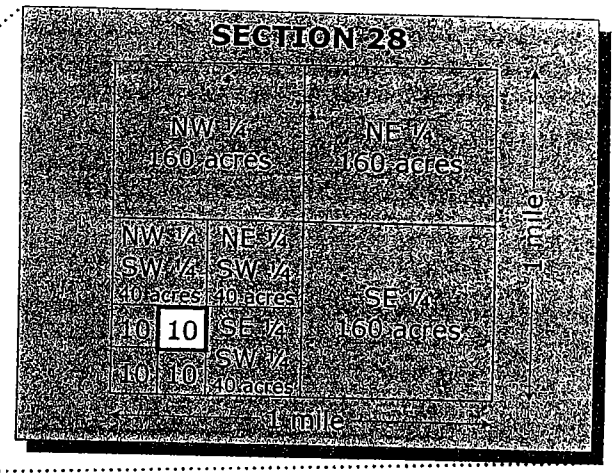
In the example here, the property for a well is in the southeastern-most township in the state, 24 townships south of the baseline, and 32 ranges east of the meridian, i.e., **T24S, R32E.** Within this township, the property lies in Section 28. The 10-acre white area where the well is located is in the southwest 160-acre quarter, then the southwest 40-acre quarter, and finally, the northeast 10-acre quarter. The <u>legal description</u> would be written as follows:

TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE	10 ACRE
24S	32E	28	SW ¼	SW ¼	NE ¼

The <u>cadastral location</u> would be written as follows: **D (24-32) 28 cca**







Township and Range data can be found on U.S. Geological Survey maps, and many metropolitan street atlases.