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Transcript Exhibit(s)

Docket #(s): W-01445A-03-0559

Arizona Corporation Commission
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Exhibit #: AWC 1-9, 11, 12, 14-20
S-1 (Remand) - 3 (Remand)

Part 1 of 2

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AZ CORP COMMISSION
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To: Docket Control

Date: February 26, 2016

Re: Arizona Water Company
W-01445A-03-0559
February 18, 19, and 23, 2016
Volumes I through III, Concluded

STATUS OF ORIGINAL EXHIBITS

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(See attached exhibit index for all admitted exhibits)

EXHIBITS NOT OFFERED
Returned to parties

Cornman Tweedy (CT Exhibits)

CT-111 through CT-115, CT-121

EXHIBITS NOT UTILIZED
(by design or oversight)
Returned to parties

Arizona Water Co. (AWC Exhibits)

AWC-10 and AWC-13

Copy to: Sarah Harpring, ALJ
Charles Hains, Esq. - Staff
Steven Hirsch, Esq. – Applicant
Jeffrey W. Crockett, Esq. – Cornman Tweedy 560, LLC

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AWC -1

EXHIBIT
AWC - 1
ADMITTED

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

BOB STUMP - Chairman
GARY PIERCE
BRENDA BURNS
BOB BURNS
SUSAN BITTER SMITH

IN THE MATTER OF THE APPLICATION OF ARIZONA WATER COMPANY FOR AN EXTENSION OF ITS CERTIFICATE OF CONVENIENCE AND NECESSITY AT CASA GRANDE, PINAL COUNTY, ARIZONA	**DOCKET NO. W-01445A-03-0559**

Direct Testimony

of

William M. Garfield

(Hearing on Remand - Phase II)

ARIZONA WATER COMPANY

Direct Testimony of

William M. Garfield

I. <u>Introduction and Background</u>.

Q. **PLEASE STATE YOUR NAME, EMPLOYER AND OCCUPATION.**

A. My name is William M. Garfield. I am employed by Arizona Water Company ("Company") as President and Chief Operating Officer.

Q. **HAVE YOU PREVIOUSLY PROVIDED TESTIMONY IN THIS PROCEEDING?**

A. Yes. In 2006, I filed testimony in this proceeding addressing the Company's request for an extension of time to comply with certain conditions of its Certificate of Convenience and Necessity ("CCN") granted in Decision No. 66893, dated April 6, 2004.[1] In 2008, I filed testimony in this proceeding addressing the Company's continued willingness and ability to provide water utility service within its CCN area, including the Cornman Tweedy property.[2]

Q. **ARE YOU ADOPTING ANY OF YOUR EARLIER PREFILED TESTIMONY AT THIS TIME?**

A. Yes. I adopt all of my previous testimony in this matter.

Q. **HAS THE COMMISSION FOUND THAT ALL OF THE CONDITIONS TO THE COMPANY'S CCN GRANTED IN DECISION NO. 66893 HAVE BEEN FULFILLED?**

A. Yes. Arizona Water Company holds the CCN to provide public utility water service in the portion of its Pinal Valley service area that includes the Cornman Tweedy property, and all

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[1] Direct testimony filed on June 12, 2006; rebuttal testimony filed on July 6, 2006.
[2] Direct testimony filed on January 4, 2008; rebuttal testimony filed on February 5, 2008.

conditions to that CCN have been deemed fulfilled, as provided in Finding of Fact No. 98 in Decision No. 69722, dated July 30, 2007, which states, "...the conditions placed on Arizona Water's CCN extension in Decision No. 66893 have been fulfilled."

II. Arizona Water Company has a long track record of providing reasonable service.

Q. IS ARIZONA WATER COMPANY ABLE TO PROVIDE REASONABLE WATER SERVICE TO THE CORNMAN TWEEDY PROPERTY?

A. Yes, without question. Arizona Water Company has a nearly 60 year track record of providing efficient, dependable and reasonable service as a public utility in Arizona, whether it is providing water service, coordinating wastewater service, or both.

No party to this proceeding has alleged that Arizona Water Company does not provide reasonable water service to its customers. On the contrary, the record in myriad proceedings before the Commission shows that Arizona Water Company has consistently provided reasonable water service to its customers. For example, on April 6, 2004, in Decision No. 66893 in this docket, the Commission found that, "Arizona Water Company is a fit and proper entity to receive an extension of its water Certificate ..." for the area that includes the Cornman Tweedy property.[3] In Decision No. 69722, dated July 30, 2007, the Commission noted Staff's belief that, "[Arizona Water Company] is capable and willing to serve the extension area, and remains a fit and proper entity to serve the extension area, as the Commission found in Decision No. 66893." The Commission continued, "In addition, Staff notes that the configuration of [Arizona Water Company's] master distribution plan, which includes the extension area, would benefit customers."[4]

...

...

[3] *See* Docket No. W-01445A-03-0559, Decision No. 66893 at Conclusion of Law No. 5
[4] *See* Docket No. W-01445A-03-0559, Decision No. 69722 at paragraph 89.

Q. HAS THE COMMISSION MADE SIMILAR FINDINGS ABOUT ARIZONA WATER COMPANY IN OTHER MATTERS?

Yes, in numerous cases.

The Commission found Arizona Water Company able to provide reasonable service in Decision No. 62754 dated July 25, 2000. This decision granted Arizona Water Company the water CCN for Robson Communities' SaddleBrooke Ranch development, where Arizona Water Company provides water utility service and another Robson affiliated entity, Mountain Pass Utility Company, provides sewer service. In this decision, the Commission stated, "[Arizona Water Company] is a fit and proper entity to receive a Certificate to provide water service in the proposed service area."[5] Notably, no Robson entity opposed Arizona Water Company's service area extension in that matter. Arizona Water Company continues to provide water service to the SaddleBrooke Ranch development, while Mountain Pass Utility Company continues to provide sewer service to the development.

The Commission has made similar findings in numerous other proceedings. In response to Arizona Water Company's application for an extension of its CCN to serve the Copper Mountain Ranch development north of Casa Grande, Staff determined that, "[Arizona Water Company] has prior operating experience providing water utility service, that there is no evidence of questionable business practices by [Arizona Water Company], and that [Arizona Water Company] has adequate financial capability to provide the requested service."[6] In that same proceeding, the Commission concluded that, "[Arizona Water Company] is a fit and proper entity to receive the requested extension of its CC&N to provide water service in the extension area described in Exhibit A hereto," and, "It is just and reasonable and in the public interest to grant [Arizona Water Company] the requested

[5] *See* W-01445A-00-0017, Decision No. 62754, dated July 5, 2000, at Conclusion of Law No. 5
[6] *See* W-01445A-12-0424, Decision No. 73780, dated March 21, 2013, at Finding of Fact No. 44.

extension of its CC&N to provide water service in the extension area ...."[7] Significantly, Staff came to these conclusions where another entity, the City of Casa Grande, is the wastewater provider for the Copper Mountain Ranch development.

In Decision No. 73146, dated May 1, 2012, the Commission concluded that, "Subject to compliance with the conditions and modifications discussed herein, Arizona Water Company...[is a] fit and proper [entity] to receive [extension] of [its] water...[Certificate]."[8] The Commission came to this conclusion in light of a settlement agreement between Arizona Water Company and Global Water Resources and the coordinated effort between Arizona Water Company and Global to provide all water and wastewater service to the Maricopa-Stanfield area. In Decision No. 73146, Arizona Water Company provides water utility service and two other entities, Global Water Resources (through Palo Verde Utilities) and the City of Casa Grande, provide sewer utility service in western Casa Grande and the Commission concluded that these three entities would be able to coordinate water and wastewater service in the expansion area. The settlement agreement also provides that Global will provide reclaimed water to Arizona Water Company to deliver to customers who are able to put it to beneficial use for landscape and other similar uses.[9] Arizona Water Company has also worked with Casa Grande to plan for and use reclaimed water throughout the City of Casa Grande.

The Commission has found Arizona Water Company to be a fit and proper entity to provide public utility service in numerous other decisions, including Decision Nos. 67439, 68442, 68607, 68654, 68919, 69163, 69386, 69722, 69732, 69901, 70379, 71845, 73146, and 73780. These Commission decisions are all evidence of Arizona Water Company's long

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[7] *See Id.* at Conclusion of Law Nos. 5 and 6.
[8] *See* WS-01775A-07-0485, Decision No. 73146, dated May 1, 2012, Conclusion of Law No. 5.
[9] *See Id.* Exhibit A, at page 7.

history of providing reasonable service at reasonable rates to its customers throughout the State, including its customers located near the Cornman Tweedy property.

Q. WHAT OTHER EVIDENCE CAN YOU POINT TO AS PROOF THAT ARIZONA WATER COMPANY PROVIDES REASONABLE SERVICE TO ITS CUSTOMERS?

Arizona Water Company also has a long history of compliance with Arizona laws governing water use and environmental matters. ADWR and ADEQ have provided to the Commission in each of Arizona Water Company's rate cases and CCN application cases compliance status reports that confirm this fact. Both regulatory agencies provided such compliance reports to the Commission in connection with Arizona Water Company's most recent Western Group general rate case. The Western Group includes the Pinal Valley service area where the Cornman Tweedy property is located. The Commission confirmed Arizona Water Company's compliance in Decision No. 73144, dated May 1, 2012.[10] Arizona Water Company remains in compliance. In this same decision, at Conclusion of Law No. 7, the Commission found Arizona Water Company's Western Group "...rates, charges, and conditions of service established herein are just and reasonable and in the public interest."

In that same Western Group general rate case, the Commission Staff also recognized Arizona Water Company's history and practice of satisfactorily resolving customer concerns when it found that Arizona Water Company had no unresolved customer service issues.[11]

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...

[10] *See* W-01445A-10-0517, Decision No. 73144 at paragraphs 5-6.

[11] *See* W-01445A-10-0517, Direct Testimony of Jeffrey M. Michlik, dated December 5, 2011, Image No. 132645, at page 3, line 18, through page 4, line 6.

III. **Arizona Water Company is ready, willing, and able to provide reasonable service to the Cornman Tweedy property in the future.**

Q. IS ARIZONA WATER COMPANY ABLE TO PROVIDE REASONABLE WATER UTILITY SERVICE TO THE CORNMAN TWEEDY PROPERTY AS IT DEVELOPS?

Yes. In addition to the facts I have described above, Arizona Water Company is taking additional steps to ensure it can provide reasonable service at reasonable rates to the Cornman Tweedy property as it develops. Arizona Water Company's Vice President-Engineering, Mr. Fred Schneider, provides evidence and testimony in this matter that demonstrates Arizona Water Company's detailed plans for designing and constructing water supply and distribution infrastructure to prepare it to provide water service to the Cornman Tweedy property when it needs water service. This evidence includes Arizona Water Company's updated master plan for Pinal Valley and a description of facilities Arizona Water Company is planning to install in the area immediately adjacent to the Cornman Tweedy property.

Arizona Water Company is also taking steps to ensure that it can use its supply of Central Arizona Project ("CAP") water to provide water service to its customers in Pinal County, including future customers in the Cornman Tweedy development. Arizona Water Company holds subcontracts for 10,884 acre feet of CAP of water for its customers in Coolidge and Casa Grande, which represents a significant investment in renewable resources. Arizona Water Company currently provides approximately 1,600 acre feet of CAP water for power production at the area's SRP Desert Basin power plant and to several turf facilities. Arizona Water Company is currently preparing plans to construct a recharge facility near Coolidge, where Arizona Water Company will recharge its allocations of CAP water so that

it may store and recover the water for future use in Coolidge and Casa Grande, including in the Cornman Tweedy property.

IV. **Arizona Water Company is ready, willing, and able to provide wastewater service to the Cornman Tweedy property.**

Q. IF THE COMMISSION DECIDES THAT ONE ENTITY SHOULD PROVIDE BOTH WATER AND WASTEWATER SERVICE TO THE CORNMAN TWEEDY PROPERTY, IS ARIZONA WATER COMPANY WILLING AND ABLE TO PROVIDE BOTH WATER AND WASTEWATER SERVICE?

A. Yes. Arizona Water Company is willing and able to provide water and wastewater service to the Cornman Tweedy property. Based on Arizona Water Company's exemplary track record providing public utility water services, as addressed in my prior testimony incorporated here, there should be no question of Arizona Water Company's ability to provide wastewater service to the Cornman Tweedy property if the Commission needs Arizona Water Company to provide wastewater service. Mr. Schneider provides greater detail about Arizona Water Company's ability to provide wastewater service, if there is a need for such service.

Arizona Water Company is able to provide wastewater utility service because it has employees qualified to do just that. Mr. Schneider states in his testimony that he was the Manager of Operations for Citizens Water Resources and Arizona-American Water Company where he was responsible for the operation and maintenance of seven wastewater treatment plants located in Mohave and Maricopa Counties. Mr. Schneider is certified by the Arizona Department of Environmental Quality ("ADEQ") as a Grade 3 wastewater collection system operator and as a Grade 2 wastewater treatment plant operator. Arizona Water Company also employs eleven other ADEQ certified wastewater collection and wastewater treatment operators.

...

Arizona Water Company has also taken additional steps to position itself to provide wastewater utility service to the Cornman Tweedy property should the need arise. Arizona Water Company has been in discussions with PERC Water Corporation ("PERC") with the purpose of entering into an agreement with PERC for the design, construction, and operation of wastewater facilities. Arizona Water Company has also entered into discussions with EPCOR Water USA, Inc. with the same purpose in mind. Mr. Schneider describes these matters in more detail in his testimony. In short, Arizona Water Company has the experience and resources necessary to provide wastewater utility service to the Cornman Tweedy property should the Commission decide reasonable service requires one entity to provide both water and wastewater utility service to the property.

Q. HAS ARIZONA WATER COMPANY RECEIVED A REQUEST TO PROVIDE WASTEWATER SERVICE TO THE CORNMAN TWEEDY PROPERTY?

Neither Robson Communities nor its predecessor in interest ever requested that Arizona Water Company provide sewer/wastewater utility service to the Cornman Tweedy property. On May 24, 2003, Arizona Water Company received a request from Cornman Tweedy's predecessor-in-interest, Harvard Investments, to extend its CCN to provide water service to the Cornman Tweedy property. Arizona Water Company filed an application to extend its CCN to include the Cornman Tweedy property on August 12, 2003.[12] The Commission approved Arizona Water Company's Application on July 20, 2007, in Decision No. 69722. Neither Robson nor anyone else has appealed that Decision. Thus, while Arizona Water Company holds the water CCN, Picacho Sewer Company currently holds the CCN to provide wastewater service to the Cornman Tweedy property. So, the question of integrated service to the Cornman Tweedy property has been mooted because neither Robson Communities nor

[12] *See* W-01445A-03-0559, Arizona Water Company's Application to Extend Existing Certificate of Convenience and Necessity to Include Additional Territory, dated August 12, 2003, Image No. 7211.

its predecessor-in-interest ever requested Arizona Water Company to provide wastewater service because of Picacho Sewer Company's CCN.

V. **Arizona Water Company's cooperation with other entities to provide water and wastewater utility service meets the State's goals for water conservation and reuse.**

Q. **DOES ARIZONA WATER COMPANY HAVE EXPERIENCE COOPERATING WITH OTHER ENTITIES TO PROVIDE WATER AND WASTEWATER SERVICE?**

Yes. Arizona Water Company has extensive experience cooperating with other utilities to provide water and wastewater services in a manner that meets the State's public policy goals. Thus, it would be bad public policy for the Commission to decide that reasonable service can only be provided if one entity provides both water and wastewater service. Ms. Maguire discusses more fully in her testimony why this would be bad public policy and why a traditional public service corporation like Arizona Water Company is better situated to provide water service that complies with the State of Arizona's water conservation goals than a developer-controlled utility.

Arizona Water Company's experience demonstrates in a practical way how two separate entities can provide water and wastewater service that fulfills both the spirit and the letter of Arizona's water conservation policies and laws. One example of this is the settlement agreement between Arizona Water Company and Global Water Resources, LLC ("Global"), to provide water and wastewater service in other areas of Pinal County, including reclaimed water service which I described earlier in my testimony. The Arizona Water Company-Global settlement agreement provides for the expanded use of recycled wastewater/reclaimed water in portions of the Pinal Valley service area where Arizona Water

...

...

Company and Global currently hold respective CCNs to provide water and wastewater services.[13]

Arizona Water Company has a similar agreement with Gold Canyon Sewer Company in its Superstition service area, under which Arizona Water Company obtains and delivers recycled water to its customers for landscape irrigation on golf courses and elsewhere instead of using ground water or other public drinking water supplies. In connection with its cooperation with Gold Canyon Sewer Company, Arizona Water Company has a tariff for the sale and use of reclaimed water, Tariff No. RW-256 (for Apache Junction).[14]
Arizona Water Company also cooperates with Mountain Pass Utility Company (a Robson affiliated entity) to ensure that reclaimed water is used at Robson Communities' SaddleBrooke Ranch development near Oracle, Arizona in the Tucson AMA.

Arizona Water Company also has extensive experience planning for the use and sale of reclaimed water. As Mr. Schneider describes more fully in his testimony, Arizona Water Company partnered with the City of Casa Grande in preparing the City's reclaimed water master plan; prepared the reclaimed water master plan for Copper Mountain Ranch; and developed the Coolidge water resource plan including the use of reclaimed water.

As with Casa Grande, Global and Gold Canyon, Arizona Water Company stands similarly ready, willing, and able to work with Picacho Sewer Company to maximize the direct, beneficial use of recycled water in the Cornman Tweedy area or elsewhere in the Company's Pinal Valley service area.

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[13] *See* note 8, *supra*. A copy of the Arizona Water Company-Global settlement agreement is attached as Exhibit WMG-1 for the Commission's reference.

[14] *See* Decision No. 56631, dated September 14, 1989, approving Arizona Water Company Tariff No. RW-256. A copy of this Tariff is attached as Exhibit WMG-2 for the Commission's reference.

1 Q. **IF THE COMMISSION FINDS THAT REASONABLE SERVICE TO THE**
2 **CORNMAN TWEEDY PROPERTY REQUIRES A SINGLE PROVIDER FOR BOTH**
3 **WATER AND WASTEWATER SERVICE, DOES ARIZONA WATER COMPANY**
4 **INTEND TO PURSUE THE WASTEWATER CCN FOR THE PROPERTY?**
5 Arizona Water Company would disagree with such a finding because adopting such a
6 position would establish bad public policy as described by Ms. Maguire and Mr. Walker.
7 However, if the Commission decides that reasonable service requires that one entity provide
8 both water and wastewater service to the Cornman Tweedy property, Arizona Water
9 Company will request that the Commission delete Picacho Sewer Company's wastewater
10 CCN for the Cornman Tweedy property and award that wastewater CCN to Arizona Water
11 Company. Arizona Water Company will also seek and obtain any other necessary approvals
12 from other regulatory agencies to provide wastewater service to the Cornman Tweedy
13 property.
14 Q. **DOES THIS COMPLETE YOUR ADDITIONAL DIRECT TESTIMONY?**
15 A. Yes, it does.
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ARIZONA WATER COMPANY/CORNMAN TWEEDY

EXHIBIT LIST

William M. Garfield

WMG-1	Arizona Water Company-Global Water Resources Settlement Agreement
WMG-2	Tariff RW-256

WMG

1

EXHIBIT WMG-1

EXHIBIT "A"

SETTLEMENT AGREEMENT

This Settlement Agreement ("Agreement") is entered into as of May 15th, 2008 between Arizona Water Company and Global Water Resources, LLC and its subsidiaries and affiliates, including but not limited to Global Water Inc., Global Water - Santa Cruz Water Company, Global Water - Palo Verde Utilities Company, Francisco Grande Utility Company, CP Water Company, Global Water - Picacho Cove Water Company and Global Water - Picacho Cove Utilities Company (collectively, "Global" or the "Global Entities"). Arizona Water Company and the Global Entities are referred to as the "Parties."

RECITALS

A. Arizona Water Company and certain of the Global Entities are parties to certain cases pending before the Arizona Corporation Commission ("Commission") that are listed in Exhibit A to this Agreement and incorporated by this reference. Collectively, these cases are referred to as the "Related Proceedings."

B. In the Related Proceedings, one or more of the Parties filed an application for extension of its Certificate of Convenience and Necessity ("CCN"), intervened in and protested one or more of the CCN applications, filed a complaint with the Commission involving one or more of the Parties, sought Commission approval for the transfer of their CCN, or intervened in and protested an application for the transfer of CCNs.

C. The Parties desire to end their disputes and to provide for the resolution of the Related Proceedings on certain terms and conditions that are in the public interest. The Parties' agreement concerning a comprehensive settlement of their disputes in the Related Proceedings has compelling public benefits. It is therefore in the public interest for the Commission to

approve this Agreement, including the planning areas and CCN Applications amended as set forth below, for the following reasons, among others:

(1) Arizona Water Company, Global Water - Santa Cruz Water Company, Francisco Grande Utility Company, CP Water Company, and Global Water - Picacho Cove Water Company (collectively, the "Concurring Water Utilities") have identified and established logical and supportable geographic boundaries between their respective CCNs and planning areas, such as major thoroughfares like Kortsen Road and John Wayne Parkway;

(2) The expanded use of reclaimed water in areas where the CCNs and planning areas of Arizona Water Company and Global Water - Palo Verde Utilities Company overlap (the "Overlap Areas") will reduce reliance on other water sources and on the Central Arizona Groundwater Conservation District;

(3) Two large, regionally significant water providers will set aside their differences and work cooperatively in a manner that will assist in water conservation efforts and prudent, sustainable uses of groundwater and other water resources; and

(4) The Parties, Commission and Commission Staff will be spared the expense and resources necessary to adjudicate the numerous disputed cases between the Parties.

D. A central premise and material consideration of the Parties' settlement of the Related Proceedings is their agreement about the urgent need for the Concurring Water Utilities to undertake and continue their long-term master planning process. The Parties' planning areas lie within an Active Management Area that has limited access to surface water with projected continued record growth. The resulting demands on water resources require the Concurring

Water Utilities to engage in long-term water resource and service planning to assure that current and future customers continue to receive reliable water service. That process requires the Concurring Water Utilities to plan, design, construct, finance, and operate water supply, treatment, storage, and transmission and distribution infrastructure to meet the public water supply requirements within defined geographic areas which include their existing CCNs and in their respective CCN extensions and planning areas as provided for in this Agreement.

NOW, THEREFORE, in consideration of the mutual promises, obligations, representations and covenants contained in this Agreement, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

AGREEMENT

1. Compromise of Dispute. The Parties acknowledge, represent and warrant the truth, accuracy and correctness of the foregoing recitals. The Parties each agree that this Agreement is a compromise of disputed claims, and that fully implementing this Agreement will advance important public policies favoring orderly and efficient regional planning, development, and management of water supplies.

2. Planning Area Boundary Settlement. As part of a comprehensive settlement of their disputes in the Related Proceedings, the Parties have reached agreement on the logical and supportable geographic boundaries between the Concurring Water Utilities' respective planning areas. Arizona Water Company shall amend its Pinal Valley Water System Planning Area and Global shall amend its planning areas (collectively the "Planning Areas") as set forth on the Settlement Map dated April 18, 2008 which is attached as Exhibit B to this Agreement and incorporated by this reference (the "Settlement Map").

3. Amendments to CCN Applications.

a. Arizona Water Company shall amend its CCN application in Docket W-01445A-06-0199 to exclude from its application the area shown on the Settlement Map as Arizona Water Company CCN Application Deletion Area.

b. Arizona Water Company shall amend its Planning Area and amend its CCN application in Docket W-01445A-06-0199 to include the area west to John Wayne Parkway, as shown on the Settlement Map as Arizona Water Company Addition to CCN Application Area.

c. Global Water - Santa Cruz Water Company shall amend its CCN application in Docket W-03576A-05-0926 to exclude the areas shown on the Settlement Map as Santa Cruz Water Company CCN Application Deletion Areas.

d. Global Water - Santa Cruz Water Company shall include within its Planning Area those areas shown on the Settlement Map as Arizona Water Company CCN Application Deletion Area which are not presently included in Global Water - Santa Cruz Water Company's CCN application in Docket W-03576A-05-0926.

e. The Concurring Water Utilities shall jointly apply for and support the Commission's approval of the Parties' Planning Areas and CCN applications as amended in accordance with the Settlement Map (the "Amended Planning Areas and CCN Applications").

4. Procedures to Enforce Settlement.

a. The Parties shall prepare and file a joint, stipulated motion identifying and jointly supporting and requesting Commission approval of the Amended Planning Areas and CCN Applications in accordance with the Commission's procedures.

b. Global shall withdraw its objections to Arizona Water Company's CCN application in Docket W-01445A-06-0199 et seq., as amended.

c. Arizona Water Company shall withdraw its objection to Global's application for approval of the transfer to Global Water - Santa Cruz Water Company and Global Water - Palo Verde Utilities Company of the CCNs of Francisco Grande Utility Company and CP Water Company.

d. Arizona Water Company shall withdraw its objections to Global Water - Santa Cruz Water Company's CCN application in Docket W-03576A-05-0926, as amended.

e. Arizona Water Company shall withdraw its objection to Global Water - Palo Verde Utilities Company's applications for wastewater CCNs in Arizona Water Company's existing CCN or its amended CCN application.

f. The Concurring Water Utilities shall jointly request and actively support Commission approval of Arizona Water Company's CCN application in Docket No. W-01445A-04-0743.

g. Following the Commission's approval of the Amended Planning Areas and CCN Applications, Arizona Water Company and Global shall jointly request the Commission to dismiss Arizona Water Company's complaint against Global, without prejudice, in accordance with the terms of this Agreement.

5. <u>Condition of Commission Approval of Amended Planning Areas and CCN Applications; Contingencies</u>. The terms and conditions of this Agreement are expressly subject to, among other things, the condition that the Commission approve the Amended Planning Areas

and CCN Applications. Any Party may withdraw from this Agreement and terminate any of the agreements and understandings contained herein if the Commission: (i) does not approve the Amended Planning Areas and CCN Applications; (ii) does not dismiss the complaint case as contemplated in this Agreement; or (iii) imposes conditions or restrictions in any order which any Party determines to be materially burdensome or unacceptable. If the Commission's decision or decisions in the Related Proceedings causes a Party to invoke one of the foregoing contingencies, the Parties agree to jointly apply for rehearing and, if one of the Parties deems it appropriate, support an appeal of the Commission's decision or decisions in a court of competent jurisdiction. The Parties shall communicate the substance of this provision to the Commission so that the Commission understands that the settlement is subject to the foregoing contingencies, and the joint motion to the Commission to approve the Concurring Water Utilities' Amended Planning Areas and CCN Applications shall include language providing that if the Commission fails to issue an order adopting all material terms of this Agreement, any or all of the Parties may withdraw from this Agreement.

6. Agreement Not To Interfere.

a. The Parties shall respect and not interfere with each other's existing CCNs or CCNs to be approved in the Related Proceedings as set forth on the Settlement Map.

b. The Parties shall respect and not interfere with each other's Planning Areas as set forth on the Settlement Map in the same fashion and to the same extent as they shall respect and not interfere with each other's CCNs.

c. The Parties' respect and non-interference with each other's CCNs and Planning Areas means they shall not apply for, or encourage others to apply for, water CCNs in the other

Parties' CCNs or Planning Areas. The Parties shall not directly or indirectly solicit or encourage any person, entity, landowner, or developer to request water service from any entity other than the Concurring Water Utility in whose CCN or Planning Area such water service is requested.

7. Agreement to Cooperate.

a. Global, including without limitation its subsidiary Global Water - Palo Verde Utilities Company, shall enter into an agreement with Arizona Water Company to supply available reclaimed water to Arizona Water Company, if requested, to be sold and delivered by Arizona Water Company within its CCN and Planning Area. In order to ensure that maximum efficiencies can be attained by Arizona Water Company in its deployment of potable and reclaimed water, neither Global nor Global Water - Palo Verde Utilities Company shall sell or distribute reclaimed water within Arizona Water Company's CCN or Planning Area except to Arizona Water Company, which shall be the retail provider of reclaimed water in such areas. Global Water – Palo Verde Utilities Company shall not be obligated to sell reclaimed water to Arizona Water Company in any amount in excess of the amount of reclaimed water generated in the Overlap Areas.

b. Global and Arizona Water Company shall work cooperatively in connection with Global's efforts to provide wastewater service within the western part of Arizona Water Company's CCN and Planning Area in places where the City of Casa Grande or other entity is not planning to provide wastewater service.

8. Operations in the Overlap Areas. The Managers of Arizona Water Company's Casa Grande Division and Global Water - Palo Verde Utilities Company shall meet as required to exchange information and coordinate the provision of service in the Overlap Areas.

9. Resolution of Complaint. Arizona Water Company shall withdraw the Complaint against the Global Entities as follows:

a. Following the Commission's approval of the Amended Planning Areas and CCN Applications, the Parties shall jointly request the Commission to dismiss the Complaint without prejudice.

b. The Parties agree that such disposition of the Complaint shall not be deemed to be an admission of liability, responsibility, or wrongdoing by Global nor an admission, acknowledgment, acceptance, or approval by Arizona Water Company of any of Global's activities or practices.

c. Arizona Water Company agrees not to raise or pursue allegations such as those asserted in its Complaint against Global as long as Global does not protest, oppose, or interfere with any CCN or prospective CCN of Arizona Water Company. Nothing in the foregoing prohibits either Party from filing competing CCN applications or raising or pursuing such allegations or arguments as they deem appropriate in areas outside of those set forth in the Settlement Map.

10. Fees and Costs. The Parties agree that each Party shall bear its own attorney fees, costs, expert witness fees, and other litigation expenses for each of the Related Proceedings and this Agreement. In the event a dispute arises between the Parties to enforce the terms of this Agreement, the successful or prevailing Party to such dispute shall be entitled to an award of its reasonable attorneys' fees, costs and expenses, whether or not an action is filed.

11. Advice and Assistance of Counsel. Each Party represents and warrants that the terms of this Agreement have been completely read, fully understood and voluntarily accepted, with advice of counsel, and that each of the Parties has participated in its preparation.

12. Entire Agreement. This Agreement shall constitute the entire agreement between the Parties with respect to its subject matter, and supersedes any prior verbal or written agreement. No modification of this Agreement shall be binding upon any Party unless it is in writing and executed by duly authorized representatives of the Parties.

13. Parties Affected by Agreement. The terms and conditions, representations and covenants of this Agreement shall be binding upon and inure to the benefit of the Parties and their respective successors, personal representatives, heirs and assigns.

14. Time of the Essence. Time is of the essence and each Party shall diligently perform its obligations hereunder in a timely fashion in accordance with the provisions of this Agreement.

15. Governing Law. This Agreement shall be governed by and construed according to the laws of the State of Arizona.

16. Additional Acts. The Parties agree to cooperate fully to take all additional actions that may be necessary or appropriate to give full force and effect to the terms and intent of this Agreement.

17. Counterparts. This Agreement may be executed in any number of counterparts. Each such counterpart shall be deemed to be an original instrument, but all such counterparts together shall constitute one agreement.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the day and year first written above.

Arizona Water Company

William M Garfield

By: WILLIAM M. GARFIELD
Its: President

Global Water Resources, LLC

By:
Its:

Global Water Inc.

By:
Its:

Global Water – Santa Cruz Water Company

By:
Its:

Global Water – Palo Verde Utilities Company

By:
Its:

Francisco Grande Utility Company

By:
Its:

IN WITNESS WHEREOF, the parties have executed this Agreement as of the day and year first written above.

Arizona Water Company

By:
Its:

Global Water Resources, LLC

By: Trevor T. Hill
Its: President

Global Water Inc.

By: Trevor T. Hill
Its: President

Global Water – Santa Cruz Water Company

By: Trevor T. Hill
Its: President

Global Water – Palo Verde Utilities Company

By: Trevor T. Hill
Its: President

Francisco Grande Utility Company

By: Trevor T. Hill
Its: President

CP Water Company

By: Trevor T. Hill
Its: President

Global Water - Picacho Cove Water Company

By: Trevor T. Hill
Its: President

Global Water – Picacho Cove Utilities Company

By: Trevor T. Hill
Its: President

WMG

2

EXHIBIT WMG-2

ORIGINAL

WATER RATES

JAN 1990
RECEIVED
ARIZONA WATER CO.
Phoenix Office

ARIZONA WATER COMPANY
Phoenix, Arizona
Filed by: R. E. Polenske
Title: President
Date Original Filing: 12/01/89
District: APACHE JUNCTION

A.C.C. No. 413
Cancelling A.C.C. No. (not available)
Tariff or Schedule No. RW-256
Filed: 12/01/89
Effective: 01/01/90

RECLAIMED WATER SERVICE

AVAILABILITY

Reclaimed water service to specific portions of Gold Canyon Resort and elsewhere as provided, limited, and delineated in that certain Agreement dated March 15, 1989 between Arizona Water Company, Gold Canyon Sewer Company, and Superstition Mountain Investment, Ltd. (the "Reclaimed Water Agreement"), approved by the Arizona Corporation Commission in Decision No. 56631 on September 14, 1989.

RATE

$250.00 per acre foot; or such rate as the Arizona Corporation Commission approves; plus the applicable monthly minimum charge as set forth in the Arizona Water Company Apache Junction General Service tariff schedule, for appropriate meter size and applicable taxes and governmental levies pursuant to Paragraphs 4 and 11 of the Reclaimed Water Agreement.

TERMS AND CONDITIONS

Subject to the terms and conditions of the Reclaimed Water Agreement and the applicable rules, regulations, and conditions of Arizona Water Company and the Arizona Corporation Commission.

APPROVED FOR FILING
DECISION #: 56751

EXHIBIT
AWC-2
ADMITTED

AWC -2

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

DOUG LITTLE - Chairman
BOB STUMP
BOB BURNS
TOM FORESE
ANDREW TOBIN

IN THE MATTER OF THE APPLICATION OF ARIZONA WATER COMPANY FOR AN EXTENSION OF ITS CERTIFICATE OF CONVENIENCE AND NECESSITY AT CASA GRANDE, PINAL COUNTY, ARIZONA	**DOCKET NO. W-01445A-03-0559**

Surrebuttal Testimony

of

William M. Garfield

(Hearing on Remand - Phase II)

ARIZONA WATER COMPANY

Surrebuttal Testimony of

William M. Garfield

I. <u>Introduction and Background.</u>

Q. PLEASE STATE YOUR NAME, EMPLOYER AND OCCUPATION.

A. My name is William M. Garfield. I am employed by Arizona Water Company as President and Chief Operating Officer.

Q. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY IN THIS PROCEEDING?

A. Yes. In 2006, I filed testimony in this proceeding addressing Arizona Water's request for an extension of time to comply with certain conditions of its Certificate of Convenience and Necessity ("CCN") granted in Decision No. 66893, dated April 6, 2004.[1] In 2008, I filed testimony in this proceeding addressing Arizona Water's continued willingness and ability to provide water utility service within its CCN area, including the Cornman Tweedy property.[2] In 2014, I filed direct testimony in this proceeding addressing Arizona Water's ability to provide both water and wastewater services, if needed, and the adequacy, sufficiency and reasonableness of Arizona Water's provision of public utility water service to its CCN area.[3]

Q. ARE YOU ADOPTING ANY OF YOUR EARLIER PREFILED TESTIMONY AT THIS TIME?

A. Yes. I adopt all of my previous testimony in this matter.

Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY IN THIS MATTER?

---

[1] Direct testimony filed on June 12, 2006; rebuttal testimony filed on July 6, 2006.
[2] Direct testimony filed on January 4, 2008; rebuttal testimony filed on February 5, 2008.
[3] Direct testimony filed on May 30, 2014.

A. The purpose of my surrebuttal testimony is to provide testimony and evidence in response to the written testimony of Cornman Tweedy witnesses Ernest Johnson, Steve Soriano and Fred Goldman.

II. The Remand Proceeding is a Deletion Proceeding and not a Comparison of Two Competing Water Providers.

Q. WHAT IS YOUR UNDERSTANDING OF THE PURPOSE OF THIS REMAND PROCEEDING?

A. The specifically stated purpose for this remand proceeding "will be for the purpose of considering whether the Cornman property should be deleted from the CC&N extension granted to Arizona Water by Decision No. 66893."[4] In addition, pursuant to Procedural Order dated February 10, 2011 by then Assistant Chief Administrative Law Judge Dwight D. Nodes, the Commission sent the matter back to the Hearing Division for further proceedings to determine "whether a public service corporation, like Arizona Water, in this water challenged area and under the circumstances presented in this case, is providing reasonable service if it is not able or not willing to provide integrated water and wastewater services."[5]

Q. ARE THERE COMPETING APPLICATIONS FOR WATER SERVICE IN THIS PROCEEDING?

A. No, there are not. Although Picacho Water Company filed an application to extend its CCN to serve the Cornman Tweedy property on April 14, 2005, it subsequently withdrew its application on June 26, 2006 after Chief Administrative Law Judge Lyn Farmer in her March 22, 2006 Procedural Order stated that "The hearing will not be a reopening of the Decision

[4] See Finding of Fact 102 in Decision No. 69722.
[5] See Page 2, lines 6-10, February 10, 2011 Procedural Order.

granting Arizona Water a CC&N and will not address whether a different water utility should be providing service to the extension area."[6]

III. Reasonable Water Service Requires Good Water Management Strategies.

Q. HOW DO YOU ANSWER THE QUESTION OF WHETHER A PUBLIC SERVICE CORPORATION IS PROVIDING REASONABLE SERVICE IF IT IS UNABLE OR UNWILLING TO PROVIDE INTEGRATED WATER AND WASTEWATER SERVICES?

A. First, as I stated in my direct testimony, Arizona Water Company is ready, willing and able to provide integrated water and wastewater services. But even if a public service corporation is unable or unwilling to provide so-called integrated service, it can still provide reasonable service.

Q. HOW WOULD A PUBLIC SERVICE CORPORATION PROVIDE REASONABLE SERVICE?

A. I base my testimony on a key phrase in this Phase 2 Remand, "in this water challenged area." The Pinal Active Management Area ("AMA") has a long history of groundwater overdraft, the evidence of which is seen through declining groundwater levels and land subsidence. The importance, therefore, of the phrase "water challenged area" is how one deals with water supply challenges by implementing good water management strategies.

The use of renewable supplies of Central Arizona Project ("CAP") water through direct deliveries and groundwater recharge in the Pinal AMA since the 1980s helped to stabilize the area's water supplies. Even with rising water use from the mid 1980s through

[6] See Page 6, lines 9-11, March 22, 2006 Procedural Order.

2010, the challenges to the area's water supplies were satisfactorily addressed through the effective use and management of CAP water.[7]

Q. AS A PUBLIC SERVICE CORPORATION, HOW DOES ARIZONA WATER COMPANY MANAGE ITS WATER SUPPLIES TO CONSERVE LIMITED GROUNDWATER SUPPLIES IN THE CORNMAN TWEEDY AREA?

A. In addition to Arizona Water Company's effective water conservation strategies, which reduced average per capita residential water use by over 40% since 1996, we have implemented a plan to use nearly 11,000 acre-feet of our CAP water allocations through underground recharge, storage and recovery operations. For 2015 alone, Arizona Water Company recharged 5,000 acre-feet of CAP water, reducing its use of groundwater by 30%. Arizona Water will recharge 6,000 acre-feet of CAP water in 2016, further reducing its reliance on groundwater. Arizona Water will increase its use of CAP water through recharge, storage and recovery until all of our CAP supplies are fully used to further reduce our reliance on groundwater. In this way, Arizona Water Company is providing reasonable service and addressing the area's water challenges, applying best management practices to effectively manage its water supplies, thereby reducing groundwater use and moving to more renewable and more sustainable water supplies.

Q. DO INTEGRATED WATER AND WASTEWATER UTILITIES ADOPT THE SAME BEST MANAGEMENT PRACTICES?

A. Many do but some do not. For example, Robson's Pima Utilities Company (the developer-owned utility that serves Sun Lakes) reported to ADWR in its 2014 Annual Water Withdrawal and Use Report Provider Summary, that it delivered 719.79 acre-feet of effluent to golf courses. Pima Utilities Company did not use all of its available effluent and instead

[7] See Arizona Water Company's Central Arizona Project Water Use Plans for Pinal Valley and White Tank 2015 Update, attached to Fred Schneider's surrebuttal testimony as Exhibit FKS-12.

stored 522.68 acre-feet of effluent. Although its total groundwater withdrawals for 2014 exceeded 5,500 acre-feet, Pima Utilities Company did not use available effluent to offset use of groundwater which it could have done through effluent recovery.

Q. WHY IS THIS IMPORTANT TO THIS PROCEEDING?

A. Because the Cornman Tweedy witnesses have characterized Robson Communities Sun Lakes development as the "model" of what integrated water and wastewater utilities can achieve. Even though Pima Utilities Company had the ability to recover effluent to offset its use of groundwater (according to ADWR records Pima Utility Company held 3,245.53 acre-feet of effluent storage credits as of 12/31/2013), it did not do so.[8] Instead, it pumped or delivered groundwater to four golf courses totaling nearly 2,300 acre-feet for 2014. Total water use for turf was as much as all of Pima Utilities Company's other customers combined. In fact, barely 20% of the turf demand for Sun Lakes at full build out was met with effluent. That is hardly sustainable or responsible, with 80% of the water supplies for turf coming from Pima Utility Company's continued reliance on mined groundwater. Sound water management strategies call for full use of recovered effluent to offset the use of groundwater.

Q. DO YOU HAVE OTHER EXAMPLES OF PUBLIC SERVICE CORPORATIONS THAT HAVE NOT IMPLEMENTED SOUND WATER MANAGEMENT STRATEGIES?

A. Yes, Robson's Quail Creek Water Company in the Tucson AMA. Quail Creek Water Company is a water-only utility. It reported groundwater withdrawals of 624.86 acre-feet for 2014, and reports receiving 1,496.20 acre-feet of effluent received from other rights and 80.65 acre-feet of groundwater delivered to a Type-1 groundwater right holder.[9] 1,496.20 acre-feet of effluent was sent to a recharge facility permitted under the name Robson Ranch

[8] See Pima Utilities Company's Annual Water Withdrawal and Use Report Provider Summary for 2014 attached as Exhibit WMG-3.

[9] See Quail Creek Water Company's Annual Water Withdrawal and Use Report Provider Summary for 2014 attached as WMG-4

Quail Creek LLC. Robson reported no groundwater deliveries by Quail Creek Water Company to Robson's golf course at the Quail Creek Development, because the groundwater was provided by another Robson affiliate. No effluent was recovered to offset Quail Creek Water Company's use of groundwater or the Robson affiliate's use of groundwater for the golf course even though Robson Ranch Quail Creek LLC had 16,745.22 acre-feet of effluent in storage according to ADWR as of 12/31/2014.

Q. CAN YOU MAKE ANY CONCLUSIONS ABOUT ROBSON'S PIMA UTILITIES COMPANY AND QUAIL CREEK WATER COMPANY FROM THIS TESTIMONY?

A. I conclude that whether a utility provides integrated water and wastewater services is not as important as what a public service corporation does to manage its use of its available water supplies. Here, clearly Robson has the ability to offset its use of groundwater through stored effluent, but chooses not to. Picacho Water Company, another Robson affiliate, follows the same flawed model and has not offset its use of groundwater with recovered effluent. In a water challenged area, one with a history of groundwater overdraft and land subsidence, I find it unreasonable that public service corporations like Robson's that have the ability to offset groundwater use with stored effluent fail to do so.

Q. IS THERE STATE POLICY ON THE USE OF CAP WATER OR EFFLUENT TO OFFSET GROUNDWATER USE?

A. Yes. The State of Arizona has longstanding, established policy on water storage, water savings and replenishment, as codified in Arizona Revised Statutes ("A.R.S.") § 45-801.01, which states:

> *The public policy of this state and the general purpose of this chapter are to:*
>
> *1. Protect the general economy and welfare of this state by encouraging the use of renewable water supplies, particularly this state's entitlement to Colorado River water, instead of groundwater through a flexible and effective regulatory program for the underground storage, savings and replenishment of water.*

2. *Allow for the efficient and cost-effective management of water supplies by allowing the use of storage facilities for filtration and distribution of surface water instead of constructing surface water treatment plants and pipeline distribution systems.*

In addition, Arizona's Groundwater Management Act as codified in A.R.S. § 45-401(B) states:

> *"It is therefore declared to be **the public policy of this state** that in the interest of protecting and stabilizing the general economy and welfare of this state and its citizens it is **necessary to conserve, protect and allocate the use of groundwater resources of the state** and to provide a frame work for the comprehensive management and regulation of the withdrawal, transportation, conservation and conveyance of rights to use the groundwater in this state."*

Fulfilling those stated public water management policies requires water providers like Arizona Water Company to implement actual operations like recharging, storing and recovering CAP water, which is sound water management practice. It is especially important to do so in water challenged areas like Casa Grande where Comman Tweedy's property is located, as Arizona Water Company already does. Robson and their affiliates do not do so, but instead base their use of effluent on what saves Robson the most money. An example of this behavior is Robson's SaddleBrooke Ranch Development. Arizona Water has chosen to go above and beyond bare minimum legal requirements to reduce groundwater pumping in the Pinal AMA by utilizing its renewable CAP supplies. In contrast, Robson's customers deserve more from a public service corporation than the half measures that Robson's captive utilities offer here, that are in Robson's best interest in any event. Customers deserve to have their interests put first, not last.

Q. PLEASE EXPLAIN FURTHER ABOUT ROBSON'S SADDLEBROOKE RANCH DEVELOPMENT AND HOW IT IS GERMANE TO THIS PROCEEDING.

A. Arizona Water Company provides water utility service to Robson's SaddleBrooke Ranch development. Robson's Mountain Pass Utility provides wastewater service. The entire

development, including the golf course, is enrolled as member lands in the Central Arizona Groundwater Replenishment District, and as such, any groundwater delivered to the golf course must be replenished. The cost to replenish groundwater in the Tucson AMA as of 2015 is $615 per acre-foot.[10]

Robson Ranch Mountains LLC is the Robson affiliate that owns the golf course at the SaddleBrooke Ranch development. Robson Ranch Quail Creek LLC assigns effluent credits that it has accumulated in Robson's Quail Creek development so that Robson does not have to pay to replenish groundwater for its golf course.

Robson ignores the public interest of its SaddleBrooke Ranch and Quail Creek utility customers, instead using those resources to save Robson money. While SaddleBrooke Ranch and Quail Creek utility customers could benefit from the use of stored effluent to offset the use of continued mining of groundwater, and in many cases, the $615 per acre-foot replenishment cost, Robson chooses not to do so. That may benefit Robson's private proprietary golf course, but it does nothing to implement good water management practice and it does nothing to benefit Robson's Mountain Pass Utility or Quail Creek Water Company ratepayers. The public interest is not served by Robson's actions, which is what utility customers expect from public utility service providers. Again, it's not whether you are integrated or not, it's how you manage the beneficial use of available, but scarce, water resources and do so in line with prevailing Arizona public water policies.

Q. CAN YOU CITE ANY EXAMPLES OF NON-INTEGRATED WATER AND WASTEWATER SERVICE PROVIDERS THAT USE BEST WATER MANAGEMENT PRACTICES?

[10] See Central Arizona Groundwater Replenishment District Final 2015/16 Rate Schedule attached as WMG-5.

A. Yes. Tucson Water, a municipally-owned water utility provides water service and Pima County Wastewater provides wastewater service to the greater Tucson area.[11] In Tucson's case, two separate service providers have adopted best water management practices in two key ways: i) through the use of effective conservation measures, and ii) through effective collaboration of the direct delivery and recharge of effluent and through storage and recovery of effluent and CAP water. As a result of the collaboration, Tucson Water and Pima County Wastewater, Tucson Water has significantly offset its use and reliance on mined groundwater through recharge and recovery. Keep in mind, 25 years ago Tucson was once known as the nation's largest city that relied solely upon groundwater.

Even though neither Tucson Water nor Pima County Wastewater are "integrated water and wastewater service providers" they have a comprehensive and effective water management strategy to reduce the use of mined groundwater. The public, not just Tucson Water and Pima County Wastewater, has directly benefited from these best water management practices. Tucson offsets its use of groundwater by recharging CAP water and effluent, thereby reducing its use of mined groundwater by 90% since 1984. In the Casa Grande area, Arizona Water is implementing the same best water management practices that have succeeded in Tucson.

Q. HOW CAN THIS HELP THE COMMISSION TO DEFINE WHAT CONSTITUTES REASONABLE SERVICE?

A. In the context of "water challenged areas," cutting back on the mining of local groundwater supplies through recharge, storage and recovery is reasonable service, whether integrated or not. Arizona Water is reducing the mining of local groundwater supplies.

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[11] See Tucson's 2012 Update Water Plan: 2000-2050, Section 3, attached as WMG-6.

IV. **Arizona Water Company is ready, willing, and able to provide both water and wastewater services where an established wastewater service provider does not already exist.**

Q. **DO YOU AGREE WITH CORNMAN TWEEDY WITNESS JOHNSON THAT ARIZONA WATER COMPANY HAS USED A DIFFERENT BUSINESS MODEL THAN THE INTEGRATED WATER AND WASTEWATER SERVICES MODEL AND THAT IT HAS RESISTED PROVIDING WASTEWATER SERVICE?**

A. No, Mr. Johnson is wrong. Arizona Water Company has not needed to provide both water and wastewater services in its CCN extension areas because in each case a long-established wastewater provider was available to provide wastewater service. Contrary to Mr. Johnson's rebuttal testimony that Arizona Water "has resisted providing wastewater service in Arizona," Arizona Water actively pursued providing both water and wastewater service to the Golden Valley South and the Villages at White Hills developments outside of Kingman, Arizona to take over Perkins Mountain Water Company and Perkins Mountain Utility Company[12]. Although the developer selected another utility, the fact remains that Arizona Water actively pursued both forms of utility service.

Q. **CAN YOU PROVIDE ANY EXAMPLE OF WHERE THE COMMSSION DETERMINED THAT IT WAS IN THE PUBLIC INTEREST FOR ARIZONA WATER TO EXTEND ITS CCN FOR WATER SERVICE AND ANOTHER WASTEWATER UTILITY TO PROVIDE WASTEWATER SERVICE IN SUCH CCN AREA?**

A. Yes. In Docket No. W-01445A-06-0199 et al., the Commission approved an extension of Arizona Water totaling 19,972 acres or 31.2 sections where Palo Verde Utility was the wastewater service provider. In that case, the Commission found in Finding of Fact Number

[12] See Johnson rebuttal testimony, page 16, lines 5-7.

11 that "We (the Commission) agree with the guidelines recommended by Staff in this case...with respect to approving CC&N extensions...in which the utilities are proposing to provide both water and wastewater service either through integrated service (in the case of the Global) or through cooperative arrangement (with AWC providing water and Global providing wastewater)....)"[13]

Q. CONCERNING THE COOPERATIVE ARRANGEMENT THE COMMISSION REFERENCED, HOW WAS THIS DOCUMENTED?

A. The Settlement Agreement between Arizona Water provided three key elements to the cooperative agreement:

i) Global was required to supply reclaimed water to Arizona Water to be sold and delivered by Arizona Water within its CCN and Planning Area;

ii) Global and Arizona Water would work cooperatively in connection with Global's efforts to provide wastewater service within the western part of Arizona Water's CCN and Planning Area; and

iii) The Managers of Arizona Water and Global Water would meet as required to exchange information and coordinate the provision of service where they both provide utility service.[14]

Q. CAN YOU PROVIDE AN EXAMPLE OF WHERE THE COMMISSION APPROVED AN AGREEMENT TO PROVIDE RECLAIMED WATER BETWEEN ARIZONA WATER AND A WASTEWATER SERVICE PROVIDER?

A. Yes. The Commission approved a Reclaimed Water Agreement between Arizona Water, Gold Canyon Sewer Company and Superstition Mountain Investment, Ltd. in Decision No. 56631 on September 14, 1989. Since that date, Arizona Water has worked closely with Gold

[13] See Decision No. 73146, Page 39, lines 1-6, Finding of Fact Number 122

[14] See Decision No. 73146, Exhibit A, Page 7, Sections 7a and b, and Section 8. See also WMG-1 attached to my Direct Testimony filed on May 30, 2014.

Canyon Sewer Company (now owned by Liberty Utilities) to maximize the use of reclaimed water in Arizona Water's Superstition Division.[15]

Q. **DO YOU HAVE OTHER EXAMPLES WHERE ARIZONA WATER USED RENEWABLE CAP SUPPLIES OR EFFLUENT TO REDUCE GROUNDWATER USE?**

A. Yes. Since 1995, Arizona Water had provided CAP water to golf courses in the Gold Canyon area and as a direct result Arizona Water eliminated the use of mined groundwater to serve those golf courses.[16]

V. **Arizona Corporation Commission has not adopted the view that integrated water and wastewater services are necessary to advance sustainability in water scarce regions of the state.**

Q. **IS CORNMAN TWEEDY WITNESS JOHNSON CORRECT IN HIS STATEMENT THAT THE COMMISSION HAS "COME TO THE SETTLED VIEW THAT INTEGRATED WATER AND WASTEWATER SYSTEMS ARE NECESSARY TO ADVANCE WATER SUSTAINABILITY IN SCARCE REGIONS OF THE STATE"?**

A. No, he is wrong. The Commission has established no such "settled view" policy or requirement that integrated water and wastewater systems are necessary to advance water sustainability in water-scarce regions of the state.

In fact, as I state earlier, the Commission found that they agreed (in other words, they came to a settled view, conclusion or policy) that CCN extensions can be served by separate water and wastewater utilities coordinating and cooperating for such service. These findings from Decision No. 73146, which was decided in May 2012, reflects the more recent view of Commission policy.

---

[15] See Arizona Water Company's Tariff No. RW-256, attached as WMG-7.

[16] For more information please see Arizona Water's Annual Reports filed with ADWR from 1990 to 1995 and from 1995 to 2010, available online at ADWR's website.

Q. HOW DOES THE COMMISSION OR ANY OTHER STATE AGENCY ESTABLISH REQUIREMENTS FOR REGULATED ENTITIES?

A. The Commission and other state agencies establish rules which are codified in the Arizona Administrative Code. The Arizona Administrative Code has the effect of law.

Q. DID THE COMMISSION MODIFY ANY RULES OR REGULATIONS THAT AFFECT CCN EXTENSIONS OR NEW CCNs SINCE IT DECIDED THE WOORDRUFF AND PERKINS MOUNTAIN CCN CASES?

A. Yes, they did. The Commission adopted new rules for water and wastewater CCNs in 2010.

Q. DID THESE NEW RULES ADOPT THE "SETTLED VIEW" OR POLICY THAT MR. JOHNSON CLAIMS THE COMMISSION HAS EMBRACED?

A. No, they did not. There is no requirement in the Commission's rules requiring integrated water and wastewater utilities to serve new CCNs or CCN extensions nor is there any prohibition or restriction on separate water or wastewater utilities serving such areas.[17]

VI. <u>The Commission may adopt rules or order Arizona Water Company and Picacho Sewer Company to cooperate to provide reclaimed water service but there is no basis for deleting Arizona Water Company's CCN.</u>

Q. IF THE COMMISSION ORDERS ARIZONA WATER COMPANY AND PICACHO SEWER COMPANY TO COOPERATE TO PROVIDE RECLAIMED WATER SERVICE TO THE CORNMAN TWEEDY PROPERTY, IS ARIZONA WATER COMPANY PREPARED TO DO SO?

A. Yes, Arizona Water would certainly do so because as I testified above, we have already adopted such best management practices in working cooperatively with Global Water-Palo

[17] See Arizona Administrative Codes R14-2-402 and R14-2-602.

Verde to coordinate water and wastewater services in the Maricopa-Stanfield area. We have similarly done so with Gold Canyon Sewer Company. That is our business model.

Q. IF THE COMMISSION DECIDES THAT REASONABLE SERVICE REQUIRES THAT ONE ENTITY PROVIDE BOTH WATER AND WASTEWATER SERVICE TO THE CORNMAN TWEEDY PROPERTY, IS THAT A BASIS TO DELETE ARIZONA WATER COMPANY'S CCN?

A. No, it would not be a basis to delete Arizona Water Company's CCN. A.R.S. §40-321(A), states:

> *"When the commission finds that the equipment, appliances, facilities or service of any public service corporation, or the methods of manufacture, distribution, transmission, storage or supply employed by it, are unjust, unreasonable, unsafe, improper, inadequate or insufficient, the commission shall determine what is just, reasonable, safe, proper, adequate or sufficient, and shall enforce its determination by order or regulation."*

This statute provides that the Commission shall determine what is reasonable and shall enforce such determination by order or regulation, but says nothing of deletion. As stated in my earlier direct testimony, lacking any such order or regulation if the Commission decides that reasonable service requires that one entity provide both water and wastewater service to the Cornman Tweedy property, Arizona Water Company is ready, willing and able to do so and will request the Commission to delete Picacho Sewer Company's wastewater CCN for the Cornman Tweedy property and grant Arizona Water a wastewater CCN. In such an event, Arizona Water Company will also seek and obtain all necessary approvals from other regulatory agencies to provide wastewater service to the Cornman Tweedy property.

Q. DOES THIS COMPLETE YOUR SURREBUTTAL TESTIMONY?

A. Yes, it does.

ARIZONA WATER COMPANY/CORNMAN TWEEDY

EXHIBIT LIST

William M. Garfield

WMG-3	Pima Utilities Company's Annual Water Withdrawal and Use Report Provider Summary for 2014
WMG-4	Quail Creek Water Company's Annual Water Withdrawal and Use Report Provider Summary for 2014
WMG-5	Central Arizona Groundwater Replenishment District Final 2015/16 Rate Schedule
WMG-6	Tucson's 2012 Update Water Plan: 2000-2050, Section 3
WMG-7	Arizona Water Company's Reclaimed Water Service Tariff No. RW-256

WMG

3

EXHIBIT WMG-3

This is the original annual report for authority 56-00203-00000

--- The document starts on the next page. ---

ARIZONA DEPARTMENT OF WATER RESOURCES, 3550 NORTH CENTRAL AVENUE, PHOENIX, AZ 85012-2105

A 2
CER 1
D 1
EMNI 1
F1 1
Q2 6
S 1
WI 4

ANNUAL WATER WITHDRAWAL AND USE REPORT
PROVIDER SUMMARY 2014

OWNER OF GROUNDWATER RIGHT

PIMA UTILITIES COMPANY
ATTN: STEVE SORIANO
9532 E. RIGGS ROAD
SUN LAKES AZ 85248

RECEIVED
MAR 31 2015
ARIZONA DEPARTMENT OF WATER RESOURCES

REPORTING PARTY
56-002031.0000
PIMA UTILITIES COMPANY
ATTN: STEVE SORIANO
9532 E. RIGGS ROAD
SUN LAKES AZ 85248

TYPE OF RIGHT
LARGE MUNICIPAL PROVIDER MNPCCP

RIGHT / PERMIT NO.
56-002031.0000

PHOENIX AMA (602) 771-8585

ALLOTMENT: 1962.00 AF

If any of the information preprinted on this report is incorrect, please make the necessary changes.

PART I GROUNDWATER WITHDRAWN

From Box 10. Schedule A attached

6982.13 x $ 3.00 = $ 17946.39

ACRE - FEET X Withdrawal Fee =

PART II WATER DELIVERED TO OTHER RIGHTS

From Box 24 Schedule D attached

512.68 ACRE - FEET

PART III WATER RECEIVED FROM OTHER RIGHTS

Total from Schedule E attached

68.34 ACRE - FEET

PART IV LATE FEES

Complete if filing after March 31. NOTE: A portion of a month after March 31 is counted as a full month.

1) Enter number of months late (Maximum of 6)

2) Calculate Late Report Fee ($25.00 X number of months late) $

3) Calculate Late Payment Fee (10 % X number of months late X withdrawal fee calculated in Part I $

PART V TOTAL FEES DUE

Add amounts from Parts I and IV

$ 17946.39

Mail or hand deliver this report, together with the appropriate schedules, worksheets and fees to the Arizona Department of Water Resources. If mailed, the report must be mailed to P.O. Box 36020 Phoenix, AZ. 85067 and postmarked no later than March 31, 2015. If hand delivered, the report must be received by the Department's Annual Reports & Planning Section no later than 5:00 PM on March 31, 2015.

REPORTS FILED AFTER MARCH 31, 2015 ARE SUBJECT TO LATE FEES (A.R.S. § 45-632) AND PAYMENT OF PREVIOUSLY WAIVED MONETARY PENALTIES ASSOCIATED WITH PRIOR GROUNDWATER CODE VIOLATIONS.

I hereby certify, under penalty of perjury, that the information contained in this report is, to the best of my knowledge and belief, true, correct and complete.

X [signature] — AUTHORIZED SIGNATURE

GENERAL MANAGER — TITLE

3/23/15 — DATE

STEVE SORIANO — PRINTED NAME

4808955009 — TELEPHONE NUMBER

NOTE: THIS REPORT MUST BE FILED EVEN IF NO WATER WAS DELIVERED PURSUANT TO THIS RIGHT.

ARIZONA DEPARTMENT OF WATER RESOURCES

SCHEDULE A

REPORT OF PUMPING

Owner: PIMA UTILITIES COMPANY

1 RIGHT/PERMIT/BMP Farm Unit NO. 56-002031.0000

ANNUAL REPORT 2014

Note: Pumpage for each well must be shown on the attached well worksheets. Information for up to four wells may be shown on each worksheet.

2 DWR WELL REGISTRATION NO. / 10 Q	40 Q	160 Q	LOCATION SEC	TWN	RNG	3 Depth to Static Water Level (Designated Providers Only) Date # 1 / Date # 2	Msmt # 1 / Msmt # 2	Well Running? (Y/N)	4 Ground-water Pumped	RECOVERED WATER PUMPED 5 CAP	6 SW	7 EFF/IN	8 EFF/OUT	9 Total Water Pumped
55-211808 R/B3														
NW	NW	SW	30	2.0S	5.0E							14.76		14.76
55-514527 34														
SE	SE	SE	32	2.0S	5.0E				1060.76					1060.76
55-520891 27														
NW	NW	SW	28	2.0S	5.0E				345.09					345.09
55-554079 R/R1														
SW	NE	SW	30	2.0S	5.0E							20.14		20.14
55-561906 R/R4														
SW	NE	SE	29	2.0S	5.0E							8.90		8.90
55-561907 R/R2														
NW	SE	NW	29	2.0S	5.0E							8.95		8.95
55-566383 R/R5														
NE	NE	SE	29	2.0S	5.0E							15.59		15.59
55-566937 R/R6														
NW	NW	NE	29	2.0S	5.0E				804.26					804.26
TOTAL WATER WITHDRAWN (acre-feet) SUBTOTAL									10* 2210.02			68.34		11** 2278.36

* ENTER TOTAL ACRE-FEET OF GROUNDWATER WITHDRAWN IN PART I OF THE SUMMARY PAGE.

rev. 10/14 ** ENTER ACRE-FEET OF TOTAL WATER PUMPED IN PART 4.D.1 OF THE SCHEDULE AWS.

ARIZONA DEPARTMENT OF WATER RESOURCES

SCHEDULE A

REPORT OF PUMPING

ANNUAL REPORT 2014

Owner

PIMA UTILITIES COMPANY

1 RIGHT/PERMIT/BMP Farm Unit NO.

56-002031.0000

Note: Pumpage for each well must be shown on the attached well worksheets. Information for up to four wells may be shown on each worksheet.

2 DWR WELL REGISTRATION NO.						3 Depth to Static Water Level (Designated Providers Only)			4 Ground-water Pumped	RECOVERED WATER PUMPED				9 Total Water Pumped
10 Q	40 Q	160 Q	LOCATION SEC	TWN	RNG	Date # 1 / Date # 2	Msmt # 1 / Msmt # 2	Well Running? (Y/N)		5 CAP	6 SW	7 EFF/IN	8 EFF/OUT	
55-625796 29									283.40					283.40
NE	NE	NE	29	2.0S	5.0E									
55-625797 —														
SE	NE	SE	20	2.0S	5.0E									
55-625798 31									733.60					733.60
SE	SE	SE	31	2.0S	5.0E									
55-625799 32									979.35					979.35
SE	NE	NE	32	2.0S	5.0E									
55-625800 33									847.25					847.25
SE	SE	SW	32	2.0S	5.0E									
55-806730 19A									860.17					860.17
NE	NE	NE	30	2.0S	5.0E									
TOTAL WATER WITHDRAWN (acre-feet)						SUBTOTAL			10* 3703.77	- -	- -		- -	11** 3703.77
						TOTAL >			5913.79			168.34		5982.13

* ENTER TOTAL ACRE-FEET OF GROUNDWATER WITHDRAWN IN PART I OF THE SUMMARY PAGE.

rev. 10/14 ** ENTER ACRE-FEET OF TOTAL WATER PUMPED IN PART 4.D.1 OF THE SCHEDULE AWS.

SCHEDULE D

REPORT OF WATER DELIVERIES TO OTHER WATER RIGHTS

ANNUAL REPORT 2014

ARIZONA DEPARTMENT OF WATER RESOURCES

Owner: PIMA UTILITIES COMPANY

1 RIGHT/PERMIT/BMP Farm Unit NO.: 56-002031.0000

2 RIGHT NO. DELIVERED TO / 3 TYPE OF RIGHT	4 DWR WELL NUMBER	5 CUSTOMER ACCOUNT NUMBER	6 FILING ON BEHALF	7 HOW MEASURED OR ESTIMATED	A ACRE-FEET DELIVERED BY TYPE OF WATER: GW	CAP	EFF	SRP	Other SW	TOTAL ACRE-FEET DELIVERED
73-560427.0001 / WATER STORAGE PERMIT				metered			572.68			572.68

Note: If you delivered water to a storage facility, enter the amounts on a UWS - Schedule.

TOTAL ACRE-FEET DELIVERED	8 GW	9 CAP	10 EFF	11 SRP	12 Other SW	13
			572.68			572.68

EXCHANGE WATER GIVEN

14 EXCHANGE NO. RECEIVING WATER	15 DWR WELL NO. IF APPLICABLE	B ACRE-FEET EXCHANGED BY TYPE OF WATER: GW	CAP	EFF	SRP	Other SW	TOTAL ACRE-FEET EXCHANGED
67-							
68-							
69-							

TOTAL ACRE-FEET EXCHANGED	16 TOT. GW	17 TOT. CAP	18 TOT. EFF	19 TOT. SRP	20 TOT. O. SW	21

ENTER BOX 22 IN PART II OF THE SUMMARY PAGE

TOTAL ACRE-FEET DELIVERED AND EXCHANGED	22
	572.68

SCHEDULE E Part A -- Municipal

ARIZONA DEPARTMENT OF WATER RESOURCES

Note: If any information pre-printed on this form is incorrect, please make the necessary corrections. For information not already pre-printed on this form, please follow the directions below.

WATER RECEIVED FROM OTHER SOURCES

Owner: PIMA UTILITIES COMPANY

RIGHT NO.: 56-002031.0000

ANNUAL REPORT 2014

Part I – Water Received from Primary Irrigation Districts / Municipal Providers

Irrigation District /Provider Number: 74-547295.0001

Provider/District Name: PIMA UTILITY COMPANY

Your District User/ Account Number:

Number of acres eligible to receive surface water:

Right / Permit Number Supplying Water	Measurement Method	Acre-feet Received by Water Type								
		Groundwater	In-lieu Groundwater	Decreed/ Appropri -ative	Normal Flow	Spillwater	CAP	Other EFFLUENT	(Describe Other water)	Total Received
73-570417.0001	metered							108.34		108.34
Part I Total Acre-feet Received								108.34		108.34

Part II – Water Received or Diverted from Sources Other Than Irrigation Districts / Municipal Providers

Right / Permit Number Supplying Water	Measurement Method	Acre-feet Received by Water Type							
		Groundwater	Decreed/ Appropri -ative	Normal Flow	Spillwater	CAP	Other	(Describe Other water)	Total Received
Part II Total Acre-feet Received									

PART III - Water Received Pursuant to a Permitted, Enrolled or Noticed Exchange Agreement

Exchange No. Supplying Water	Measurement Method	Exchange outside service area?	Payback for			Acre-feet Received in Exchange by Water Type					
			Quantity	Type	Year Given	GW	SRP	CAP	Effluent	Other SW	Total Received
67-											
68-											
69-											
Part III Total Acre-feet Received in Exchange											

Sch. E Part A Total acre-feet of Water Received or Diverted from Other Sources (Part I + Part II + Part III): 108.34

rev. 10/14

SCHEDULE E Part B -- Municipal

ARIZONA DEPARTMENT OF WATER RESOURCES

Note: If any information pre-printed on this form is incorrect, please make the necessary corrections. For information not already pre-printed on this form, please follow the directions below.

WATER DELIVERED TO STORAGE FACILITIES

OWNER: PIMA UTILITY COMPANY

RIGHT NO.: 56-002031.0000

ANNUAL REPORT 2014

Part I -- Water Delivered to Recharge / Storage Facilities on the Provider's Behalf

Right / Permit Number Supplying	Name of Entity Storing on Your Behalf	Measurement Method	Water Storage Permit Number (73-xxxxxx.xxxx)	Acre-feet Delivered to be Stored by Water Type						
				Salt/Verde	Plan 6	CAP	Effluent	Other	(Describe Other water)	Total Delivered to be Stored
Total Acre-feet Delivered to be Stored by Water Type										

Part II -- Water Delivered to Recharge / Storage Facilities by the Provider

[illegible]	Measurement Method	Water Storage Permit Number (73-xxxxxx.xxxx)	Acre-feet Delivered to be Stored by Water Type						
			Salt/Verde	Plan 6	CAP	Effluent	Other	(Describe Other water)	Total Delivered to be Stored
	Metered	73-500427.0000				522.68			522.68
Total Acre-feet Delivered to be Stored by Water Type									

Sch. E Part B Total acre-feet of Water Delivered to be Stored:	522.68
Sch. E. Part A Total Acre-feet of Water Received or Diverted from Other Sources (Part I + Part II + Part III)	108.34
Sum of Schedule E Part A (Part I + Part II + Part III) minus sum of Schedule E Part B (Part I + Part II)	591.02

ARIZONA DEPARTMENT OF WATER RESOURCES

SCHEDULE F-1 PART 1

POPULATION

ANNUAL REPORT 2014

PROVIDER NAME

1 PIMA UTILITIES COMPANY

RIGHT/PERMIT NO.

56-002031.0000

Pursuant to the Third Management Plan, municipal water providers are required to supply the following information. This information is used to determine actual and target GPCD numbers for Large Municipal Providers and for planning information for Small Municipal Providers.

DEFINITION OF A HOUSING UNIT

A housing unit means a group of rooms or a single room occupied as separate living quarters. Examples of a housing unit include a single-family home, a townhouse, a condominium, an apartment, a permanently setup mobile home or a unit in a multi-family complex. A housing unit may be occupied by a family, a family and unrelated persons living together, two or more unrelated persons living together, or by one person. The number of housing units is *not* the number of service connections. Mobile homes in an overnight or limited-stay mobile home park or a unit in a campground, motel, hotel, or other temporary lodging facility are not considered housing units.

SINGLE-FAMILY HOUSING

A single-family housing unit is a detached dwelling. Include mobile homes *not* located in a mobile home park.

Single-Family Housing	Housing Units
Single-family housing units *(not service connections)* as of July 1, 2013.	2 9960
Indicate the net change (added and deleted) of single-family housing units *(not service connections)* in your service area between July 1, 2013 and July 1, 2014.	3 0
Total single-family housing units *(not service connections)* as of July 1, 2014.	4 9960

MULTI-FAMILY HOUSING

A multi-family housing unit is a mobile home in a mobile home park or any permanent housing unit having one or more common walls with another housing unit located in a multi-family residential structure, including a unit in a duplex, triplex, four-plex, condominium development, townhouse development or apartment complex. Include mobile homes if they are located in a mobile home park. Do not include mobile homes that are located in an overnight or limited stay mobile home park.

Multi-Family Housing	Housing Units
Multi-family housing units *(not service connections)* as of July 1, 2013.	5 400
Indicate the net change (added and deleted) of multi-family housing units *(not service connections)* in your service area between July 1, 2013 and July 1, 2014.	6 0
Total multi-family housing units *(not service connections)* as of July 1, 2014.	7 400

Please contact the AMA Office if you need assistance completing this form.

(602) 771-8585

ARIZONA DEPARTMENT OF WATER RESOURCES

SCHEDULE F-1 PART 2

MUNICIPAL PROVIDER WATER DELIVERIES

ANNUAL REPORT 2014

[1]

PROVIDER NAME

PIMA UTILITIES COMPANY

RIGHT/PERMIT NO.

56-002031.0000

Total Production 5982.13

Pursuant to the Third Management Plan (TMP) and the Groundwater Code, large water providers are required to supply the following information. Do not include direct use effluent on this schedule (please use Part 3 of Schedule F-1).

	DELIVERIES IN ACRE-FEET									
	RESIDENTIAL [A]		NON-RESIDENTIAL [B]							TOTAL
	187.07	3.42	5.95	18.83		77.62	1.77	.07	.02	302.75
	183.41	2.81	6.64	31.52		83.05	2.11	.38	.02	309.94
	199.11	3.01	6.38	31.31		107.58	2.38	.22	.02	345.01
	224.41	3.21	5.57	52.79		224.97	2.59	.19	3.65	507.38
	221.05	3.42	6.38	104.83		345.81	3.29	1.07	16.13	657.06
	224.67	3.16	5.62	79.44		377.73	2.85	.51	2.94	701.92
	138.26	3.05	4.67	79.00		266.92	5.69	.16	5.92	503.19
	213.20	3.04	7.19	57.52		253.83	4.02	.01	5.86	548.66
	211.63	2.83	4.05	39.99		156.65	3.58	0	.02	418.76
	201.26	3.04	5.26	105.27		204.99	3.08	.29	.02	483.20
	203.28	3.01	5.34	45.48		165.00	2.66	.84	.02	425.64
	79.14	3.20	5.81	27.21		35.87	2.24	.08	.02	213.58
Total Deliveries	[2] 2408.50	[3] 37.20	[4] 68.87	[5] 608.18	[6]	[7] 2299.61	[8] 41.26	[9] 3.83	[10] 24.64	[11] 5982.13
Total Active Connections	[12] 9900	[13] 2	[14] 1	[15] 122	[16]	[17] 4	[18] 2	[19] n/a	[20] n/a	[21] 10191

* Turf Related Facilities includes turf-related facilities (10 or more acres of turf or other high water use landscaping) and landscaped public rights-of-way identified as Individual Users.

** Other Turf includes water delivered to other turf areas that are less than 10 acres.

*** Other includes unmetered deliveries. Unmetered deliveries must be calculated using a generally accepted method of estimating water use. Explain in a separate letter how any unmetered deliveries were calculated and to which category it would belong if it were metered. e.g. Industrial, Commercial, etc.

FIRE DEPT ESTIMATES PROVIDED BY FIRE CHIEF - FIRE HYDRANT USE IS FOR MAIN LINE FLUSHING.

Please contact the AMA Office if you need assistance completing this form.

(602) 771-8585

RECEIVED AUG 5 2015 ADWR

ARIZONA DEPARTMENT OF WATER RESOURCES

SCHEDULE F-1 PART 3

MUNICIPAL PROVIDER DIRECT USE EFFLUENT

ANNUAL REPORT 2014

PROVIDER NAME: PIMA UTILITIES COMPANY

RIGHT/PERMIT NO.: 55-002031.0000

AMENDED

Pursuant to the Third Management Plan, municipal water providers are required to supply the following information. Report the amount of effluent produced, received, delivered, reused, recharged or discharged in your service area in calendar year 2014. Please attach a list of all the plants at which wastewater generated by uses of water within your service area is treated. List the volume of effluent produced at each plant from uses of water within your service area during calendar year 2014.

Please include all effluent produced in your service area, even if it is sent to a regional or other wastewater treatment facility not owned or operated by you.

[redacted]

A. Effluent Produced from Uses of Water within your Service Area:

1.	Effluent produced within service area (include wastewater processed at all treatment plants/entities)	1174.13	af
2.	Effluent used as process water at treatment plants	0	af
3.	PartA.1 - Part A.2 (total effluent produced within service area during CY 2014)	1174.13	af

B. Additional Effluent Sources:

1.	Effluent received from other water right holders	0	af
2.	Effluent recovered as long-term storage credits pursuant to a Recovery Well (74) Permit (sum of recovered from all 74s)	0	af
3.	Part B.1 + Part B.2 (total effluent used during CY 2014 that was not produced within the service area during CY 2014)	0	af

C. Total Available Effluent:

1.	Total from Part 1.A.3 above + Total from Part 1.B.3 above:	1174.13	af

[redacted]

A. Effluent Delivered/Used within your Service Area:

1.	Effluent delivered/used within your service area for landscape watering	719.79	af
2.	Effluent delivered/used within service area for other purposes (please attach additional sheets and list and describe each use separately	0	af
3.	Part 2.A.1 + Part 2.A.2 (total effluent use within your service area during 2014)	719.79	af

B. Effluent Delivered to Other Rights/Permits (as shown on your Schedule D form):

1.	Total Effluent delivered to other water rights/permits	0	af

C. Total Available Effluent:

1.	Effluent delivered to recharge projects as reported on Water Storage Reports (73s)	522.68	af
2.	Effluent delivered/used (from Part 2.A) that is recovered annual storage credits:	168.34	af
3.	Part 2.C.1 – Part 2.C.2 (total effluent used for storage projects before evaporation or cuts to the aquifer)	454.34	af

D. Effluent Delivered to Entities Other than Rights/Permits/Water Storage Uses:

1.	Effluent delivered for additional uses not associated with a right/permit/water storage use	0	af

Please explain:

[redacted]

A. Effluent Discharged:

1.	Total effluent discharged (not recharged, delivered, or used)	0	af

Please contact the AMA Office if you need assistance completing this form.

(602) 771-8585

ARIZONA DEPARTMENT OF WATER RESOURCES

SCHEDULE F-1 PART 3

MUNICIPAL PROVIDER DIRECT USE EFFLUENT

ANNUAL REPORT 2014

PROVIDER NAME

PIMA UTILITIES COMPANY

RIGHT/PERMIT NO.

56-002031.0000

Pursuant to the Third Management Plan, municipal water providers are required to supply the following information. Report the amount of effluent produced, received, delivered, reused, recharged or discharged in your service area in calendar year 2014. Please attach a list of all the plants at which wastewater generated by uses of water within your service area is treated. List the volume of effluent produced at each plant from uses of water within your service area during calendar year 2014.

Please include all effluent produced in your service area, even if it is sent to a regional or other wastewater treatment facility not owned or operated by you.

PART 1 - TOTAL AVAILABLE EFFLUENT

A. Effluent Produced from Uses of Water within your Service Area:

1.	Effluent produced within service area (include wastewater processed at all treatment plants/entities)	1174.13	af
2.	Effluent used as process water at treatment plants	0	af
3.	PartA.1 - Part A.2 (total effluent produced within service area during CY 2014)	1174.13	af

B. Additional Effluent Sources:

1.	Effluent received from other water right holders	0	af
2.	Effluent recovered as long-term storage credits pursuant to a Recovery Well (74) Permit (sum of recovered from all 74s)	68.34	af
3.	Part B.1 + Part B.2 (total effluent used during CY 2014 that was not produced within the service area during CY 2014)	68.34	af

C. Total Available Effluent:

1.	Total from Part 1.A.3 above + Total from Part 1.B.3 above:	1242.47	af

PART 2 - TOTAL EFFLUENT USE

A. Effluent Delivered/Used within your Service Area:

1.	Effluent delivered/used within your service area for landscape watering	105.45	af
2.	Effluent delivered/used within service area for other purposes (please attach additional sheets and list and describe each use separately	0	af
3.	Part 2.A.1 + Part 2.A.2 (total effluent use within your service area during 2014)	105.45	af

B. Effluent Delivered to Other Rights/Permits (as shown on your Schedule D form):

1.	Total Effluent delivered to other water rights/permits	0	af

C. Total Available Effluent:

1.	Effluent delivered to recharge projects as reported on Water Storage Reports (73s)	522.68	af
2.	Effluent delivered/used (from Part 2.A) that is recovered annual storage credits:	0	af
3.	Part 2.C.1 – Part 2.C.2 (total effluent used for storage projects before evaporation or cuts to the aquifer)	522.68	af

D. Effluent Delivered to Entities Other than Rights/Permits/Water Storage Uses:

1.	Effluent delivered for additional uses not associated with a right/permit/water storage use	0	af

Please explain:

PART 3 – TOTAL EFFLUENT DISCHARGED

A. Effluent Discharged:

1.	Total effluent discharged (not recharged, delivered, or used)	0	af

Please contact the AMA Office if you need assistance completing this form.

(602) 771-8585

SCHEDULE G-2

TURF-RELATED FACILITIES

ANNUAL REPORT 2014

ARIZONA DEPARTMENT OF WATER RESOURCES

Facility Name: SUN LAKE HOA #1 (W/SUN LAKES C

Facility No.: 25-225292.0000

Facility Owner :

Contact Name: SORIANO, STEVE

Contact Address: 9532 E RIGGS RD

SUN LAKES,AZ 85248

Contact Phone: 480-895-4251

Rights Used at Facility:

56-002031.0000 58-101578.0009

If you received an annual use letter from an irrigation district or municipal provider, please submit a copy of their letter with your 2014 Annual Water Withdrawal and Use Report to validate deliveries received.

Pursuant to Chapter 6 of the Third Management Plan of your Active Management Area, all turf-related facilities are required to supply the following information. Please complete one form per turf-related facility. Instructions are listed on the reverse side of this form.

PART 1 - TURF RELATED WATER USE

Source		Entity or Water Right Number(s) Supplying Water	Amount (acre-feet)
Groundwater (including in-lieu groundwater)		56-002031.0000	612.48
Effluent	• Municipal Reclaimed		
	• Other		
Surface Water	• Decreed/Appropriative		
	• Normal Flow		
	• Spillwater		
	• CAP		
Municipal (commingled/potable)			
Recovered water (specify type of water)			
Other (specify)			
		SUB-TOTAL OF TURF-RELATED WATER USE	612.48
NON Turf-related water additional sheets may be used	Meter Readings:	Beginning: End: Subtract	< >
	Purpose:		
		TOTAL TURF-RELATED WATER USE	612.48

PART 2 - LANDSCAPED AND WATER SURFACE AREAS CHANGES

Total turf acreage overseeded 38 acres

Has there been any landscape or water surface acreage changes at your facility? YES ☐ NO ☐

6-310 Monitoring and Reporting Requirements for Turf-Related Facilities:

An industrial user who uses water at a turf-related facility that commences watering to any new turfed acres, low water use landscaped area or water surface acres after January 1, 2014 shall submit to the director documentation of the new acres no later than 90 days after commencement of providing water to the new acres or receiving notice of these conservation requirements, whichever is later. The scale of the submitted documents, extent of turf acres, water surface acres, and low water use landscaped area must clearly be shown.

SCHEDULE G-2

TURF-RELATED FACILITIES

ANNUAL REPORT 2014

ARIZONA DEPARTMENT OF WATER RESOURCES

Facility Name: SUN LAKES OAKWOOD GC

Facility No.: 26-226320.0000

Facility Owner: SUN LAKES MARKETING LP

Contact Name: SORIANO, STEVE

Contact Address: 9532 E RIGGS RD

SUN LAKES, AZ 85248

Contact Phone: 480-895-4251

Rights Used at Facility:

56-002031.0000 58-130460.0000

RECEIVED AUG 5 2015 ADWR

If you received an annual use letter from an irrigation district or municipal provider, please submit a copy of their letter with your 2014 Annual Water Withdrawal and Use Report to validate deliveries received.

Pursuant to Chapter 6 of the Third Management Plan of your Active Management Area, all turf-related facilities are required to supply the following information. Please complete one form per turf-related facility. Instructions are listed on the reverse side of this form.

Source		Entity or Water Right Number(s) Supplying Water	Amount (acre-feet)
Groundwater (including in-lieu groundwater)		56-002031.0000	410.86
		72-547195.0000	33.42
Effluent	• Municipal Reclaimed		651.44
	• Other		
Surface Water	• Decreed/Appropriative		
	• Normal Flow		
	• Spillwater		
	• CAP		
Municipal (commingled/potable)			
Recovered water (specify type of water)			
Other (specify)			
		SUB-TOTAL OF TURF-RELATED WATER USE	1095.72
NON Turf-related water additional sheets may be used	Meter Readings:	Beginning: End: Subtract	< >
	Purpose:		
		TOTAL TURF-RELATED WATER USE	1091.81

AMENDED

Total turf acreage overseeded _____

Has there been any landscape or water surface acreage changes at your facility? YES ☐ NO ☐

8-310 Monitoring and Reporting Requirements for Turf-Related Facilities:

An industrial user who uses water at a turf-related facility that commences watering to any new turfed acres, low water use landscaped area or water surface acres after January 1, 2014 shall submit to the director documentation of the new acres no later than 90 days after commencement of providing water to the new acres or receiving notice of these conservation requirements, whichever is later. The scale of the submitted documents, extent of turf acres, water surface acres, and low water use landscaped area must clearly be shown.

SCHEDULE G-2

TURF-RELATED FACILITIES

ANNUAL REPORT 2014

ARIZONA DEPARTMENT OF WATER RESOURCES

Facility Name: SUN LAKES HOA #2

Facility No.: 24-224128.0000

Rights Used at Facility:

56-002031.0000

Facility Owner :

Contact Name: SORIANO, STEVE

Contact Address: 9532 E RIGGS RD

SUN LAKES,AZ 85248

Contact Phone: 480-895-4251

If you received an annual use letter from an irrigation district or municipal provider, please submit a copy of their letter with your 2014 Annual Water Withdrawal and Use Report to validate deliveries received.

Pursuant to Chapter 6 of the Third Management Plan of your Active Management Area, all turf-related facilities are required to supply the following information. Please complete one form per turf-related facility. Instructions are listed on the reverse side of this form.

PART 1 - TURF RELATED WATER USE

Source		Entity or Water Right Number(s) Supplying Water	Amount (acre-feet)
Groundwater (including in-lieu groundwater)		56-002031 0000	1160.51
Effluent	• Municipal Reclaimed		
	• Other		
Surface Water	• Decreed/Appropriative		
	• Normal Flow		
	• Spillwater		
	• CAP		
Municipal (commingled/potable)			
Recovered water (specify type of water)			
Other (specify)			
		SUB-TOTAL OF TURF-RELATED WATER USE	1160.51
NON Turf-related Water additional sheets may be used	Meter Readings:	Beginning: End: Subtract	< >
	Purpose:		
		TOTAL TURF-RELATED WATER USE	1160.51

PART 2 - LANDSCAPED AND WATER SURFACE AREAS CHANGES

Total turf acreage overseeded 160acres

Has there been any landscape or water surface acreage changes at your facility? YES ☐ NO ☐

6-310 Monitoring and Reporting Requirements for Turf-Related Facilities:

An industrial user who uses water at a turf-related facility that commences watering to any new turfed acres, low water use landscaped area or water surface acres after January 1, 2014 shall submit to the director documentation of the new acres no later than 90 days after commencement of providing water to the new acres or receiving notice of these conservation requirements, whichever is later. The scale of the submitted documents, extent of turf acres, water surface acres, and low water use landscaped area must clearly be shown.

SCHEDULE G-2

TURF-RELATED FACILITIES

ANNUAL REPORT 2014

ARIZONA DEPARTMENT OF WATER RESOURCES

Facility Name: SUN LAKES OAKWOOD GC

Facility No.: 25-225320.0000

Facility Owner: SUN LAKES MARKETING LP

Contact Name: SORIANO, STEVE

Contact Address: 9532 E RIGGS RD

SUN LAKES,AZ 85248

Contact Phone: 480-895-4251

Rights Used at Facility:

56-002031.0000	58-130460.0007

If you received an annual use letter from an irrigation district or municipal provider, please submit a copy of their letter with your 2014 Annual Water Withdrawal and Use Report to validate deliveries received.

Pursuant to Chapter 6 of the Third Management Plan of your Active Management Area, all turf-related facilities are required to supply the following information. Please complete one form per turf-related facility. Instructions are listed on the reverse side of this form.

PART 1 - TURF RELATED WATER USE

Source		Entity or Water Right Number(s) Supplying Water	Amount (acre-feet)
Groundwater (including in-lieu groundwater)		56-002031.0000	410.86
		22-547295.0000	33.44
Effluent	• Municipal Reclaimed		647.51
	• Other		
Surface Water	• Decreed/Appropriative		
	• Normal Flow		
	• Spillwater		
	• CAP		
Municipal (commingled/potable)			
Recovered water (specify type of water)			
Other (specify)			
		SUB-TOTAL OF TURF-RELATED WATER USE	1091.81
NON Turf-related water additional sheets may be used	Meter Readings:	Beginning: End: Subtract	< >
	Purpose:		
		TOTAL TURF-RELATED WATER USE	1091.81

PART 2 - LANDSCAPED AND WATER SURFACE AREAS CHANGES

Total turf acreage overseeded _____

Has there been any landscape or water surface acreage changes at your facility? YES ☐ NO ☐

6-310 Monitoring and Reporting Requirements for Turf-Related Facilities:

An industrial user who uses water at a turf-related facility that commences watering to any new turfed acres, low water use landscaped area or water surface acres after January 1, 2014 shall submit to the director documentation of the new acres no later than 90 days after commencement of providing water to the new acres or receiving notice of these conservation requirements, whichever is later. The scale of the submitted documents, extent of turf acres, water surface acres, and low water use landscaped area must clearly be shown.

SCHEDULE G-2

TURF-RELATED FACILITIES

ANNUAL REPORT 2014

ARIZONA DEPARTMENT OF WATER RESOURCES

Facility Name: SUN LAKES HOA #3

Facility No.: 24-224132.0000

Facility Owner :

Contact Name: SORIANO, STEVE

Contact Address: 9532 E RIGGS RD

SUN LAKES,AZ 85248

Contact Phone: 480-895-4251

Rights Used at Facility:

56-002031.0000 58-110067.0002

If you received an annual use letter from an irrigation district or municipal provider, please submit a copy of their letter with your 2014 Annual Water Withdrawal and Use Report to validate deliveries received.

Pursuant to Chapter 6 of the Third Management Plan of your Active Management Area, all turf-related facilities are required to supply the following information. Please complete one form per turf-related facility. Instructions are listed on the reverse side of this form.

PART 1 - TURF RELATED WATER USE

Source		Entity or Water Right Number(s) Supplying Water	Amount (acre-feet)
Groundwater (including in-lieu groundwater)		56-0002031.0000	82.33
Effluent	• Municipal Reclaimed		
	• Other		
Surface Water	• Decreed/Appropriative		
	• Normal Flow		
	• Spillwater		
	• CAP		
Municipal (commingled/potable)			
Recovered water (specify type of water)		77-547749.0000 REC → LANDSCAPE	34.90
Other (specify) PALLFIELD			6.36
		SUB-TOTAL OF TURF-RELATED WATER USE	123.59
NON Turf-related water additional sheets may be used	Meter Readings:	Beginning: End: Subtract	< >
	Purpose:		
		TOTAL TURF-RELATED WATER USE	123.59

PART 2 - LANDSCAPED AND WATER SURFACE AREAS CHANGES

Total turf acreage overseeded 8 acres

Has there been any landscape or water surface acreage changes at your facility? YES ☐ NO ☐

6-310 Monitoring and Reporting Requirements for Turf-Related Facilities:

An industrial user who uses water at a turf-related facility that commences watering to any new turfed acres, low water use landscaped area or water surface acres after January 1, 2014 shall submit to the director documentation of the new acres no later than 90 days after commencement of providing water to the new acres or receiving notice of these conservation requirements, whichever is later. The scale of the submitted documents, extent of turf acres, water surface acres, and low water use landscaped area must clearly be shown.

ARIZONA DEPARTMENT OF WATER RESOURCES

SCHEDULE S

SERVICE AREA MAP UPDATE

ANNUAL REPORT 2014

PROVIDER NAME

PIMA UTILITIES COMPANY

RIGHT/PERMIT NO.

56-002031.0000

Pursuant to A.R.S. §45-498 each city, town, private water company and irrigation district in an active management area shall maintain a current map clearly delineating its service area and distribution system in the director's office and shall furnish such other related data as the director may require

2014 ANNUAL SERVICE AREA AND OPERATING DISTRIBUTION SYSTEM UPDATES RESPONSE FORM

Please complete and return THIS FORM along with your UPDATED DISTRIBUTION SYSTEM (WATER LINE) MAP and WATER SERVICE AREA BOUNDARY MAP to ADWR by MARCH 31, 2015 along with your 2014 ANNUAL WATER WITHDRAWAL & USE REPORT.

Service Area Map Contact Information:

If the contact person in your office for service area map updates has changed in the last year, please email ADWR with the updated contact person information. Please send that information to data_management@azwater.gov.

Please check the appropriate boxes:

OPERATING DISTRIBUTION SYSTEM MAP

Your ***operating distribution system*** includes your water lines, wells, storage tanks, water treatment facilities and related infrastructure used to treat and distribute water to your customers. If you have added any new water lines, wells, treatment or storage facilities over the last calendar year, please submit an updated map.

Were there changes to the operating distribution system within the last year? ( ) Yes (✓) No

WATER SERVICE AREA BOUNDARY MAP

Your ***service area boundary*** is an area delineated as a 100 foot buffer around the exterior of your water lines, excluding any small municipal providers, other large municipal providers, or areas that you do not serve (exempt domestic well areas) within the exterior boundary of your water lines.

Were there changes to the area in service within the last year ? ( ) Yes (✓) No

If there were changes to either your operating distribution system or your water service area boundary, please submit an updated map(s) in one of the following formats:

- Digital ArcGIS Shapefile
- Digital ArcGIS geodatabase file
- Digital AutoCAD file
- .pdf File
- Hardcopy (if no electronic form exists)

SUBMIT ALL MAP REVISIONS BY MARCH 31, 2015. If you would like to submit your map by uploading to ADWR's ftp or Infoshare websites, please call the Active Management Area at (602) 771-8585 or email us for instructions at data_management@azwater.gov.

STEVE SORIANO	OPN MGR	480 895 5009
Name Printed	Title	Phone
	3/23/15	
Signature	Date	Email

Please contact the AMA Office if you need assistance completing this form.

(602) 771-8585

WORKSHEET W-1 2014

GROUNDWATER RIGHT/PERMIT/ BMP Farm Unit NO. 56-002031.0000

1 DWR WELL REGISTRATION NO: 55-211808 R/R3

10 Q	40 Q	160 Q	Sec	Twn	Rng
NW	NW	SW	30	2.0S	5.0E

2 TYPE OF MEASURING DEVICE: TOTALIZER
MAKE / MODEL: Water Specialties
SIZE: 6"
UNITS MEASURED: Gal
INSTALLATION OR OVERHAUL DATE: 1/1/08

3 POWER CO. NAME: OCOTILLO
ACCOUNT NO: Na
POWER METER NO.: Na
ENERGY CONSUMPTION:
UNITS: KWH

Power comes from WWTP

4 DOES ENERGY METER SERVE USES OTHER THAN THE WELL PUMP? Yes ☐ No ☐
ENTER "Y" OR "N" IN COLUMN 5 OF SCHEDULE A

WATER TOTALIZING METER READINGS		
5 INITIAL	6 ENDING	7 DIFFERENCE
9131000	13941000	4810000

IF METER WAS REPLACED DURING THE YEAR, INDICATE BEGINNING AND ENDING READING FOR EACH METER IN THE BOXES ABOVE

8 ACRE FEET	14.76	9 BREAKDOWN ESTIMATE	

Enter total Acre-feet Shown in 10 in one of Columns 4-8 of Schedule A

10 TOTAL IN ACRE-FEET: 14.76

---

1 DWR WELL REGISTRATION NO: 55-514527 #34

10 Q	40 Q	160 Q	Sec	Twn	Rng
SE	SE	SE	32	2.0S	5.0E

2 TYPE OF MEASURING DEVICE: TOTALIZER
MAKE / MODEL: Water Specialties
SIZE: 8"
UNITS MEASURED: GALLONS
INSTALLATION OR OVERHAUL DATE: 8/12/08

3 POWER CO. NAME: SALT RIVER PROJECT
ACCOUNT NO: 75-29-00531-1
POWER METER NO: ~~873077~~ 2373228
ENERGY CONSUMPTION: 809888
UNITS: KWH

4 DOES ENERGY METER SERVE USES OTHER THAN THE WELL PUMP? Yes ☒ No ☐
ENTER "Y" OR "N" IN COLUMN 5 OF SCHEDULE A

WATER TOTALIZING METER READINGS		
5 INITIAL	6 ENDING	7 DIFFERENCE
2488432000	2834052000	345620000

IF METER WAS REPLACED DURING THE YEAR, INDICATE BEGINNING AND ENDING READING FOR EACH METER IN THE BOXES ABOVE

8 ACRE FEET	1060.67	9 BREAKDOWN ESTIMATE	

Enter total Acre-feet Shown in 10 in one of Columns 4-8 of Schedule A

10 TOTAL IN ACRE-FEET: 1060.67

---

1 DWR WELL REGISTRATION NO: 55-520891 #27

10 Q	40 Q	160 Q	Sec	Twn	Rng
NW	NW	SW	28	2.0S	5.0E

2 TYPE OF MEASURING DEVICE: TOTALIZER
MAKE / MODEL: Water Specialties
SIZE: 8" - 10"
UNITS MEASURED: GALLONS
INSTALLATION OR OVERHAUL DATE: #1-4 06 #2 8/05 #3 11/12

3 POWER CO. NAME: SALT RIVER PROJECT
ACCOUNT NO.: 7536071891
POWER METER NO.: 346123
ENERGY CONSUMPTION: 683385
UNITS: KWH

4 DOES ENERGY METER SERVE USES OTHER THAN THE WELL PUMP? Yes ☐ No ☒
ENTER "Y" OR "N" IN COLUMN 5 OF SCHEDULE A

WATER TOTALIZING METER READINGS		
5 INITIAL	6 ENDING	7 DIFFERENCE
#1 4870450000	5271490000	399045000
#3 3914649000	4360777000	446128000
#2 3071857000	3341058000	270201000

= 1124499000

IF METER WAS REPLACED DURING THE YEAR, INDICATE BEGINNING AND ENDING READING FOR EACH METER IN THE BOXES ABOVE

8 ACRE FEET	345.09	9 BREAKDOWN ESTIMATE	

Enter total Acre-feet Shown in 10 in one of Columns 4-8 of Schedule A

10 TOTAL IN ACRE-FEET: 345.09

---

1 DWR WELL REGISTRATION NO: 55-554079 R/R1

10 Q	40 Q	160 Q	Sec	Twn	Rng
SW	NE	SW	30	2.0S	5.0E

2 TYPE OF MEASURING DEVICE: TOTALIZER
MAKE / MODEL: Water Specialties
SIZE: 4"
UNITS MEASURED: GAL
INSTALLATION OR OVERHAUL DATE: 9/19/13

3 POWER CO. NAME: SALT RIVER PROJECT
ACCOUNT NO.: 7536057881
POWER METER NO.: 326876
ENERGY CONSUMPTION: X
UNITS: X

POWER COMES FROM OAKWOOD GOLF COURSE

4 DOES ENERGY METER SERVE USES OTHER THAN THE WELL PUMP? Yes ☐ No ☐
ENTER "Y" OR "N" IN COLUMN 5 OF SCHEDULE A

WATER TOTALIZING METER READINGS		
5 INITIAL	6 ENDING	7 DIFFERENCE
1126000	7688000	6562000

IF METER WAS REPLACED DURING THE YEAR, INDICATE BEGINNING AND ENDING READING FOR EACH METER IN THE BOXES ABOVE

8 ACRE FEET	20.14	9 BREAKDOWN ESTIMATE	

Enter total Acre-feet Shown in 10 in one of Columns 4-8 of Schedule A

10 TOTAL IN ACRE-FEET: 20.14

WORKSHEET W-1 2014

GROUNDWATER RIGHT/PERMIT/ BMP Farm Unit NO. 56-002031.0000

1 DWR WELL REGISTRATION NO. 55-561906 R/R4

10 Q	40 Q	160 Q	Sec	Twn	Rng
SW	NE	SE	29	2.0S	5.0E

2 TYPE OF MEASURING DEVICE: TOTALIZER
MAKE / MODEL: Water Specialties
SIZE: 6"
UNITS MEASURED: GAL
INSTALLATION OR OVERHAUL DATE: 10/14

3 POWER CO NAME: SALT RIVER PROJECT
ACCOUNT NO.: 7536335271
POWER METER NO: 361674
ENERGY CONSUMPTION: 7282 UNITS: KWH

4 DOES ENERGY METER SERVE USES OTHER THAN THE WELL PUMP? Yes ☐ No ☐
ENTER "Y" OR "N" IN COLUMN 5 OF SCHEDULE A

WATER TOTALIZING METER READINGS		
5 INITIAL	6 ENDING	7 DIFFERENCE
88581000	90795000	2214000
0	1687000	1687000
		=2901000

IF METER WAS REPLACED DURING THE YEAR, INDICATE BEGINNING AND ENDING READING FOR EACH METER IN THE BOXES ABOVE

8 ACRE FEET	8.90	9 BREAKDOWN ESTIMATE	

Enter total Acre-feet Shown in 10 in one of Columns 4-8 of Schedule A

10 TOTAL IN ACRE-FEET	8.90

---

1 DWR WELL REGISTRATION NO. 55-561907 R/R2

10 Q	40 Q	160 Q	Sec	Twn	Rng
NW	SE	NW	29	2.0S	5.0E

2 TYPE OF MEASURING DEVICE: TOTALIZER
MAKE / MODEL: Water Specialties
SIZE: 6"
UNITS MEASURED: Gal
INSTALLATION OR OVERHAUL DATE:

3 POWER CO NAME: SALT RIVER PROJECT
ACCOUNT NO: 7536298511
POWER METER NO. ~~375896~~ 1324575
ENERGY CONSUMPTION: 367307 UNITS: KWH

4 DOES ENERGY METER SERVE USES OTHER THAN THE WELL PUMP? Yes ☐ No ☐
ENTER "Y" OR "N" IN COLUMN 5 OF SCHEDULE A

WATER TOTALIZING METER READINGS		
5 INITIAL	6 ENDING	7 DIFFERENCE
54149000	57065000	2916000

IF METER WAS REPLACED DURING THE YEAR, INDICATE BEGINNING AND ENDING READING FOR EACH METER IN THE BOXES ABOVE

8 ACRE FEET	8.95	9 BREAKDOWN ESTIMATE	

Enter total Acre-feet Shown in 10 in one of Columns 4-8 of Schedule A

10 TOTAL IN ACRE-FEET	8.95

---

1 DWR WELL REGISTRATION NO. 55-566383 R/R5

10 Q	40 Q	160 Q	Sec	Twn	Rng
NE	NE	SE	29	2.0S	5.0E

2 TYPE OF MEASURING DEVICE: TOTALIZER
MAKE / MODEL: Water Specialties
SIZE: 6"
UNITS MEASURED: GAL
INSTALLATION OR OVERHAUL DATE: 1/2013

3 POWER CO NAME: SALT RIVER PROJECT
ACCOUNT NO.: 7536360351
POWER METER NO.: 352461
ENERGY CONSUMPTION: 8398 UNITS: KWH

4 DOES ENERGY METER SERVE USES OTHER THAN THE WELL PUMP? Yes ☐ No ☐
ENTER "Y" OR "N" IN COLUMN 5 OF SCHEDULE A

WATER TOTALIZING METER READINGS		
5 INITIAL	6 ENDING	7 DIFFERENCE
7326000	12405000	5079000

IF METER WAS REPLACED DURING THE YEAR, INDICATE BEGINNING AND ENDING READING FOR EACH METER IN THE BOXES ABOVE

8 ACRE FEET	15.59	9 BREAKDOWN ESTIMATE	

Enter total Acre-feet Shown in 10 in one of Columns 4-8 of Schedule A

10 TOTAL IN ACRE-FEET	15.59

---

1 DWR WELL REGISTRATION NO. 55-566937 #28B

10 Q	40 Q	160 Q	Sec	Twn	Rng
NW	NW	NE	29	2.0S	5.0E

2 TYPE OF MEASURING DEVICE: TOTALIZER
MAKE / MODEL: Water Specialties
SIZE: 10"
UNITS MEASURED: GAL
INSTALLATION OR OVERHAUL DATE: 10/07

3 POWER CO NAME: SALT RIVER PROJECT
ACCOUNT NO.: 75-36-39845-1
POWER METER NO: ~~361306~~ 1324128
ENERGY CONSUMPTION: 342699 UNITS: KWH

4 DOES ENERGY METER SERVE USES OTHER THAN THE WELL PUMP? Yes ☐ No ☐
ENTER "Y" OR "N" IN COLUMN 5 OF SCHEDULE A

WATER TOTALIZING METER READINGS		
5 INITIAL	6 ENDING	7 DIFFERENCE
2472500000	2734568000	262068000

IF METER WAS REPLACED DURING THE YEAR, INDICATE BEGINNING AND ENDING READING FOR EACH METER IN THE BOXES ABOVE.

8 ACRE FEET	804.26	9 BREAKDOWN ESTIMATE	

Enter total Acre-feet Shown in 10 in one of Columns 4-8 of Schedule A

10 TOTAL IN ACRE-FEET	804.26

WORKSHEET W-1 2014

GROUNDWATER RIGHT/PERMIT/ BMP Farm Unit NO. 56-002031.0000

1 DWR WELL REGISTRATION NO: 55-625796 #29

10 Q	40 Q	160 Q	Sec	Twn	Rng
NE	NE	NE	29	2.0S	5.0E

2 TYPE OF MEASURING DEVICE: TOTALIZER
MAKE / MODEL: Water Specialties
SIZE: 10"
UNITS MEASURED: GAL
INSTALLATION OR OVERHAUL DATE: 5/10

3 POWER CO. NAME: SALT RIVER PROJECT
ACCOUNT NO.: 75-36-12247-1
POWER METER NO: 344402
ENERGY CONSUMPTION: 126480
UNITS: KWH

4 DOES ENERGY METER SERVE USES OTHER THAN THE WELL PUMP? Yes ☐ No ☒
ENTER "Y" OR "N" IN COLUMN 5 OF SCHEDULE A

WATER TOTALIZING METER READINGS		
5 INITIAL	6 ENDING	7 DIFFERENCE
750620000	842960000	92340000

IF METER WAS REPLACED DURING THE YEAR, INDICATE BEGINNING AND ENDING READING FOR EACH METER IN THE BOXES ABOVE.

8 ACRE FEET	283.40	9 BREAKDOWN ESTIMATE	

Enter total Acre-feet Shown in 10 in one of Columns 4-8 of Schedule A

10 TOTAL IN ACRE-FEET	283.40

---

1 DWR WELL REGISTRATION NO: 55-625797 —

10 Q	40 Q	160 Q	Sec	Twn	Rng
SE	NE	SE	20	2.0S	5.0E

2 TYPE OF MEASURING DEVICE: TOTALIZER
MAKE / MODEL:
SIZE:
UNITS MEASURED:
INSTALLATION OR OVERHAUL DATE:

3 POWER CO. NAME: SALT RIVER PROJECT
ACCOUNT NO.: 701-00008-1
POWER METER NO: 320372
ENERGY CONSUMPTION:
UNITS:

4 DOES ENERGY METER SERVE USES OTHER THAN THE WELL PUMP? Yes ☐ No ☒
ENTER "Y" OR "N" IN COLUMN 5 OF SCHEDULE A

WATER TOTALIZING METER READINGS		
5 INITIAL	6 ENDING	7 DIFFERENCE

IF METER WAS REPLACED DURING THE YEAR, INDICATE BEGINNING AND ENDING READING FOR EACH METER IN THE BOXES ABOVE.

8 ACRE FEET		9 BREAKDOWN ESTIMATE	

Enter total Acre-feet Shown in 10 in one of Columns 4-8 of Schedule A

10 TOTAL IN ACRE-FEET	

---

1 DWR WELL REGISTRATION NO: 55-625798 #31

10 Q	40 Q	160 Q	Sec	Twn	Rng
SE	SE	SE	31	2.0S	5.0E

2 TYPE OF MEASURING DEVICE: TOTALIZER
MAKE / MODEL: Nicrometer
SIZE: 10"
UNITS MEASURED: GALLONS
INSTALLATION OR OVERHAUL DATE: 4/10

3 POWER CO. NAME: SALT RIVER PROJECT
ACCOUNT NO.: 75-16-00001-1
POWER METER NO: ~~349622~~ 236224
ENERGY CONSUMPTION: 1681382
UNITS: KWH

4 DOES ENERGY METER SERVE USES OTHER THAN THE WELL PUMP? Yes ☒ No ☐
ENTER "Y" OR "N" IN COLUMN 5 OF SCHEDULE A

WATER TOTALIZING METER READINGS		
5 INITIAL	6 ENDING	7 DIFFERENCE
920861000	1159905000	239044000

IF METER WAS REPLACED DURING THE YEAR, INDICATE BEGINNING AND ENDING READING FOR EACH METER IN THE BOXES ABOVE

8 ACRE FEET	733.60	9 BREAKDOWN ESTIMATE	

Enter total Acre-feet Shown in 10 in one of Columns 4-8 of Schedule A

10 TOTAL IN ACRE-FEET	733.60

---

1 DWR WELL REGISTRATION NO.: 55-625799 #32

10 Q	40 Q	160 Q	Sec	Twn	Rng
SE	NE	NE	32	2.0S	5.0E

2 TYPE OF MEASURING DEVICE: TOTALIZER
MAKE / MODEL: Water Specialties
SIZE: 10"
UNITS MEASURED: GALLONS
INSTALLATION OR OVERHAUL DATE: 4/11

3 POWER CO. NAME: SALT RIVER PROJECT
ACCOUNT NO.: 75-22-00243-1
POWER METER NO: ~~375226~~ 257104
ENERGY CONSUMPTION: 384048
UNITS: KWH

4 DOES ENERGY METER SERVE USES OTHER THAN THE WELL PUMP? Yes ☒ No ☐
ENTER "Y" OR "N" IN COLUMN 5 OF SCHEDULE A

WATER TOTALIZING METER READINGS		
5 INITIAL	6 ENDING	7 DIFFERENCE
1030066000	1349187000	319121000

IF METER WAS REPLACED DURING THE YEAR, INDICATE BEGINNING AND ENDING READING FOR EACH METER IN THE BOXES ABOVE.

8 ACRE FEET	979.35	9 BREAKDOWN ESTIMATE	

Enter total Acre-feet Shown in 10 in one of Columns 4-8 of Schedule A

10 TOTAL IN ACRE-FEET	979.35

WORKSHEET W-1 2014

GROUNDWATER RIGHT/PERMIT/ BMP Farm Unit NO. 56-002031.0000

1 DWR WELL REGISTRATION NO: 55-625800 #33

10 Q	40 Q	160 Q	Sec	Twn	Rng
SE	SE	SW	32	2.0S	5.0E

2 TYPE OF MEASURING DEVICE: TOTALIZER
MAKE / MODEL: Water Specialties
SIZE: 8" & 10"
UNITS MEASURED: GALLONS
INSTALLATION OR OVERHAUL DATE: #1-8/11 #2-7/09 #3-8/11

3 POWER CO NAME: SALT RIVER PROJECT
ACCOUNT NO.: 75-28-00420-1
POWER METER NO.: 38462-1 23710 89
ENERGY CONSUMPTION: 408833 UNITS: KWH

4 DOES ENERGY METER SERVE USES OTHER THAN THE WELL PUMP? Yes ☐ No ☒
ENTER "Y" OR "N" IN COLUMN 5 OF SCHEDULE A

WATER TOTALIZING METER READINGS		
5 INITIAL	6 ENDING	7 DIFFERENCE
#1 1435007000	1600035000	1784031000
#2 156284000	702890000	460916000
#3 1033445000	1092540000	59021000

* METER WAS REPLACED DURING THE YEAR, INDICATE BEGINNING AND ENDING READING FOR EACH METER IN THE BOXES ABOVE = 2760078000

8 ACRE FEET	847.25	9 BREAKDOWN ESTIMATE	
Enter total Acre-feet Shown in 10 in one of Columns 4-8 of Schedule A		10 TOTAL IN ACRE-FEET	847.25

---

1 DWR WELL REGISTRATION NO: 55-806730 #29A

10 Q	40 Q	160 Q	Sec	Twn	Rng
NE	NE	NE	30	2.0S	5.0E

2 TYPE OF MEASURING DEVICE: TOTALIZER
MAKE / MODEL: Water Specialties
SIZE: 10"
UNITS MEASURED: GALLONS
INSTALLATION OR OVERHAUL DATE: 3/12

3 POWER CO NAME: SALT RIVER PROJECT
ACCOUNT NO: 75-36-23127-1
POWER METER NO.: 346123 23711 18
ENERGY CONSUMPTION: 778092 UNITS: KWH

4 DOES ENERGY METER SERVE USES OTHER THAN THE WELL PUMP? Yes ☒ No ☐
ENTER "Y" OR "N" IN COLUMN 5 OF SCHEDULE A

WATER TOTALIZING METER READINGS		
5 INITIAL	6 ENDING	7 DIFFERENCE
1336113000	1616400000	280287000

IF METER WAS REPLACED DURING THE YEAR, INDICATE BEGINNING AND ENDING READING FOR EACH METER IN THE BOXES ABOVE

8 ACRE FEET	860.17	9 BREAKDOWN ESTIMATE	
Enter total Acre-feet Shown in 10 in one of Columns 4-8 of Schedule A		10 TOTAL IN ACRE-FEET	860.17

---

1 DWR WELL REGISTRATION NO.

10 Q	40 Q	160 Q	Sec	Twn	Rng

2 TYPE OF MEASURING DEVICE
MAKE / MODEL
SIZE
UNITS MEASURED
INSTALLATION OR OVERHAUL DATE

3 POWER CO. NAME
ACCOUNT NO.
POWER METER NO
ENERGY CONSUMPTION
UNITS

4 DOES ENERGY METER SERVE USES OTHER THAN THE WELL PUMP? Yes ☐ No ☐
ENTER "Y" OR "N" IN COLUMN 5 OF SCHEDULE A

WATER TOTALIZING METER READINGS		
5 INITIAL	6 ENDING	7 DIFFERENCE

IF METER WAS REPLACED DURING THE YEAR, INDICATE BEGINNING AND ENDING READING FOR EACH METER IN THE BOXES ABOVE

8 ACRE FEET		9 BREAKDOWN ESTIMATE	
Enter total Acre-feet Shown in 10 in one of Columns 4-8 of Schedule A		10 TOTAL IN ACRE-FEET	

---

1 DWR WELL REGISTRATION NO.

10 Q	40 Q	160 Q	Sec	Twn	Rng

2 TYPE OF MEASURING DEVICE
MAKE / MODEL
SIZE
UNITS MEASURED
INSTALLATION OR OVERHAUL DATE

3 POWER CO NAME
ACCOUNT NO
POWER METER NO
ENERGY CONSUMPTION
UNITS

4 DOES ENERGY METER SERVE USES OTHER THAN THE WELL PUMP? Yes ☐ No ☐
ENTER "Y" OR "N" IN COLUMN 5 OF SCHEDULE A

WATER TOTALIZING METER READINGS		
5 INITIAL	6 ENDING	7 DIFFERENCE

IF METER WAS REPLACED DURING THE YEAR, INDICATE BEGINNING AND ENDING READING FOR EACH METER IN THE BOXES ABOVE.

8 ACRE FEET		9 BREAKDOWN ESTIMATE	
Enter total Acre-feet Shown in 10 in one of Columns 4-8 of Schedule A		10 TOTAL IN ACRE-FEET	

SCHEDULE CER 2014

ARIZONA DEPARTMENT OF WATER RESOURCES

CONSERVATION EFFORTS REPORT

MODIFIED NON-PER CAPITA CONSERVATION PROGRAM

ANNUAL REPORT 2014

PIMA UTILITY

56-002031.0000

SERVICE AREA INFORMATION

Total residential and non-residential connections reported on your most recent Provider Profile:	10,188	☐Tier 1 (1 – 5000) XTier 2 (5001 – 30,000) ☐Tier 3 (more than 30,000)
Total residential and non-residential connections as of December 31, 2014: *(See Schedule F1, Part 2, Box 21)*	10,173	☐Tier 1 (1 – 5000) XTier 2 (5001 – 30,000) ☐Tier 3 (more than 30,000)
Did your system transition to a higher tier during this reporting year? If yes, has a new Provider Profile been submitted?	Yes☐ Yes☐	No X No ☐ If no, please attach
Have you submitted a copy of your current rate structure to ADWR?	YesX	No ☐ If no, please attach.

PUBLIC EDUCATION PROGRAM

You may attach additional pages, information, or material

1. Communication to Customers: Describe how you communicated to customers (at least twice per year) about the importance of conservation and the availability of water conservation information. Please include the following information:

Water wise tips have been placed on the monthly bills. They include tips about low water use vegetation and checking for leaks in the system. This communication reaches all customers that receive their bills.

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ARIZONA DEPARTMENT OF WATER RESOURCES

2. Written Materials: Describe the free written conservation information you have available for customers and the locations where available. Please include the following information:.

Water saving brochures that were purchased from AWWA are available throughout the community at such places as the local country clubs, library, our office, etc.

SCHEDULE CER 2014

ARIZONA DEPARTMENT OF WATER RESOURCES

BEST MANAGEMENT PRACTICES (BMPs) IMPLEMENTED PER YOUR MNPCCP REQUIREMENTS

Describe the following for each BMP:

1. Activities - What was developed, created or implemented, such as the processes, methods or events undertaken; where and how a program was made available; the participants or target audience.

Note: For a BMP implemented through participation in a partnership, describe the nature of your participationsuch as staff time, funding, and/or provision of supplies.

2. Results - What was accomplished, such as the number of activities, programs or materials created, the participants reached and their response, and other quantitative data.

3. Assessment - What worked and what needs modification or improvement; reasons for continuing or discontinuing an activity, such as whether or not a target audience was reached, materials or activities were effective, or the level of participation was adequate.

4. Plans - Whether or not a program or activity will be continued, discontinued, increased, decreased, or modified.

5. Explanation of Substitution (if applicable) -Identify any substitute BMPs, and describe the reasons for the substitution, when it was made and the relevance of the substitute BMP to your service area characteristics or water use patterns.

BMP Number	BMP Title	Activities, Results, Assessment, Plans, Substitutions
2.1	Adult Education	Water Wise Tips are put on each and every water bill. We also made educational brochures available at the community country clubs, our office, library, etc. This year we also made a monetary donation to a local water conservation club to assist with their low water usage demonstration plot. We accomplished reaching every connection, every month with educational material via their bills. The pamphlets distributed to locations throughout the community were available to a wide variety of residents. Response is very limited and hard to gauge. Our water use per connection per day has remained about the same. Feedback from customers is minimal. We produce an annual consumer confidence report which is mailed to each and every customer. On average, we receive 1 or 2 calls from over 9,000 customers. Results of using this current BMP is hard to quantify. I know that some customers have been made aware of using less water. However, the customers we serve are mostly retired They are made up of a generation that is already concerned about water use reduction for a few reasons. Mostly, they are aware of the finite amount of water available. Secondly, they are on fixed incomes. Furthermore, most of our customers have already opted for desert or xeriscape landscaping. We will continue using this BMP and will be adding others. Only additions will be made, no substitutions, to the current BMPs.
3.6, 3.7, and 3.8	Customer high water use and inquiry and resolution	We are very aggressive in this area. We do monthly audits on our billing registers. We automatically re-read meters that are above a preset limit. We often catch water leaks in irrigation systems, slab leaks, malfunctioning toilets and other water leaks. In the past we have not charged our customers for re-reading their meters due to high water use. We have changed that and no encourage them to read their own meters and call us for resolution. This educates them on much water they are using and helps them determine how their system works. We continue to give our customers the instructional hand outs on how to read their meters. We also offer to have the meters tested by the Corporation Commission to insure the accuracy of the meters. Activities remained the same with our continued concerns over high water use. Feedback from our customers is minimal. They are aggressive when they feel they are being billed for more water than used. Their income is a big concern to them and they watch their bills very closely. At the end of 2012, we were granted a new rate and it is a tiered rate structure. We will be using this as an additional BMP and not a replacement BMP. We will continue this approach. Our new water rates have been in place for a few years. This tiered rate strcture should help reduce the amount of water consumed.

SCHEDULE CER 2014

ARIZONA DEPARTMENT OF WATER RESOURCES

4.1, 4.2, and 4.3	Physical System evaluation and improvement	One of our disciplines is to visually identify the source of water that is running down the streets in the community. Our staff, as well as the community patrol, does daily inspections. The community patrol has been trained as to what to look for and identify. Often the water streams are leaks on our side of the meter. At this point, the service(s) are replaced as well as the meters. We repaired 62 service line leaks in 2014. If the water is coming from a residence, then an effort is made to contact the homeowner about the waste of water. During the winter months (most of the residents reside here during this time) we perform a zero water use audit. This audit is used to test meters and replace any that are not functioning properly. We continued to be aggressive with the replacement of meters. A total of 613 residential meters and 11 commercial meters were replaced in 2014. We do not allow water leaks to run for more than an average of 1 to 2 days. Our Water Plants are inspected daily and pumps are replaced and/or repaired as quickly as possible.
3.6, 3.7, and 3.8	Customer high water use and inquiry and resolution	One of the largest Homeowner's Associations has requested our assistance with accounting for and lowering their water consumption.
	Additional Notes:	One of our largest golf courses replaced a portion of their irrigation system and removed some turf from the course. Even though this course uses effluent and recovered effluent, ground water is also provided to the course.

OPTIONAL: BMPs IMPLEMENTED IN ADDITION TO THOSE DESCRIBED ABOVE

If you implemented more BMPs than required, please list and/or describe them. This will enable ADWR to assess and document water conservation efforts around the state

SIGN AND CERTIFY

SIGNATURE OF PERSON COMPLETING THIS FORM	TITLE: Superintendent	DATE: 03/18/2015
PRINTED NAME: Dave Voorhees	EMAIL ADDRESS: Dave.Voorhees@Robson.com	

More Information:

Description of the BMPs

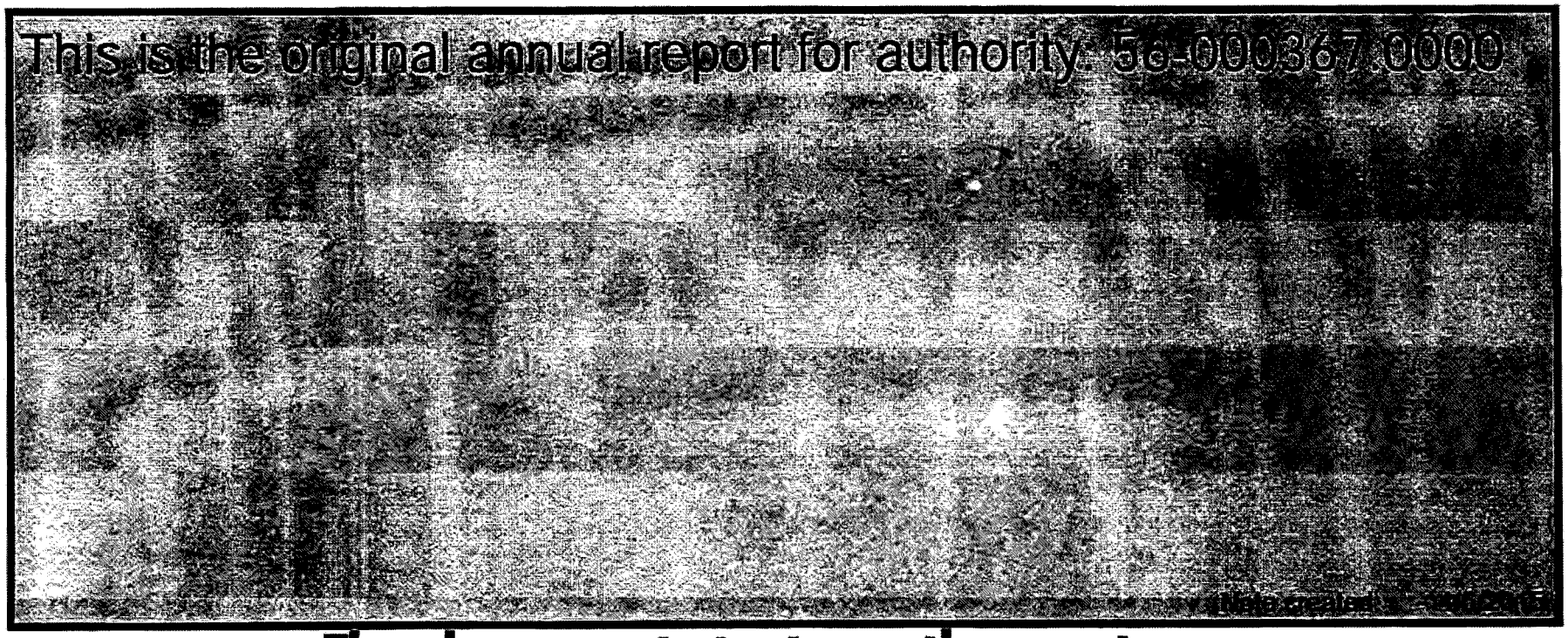
Another copy of the Schedule CER form

Contact ADWR Water Management Division at (602) 771-8585 or Ruth Greenhouse mailto:rgreenhouse@azwater.gov

WMG

4

EXHIBIT WMG-4



--- The document starts on the next page. ---

ARIZONA DEPARTMENT OF WATER RESOURCES, 3550 NORTH CENTRAL AVENUE, PHOENIX, AZ 85012-2105

A 1
CER 1
D 1
EMNI 1
F1 1
S 1
WI 2

ANNUAL WATER WITHDRAWAL AND USE REPORT
PROVIDER SUMMARY 2014

OWNER OF GROUNDWATER RIGHT

QUAIL CREEK WATER COMPANY
ATTN: ED MACMEANS
40004 S. RIDGEVIEW BLVD
TUCSON AZ 85739

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ARIZONA DEPARTMENT OF WATER RESOURCES

TYPE OF RIGHT
LARGE MUNICIPAL PROVIDER MNPCCP

RIGHT / PERMIT NO.
56-000367.0000

REPORTING PARTY
56-000367.0000
QUAIL CREEK WATER COMPANY
ED MACMEANS
40004 S RIDGEVIEW BLVD
TUCSON AZ 85739-

TUCSON AMA (602) 771-8585

If any of the information preprinted on this report is incorrect, please make the necessary changes.

PART I GROUNDWATER WITHDRAWN

From Box 10. Schedule A attached

[1014.86] x $ 3.00 = [$ 1874.58]

ACRE - FEET X Withdrawal Fee =

PART II WATER DELIVERED TO OTHER RIGHTS

From Box 24 Schedule D attached

[Ø] ACRE - FEET

PART III WATER RECEIVED FROM OTHER RIGHTS

Total from Schedule E attached

[496.20] ACRE - FEET

PART IV LATE FEES

Complete if filing after March 31. NOTE: A portion of a month after March 31 is counted as a full month.

[ ] 1) Enter number of months late (Maximum of 6)

[$] 2) Calculate Late Report Fee ($25.00 X number of months late)

[$] 3) Calculate Late Payment Fee (10 % X number of months late X withdrawal fee calculated in Part I

PART V TOTAL FEES DUE

Add amounts from Parts I and IV

[$ 1874.58]

Mail or hand deliver this report, together with the appropriate schedules, worksheets and fees to the Arizona Department of Water Resources. If mailed, the report must be mailed to P.O. Box 36020 Phoenix, AZ. 85067 and postmarked no later than March 31, 2015. If hand delivered, the report must be received by the Department's Annual Reports & Planning Section no later than 5:00 PM on March 31, 2015.

REPORTS FILED AFTER MARCH 31, 2015 ARE SUBJECT TO LATE FEES (A.R.S. § 45-632) AND PAYMENT OF PREVIOUSLY WAIVED MONETARY PENALTIES ASSOCIATED WITH PRIOR GROUNDWATER CODE VIOLATIONS.

I hereby certify, under penalty of perjury, that the information contained in this report is, to the best of my knowledge and belief, true, correct and complete.

X [signature] AUTHORIZED SIGNATURE — GENERAL MANAGER TITLE — 3/23/15 DATE

STEVE SORIANO PRINTED NAME — 480 895 5809 TELEPHONE NUMBER

NOTE: THIS REPORT MUST BE FILED EVEN IF NO WATER WAS DELIVERED PURSUANT TO THIS RIGHT.

ARIZONA DEPARTMENT OF WATER RESOURCES

SCHEDULE A

REPORT OF PUMPING

Owner: QUAIL CREEK WATER COMPANY

1 RIGHT/PERMIT/BMP Farm Unit NO. 56-000367.0000

ANNUAL REPORT 2014

Note: Pumpage for each well must be shown on the attached well worksheets. Information for up to four wells may be shown on each worksheet.

2 DWR WELL REGISTRATION NO.						3 Depth to Static Water Level (Designated Providers Only)			4 Ground-water Pumped	RECOVERED WATER PUMPED				9 Total Water Pumped
10 Q	40 Q	160 Q	LOCATION SEC	TWN	RNG	Date # 1 / Date # 2	Msmt # 1 / Msmt # 2	Well Running? (Y/N)		5 CAP	6 SW	7 EFF/IN	8 EFF/OUT	
55-219145 12									487.31					487.31
NE	NW	NE	5	18.0S	14.0E									
55-608519														
SW	NW	SW	1	18.0S	13.0E									
55-608521														
NW	NE	NE	1	18.0S	13.0E									
55-608522 13									114.33					114.33
NE	NW	SE	5	18.0S	14.0E									
55-608597 11									33.22					33.22
NW	SE	NW	8	18.0S	14.0E									
55-608598 10									Ø					Ø
SE	SE	NE	8	18.0S	14.0E									
TOTAL WATER WITHDRAWN (acre-feet)									10* 1024.86					11** 1024.86

* ENTER TOTAL ACRE-FEET OF GROUNDWATER WITHDRAWN IN PART I OF THE SUMMARY PAGE.

rev. 10/14 ** ENTER ACRE-FEET OF TOTAL WATER PUMPED IN PART 4.D.1 OF THE SCHEDULE AWS.

ARIZONA DEPARTMENT OF WATER RESOURCES

SCHEDULE D

REPORT OF WATER DELIVERIES TO OTHER WATER RIGHTS

ANNUAL REPORT 2014

Owner

QUAIL CREEK WATER COMPANY

1 RIGHT/PERMIT/BMP Farm Unit NO.

56-000367.0000

2 RIGHT NO. DELIVERED TO / 3 TYPE OF RIGHT	4 DWR WELL NUMBER	5 CUSTOMER ACCOUNT NUMBER	6 FILING ON BEHALF	7 HOW MEASURED OR ESTIMATED	A ACRE-FEET DELIVERED BY TYPE OF WATER					TOTAL ACRE-FEET DELIVERED
					GW	CAP	EFF	SRP	Other SW	
58-105292.0036 / TYPE 1 GFR	55-608522			metered	80.65					80.65
73-581379.0000 / WATER STORAGE PERMIT										
Note: If you delivered water to a storage facility, enter the amounts on a UWS - Schedule.			TOTAL ACRE-FEET DELIVERED		8 GW 80.65	9 CAP	10 EFF	11 SRP	12 Other SW	13 80.65

EXCHANGE WATER GIVEN

14 EXCHANGE NO. RECEIVING WATER	15 DWR WELL NO. IF APPLICABLE		B ACRE-FEET EXCHANGED BY TYPE OF WATER					TOTAL ACRE-FEET EXCHANGED
			GW	CAP	EFF	SRP	Other SW	
67-								
68-								
69-								
		TOTAL ACRE-FEET EXCHANGED	16 TOT. GW	17 TOT. CAP	18 TOT. EFF	19 TOT. SRP	20 TOT. O. SW	21

ENTER BOX 22 IN PART II OF THE SUMMARY PAGE

TOTAL ACRE-FEET DELIVERED AND EXCHANGED 22 80.65

SCHEDULE E Part A -- Municipal

ARIZONA DEPARTMENT OF WATER RESOURCES

Note: If any information pre-printed on this form is incorrect, please make the necessary corrections. For information not already pre-printed on this form, please follow the directions below.

WATER RECEIVED FROM OTHER SOURCES

Owner: QUAIL CREEK WATER COMPANY

RIGHT NO.: 56-000367.0000

ANNUAL REPORT 2014

Part I -- Water Received from Primary Irrigation Districts / Municipal Providers

Irrigation District /Provider Number:

Provider/District Name:

Your District User/ Account Number:

Number of acres eligible to receive surface water:

Right / Permit Number Supplying Water	Measurement Method	Acre-feet Received by Water Type								
		Groundwater	In-lieu Groundwater	Decreed/ Appropri -ative	Normal Flow	Spillwater	CAP	Other EFFLUENT	(Describe Other water)	Total Received
73-581579.0000	metered							1496.20		1496.20
Part I Total Acre-feet Received								1496.20		1496.20

Part II -- Water Received or Diverted from Sources Other Than Irrigation Districts / Municipal Providers

Right / Permit Number Supplying Water	Measurement Method	Acre-feet Received by Water Type							
		Groundwater	Decreed/ Appropri -ative	Normal Flow	Spillwater	CAP	Other	(Describe Other water)	Total Received
Part II Total Acre-feet Received									

PART III - Water Received Pursuant to a Permitted, Enrolled or Noticed Exchange Agreement

Exchange No. Supplying Water	Measurement Method	Exchange outside service area?	Payback for			Acre-feet Received in Exchange by Water Type					
			Quantity	Type	Year Given	GW	SRP	CAP	Effluent	Other SW	Total Received
67-											
68-											
69-											
Part III Total Acre-feet Received in Exchange											

Sch. E Part A Total acre-feet of Water Received or Diverted from Other Sources (Part I + Part II + Part III): 1496.20

rev. 10/14

ARIZONA DEPARTMENT OF WATER RESOURCES

SCHEDULE F-1 PART 3

MUNICIPAL PROVIDER DIRECT USE EFFLUENT

ANNUAL REPORT 2014

RECEIVED AUG 5 2015 ADWR

PROVIDER NAME: QUAIL CREEK WATER COMPANY

RIGHT/PERMIT NO.: 56-000367.0000

AMENDED

Pursuant to the Third Management Plan, municipal water providers are required to supply the following information. Report the amount of effluent produced, received, delivered, reused, recharged or discharged in your service area in calendar year 2014. Please attach a list of all the plants at which wastewater generated by uses of water within your service area is treated. List the volume of effluent produced at each plant from uses of water within your service area during calendar year 2014.

Please include all effluent produced in your service area, even if it is sent to a regional or other wastewater treatment facility not owned or operated by you.

PART 1 - TOTAL EFFLUENT PRODUCED

A. Effluent Produced from Uses of Water within your Service Area:

1.	Effluent produced within service area (include wastewater processed at all treatment plants/entities)	Ø af
2.	Effluent used as process water at treatment plants	Ø af
3.	PartA.1 - Part A.2 (total effluent produced within service area during CY 2014)	Ø af

B. Additional Effluent Sources:

1.	Effluent received from other water right holders	1496.20 af
2.	Effluent recovered as long-term storage credits pursuant to a Recovery Well (74) Permit (sum of recovered from all 74s)	Ø af
3.	Part B.1 + Part B.2 (total effluent used during CY 2014 that was not produced within the service area during CY 2014)	1496.20 af

C. Total Available Effluent:

1.	Total from Part 1.A.3 above + Total from Part 1.B.3 above:	1496.20 af

PART 2 - TOTAL EFFLUENT USED

A. Effluent Delivered/Used within your Service Area:

1.	Effluent delivered/used within your service area for landscape watering	Ø af
2.	Effluent delivered/used within service area for other purposes (please attach additional sheets and list and describe each use separately	Ø af
3.	Part 2.A.1 + Part 2.A.2 (total effluent use within your service area during 2014)	Ø af

B. Effluent Delivered to Other Rights/Permits (as shown on your Schedule D form):

1.	Total Effluent delivered to other water rights/permits	Ø af

C. Total Available Effluent:

1.	Effluent delivered to recharge projects as reported on Water Storage Reports (73e)	1496.20 af
2.	Effluent delivered/used (from Part 2.A) that is recovered annual storage credits:	Ø af
3.	Part 2.C.1 – Part 2.C.2 (total effluent used for storage projects before evaporation or cuts to the aquifer)	1496.20 af

D. Effluent Delivered to Entities Other than Rights/Permits/Water Storage Uses:

1.	Effluent delivered for additional uses not associated with a right/permit/water storage use	Ø af

Please explain:

PART 3 - TOTAL EFFLUENT DISCHARGED

A. Effluent Discharged:

1.	Total effluent discharged (not recharged, delivered, or used)	Ø af

Please contact the AMA Office if you need assistance completing this form.

(602) 771-8585

ARIZONA DEPARTMENT OF WATER RESOURCES

UWS - SCHEDULE

ANNUAL REPORT 2014

AMENDED

RECEIVED AUG 5 2015 ADWR

LTSA NO. 70-411280.0000

PERMIT HOLDER: ROBSON RANCH QUAIL CREEK, LLC

PLEASE ATTACH 2 COPIES OF ANY SUPPLEMENTAL MATERIAL REQUIRED BY THE PERMITS

Facility Permit No. (1)	Facility Name (2)	Water Storage Permit No. (3)	Water Storage Permit Holder (4)	Volume of Water Delivered to Facility (Acre-Feet) (5)					Total Volume Delivered By Each Storer (Acre-feet) (6)
				CAP	EFFLUENT	SURFACE	SPILL	NCS	
71-581379.0001	ROBSON RANCH QUAIL CREE	73-581379.0000	ROBSON RANCH QUAIL CREEK, LL		1496.20				1496.20
Total volume of water delivered to this facility (Enter zero if water was not delivered).									1496.20

Water Storage Permit No. (1)	Facility Permit No. (2)	Facility Name (3)	Volume of Water Delivered to Facility (Acre-Feet) (4)					Total Volume of Water Delivered (Acre-feet)
			CAP	EFFLUENT	SURFACE	SPILL	NCS	
73-581379.0000	71-581379.0001	ROBSON RANCH QUAIL CREEK USF		1496.20				1496.20
		TOTAL WATER DELIVERED		1496.20				1496.20

A zero must be entered if water was not delivered pursuant to a water storage permit.

ARIZONA DEPARTMENT OF WATER RESOURCES

SCHEDULE F-1 PART 1

POPULATION

ANNUAL REPORT 2014

PROVIDER NAME

1 QUAIL CREEK WATER COMPANY

RIGHT/PERMIT NO.

56-000367.0000

Pursuant to the Third Management Plan, municipal water providers are required to supply the following information. This information is used to determine actual and target GPCD numbers for Large Municipal Providers and for planning information for Small Municipal Providers.

DEFINITION OF A HOUSING UNIT

A housing unit means a group of rooms or a single room occupied as separate living quarters. Examples of a housing unit include a single-family home, a townhouse, a condominium, an apartment, a permanently setup mobile home or a unit in a multi-family complex. A housing unit may be occupied by a family, a family and unrelated persons living together, two or more unrelated persons living together, or by one person. The number of housing units is *not* the number of service connections. Mobile homes in an overnight or limited-stay mobile home park or a unit in a campground, motel, hotel, or other temporary lodging facility are not considered housing units.

SINGLE-FAMILY HOUSING

A single-family housing unit is a detached dwelling. Include mobile homes *not* located in a mobile home park.

Single-Family Housing	Housing Units
Single-family housing units *(not service connections)* as of July 1, 2013.	2 1879
Indicate the net change (added and deleted) of single-family housing units *(not service connections)* in your service area between July 1, 2013 and July 1, 2014.	3 47
Total single-family housing units *(not service connections)* as of July 1, 2014.	4 1926

MULTI-FAMILY HOUSING

A multi-family housing unit is a mobile home in a mobile home park or any permanent housing unit having one or more common walls with another housing unit located in a multi-family residential structure, including a unit in a duplex, triplex, four-plex, condominium development, townhouse development or apartment complex. Include mobile homes if they are located in a mobile home park. Do not include mobile homes that are located in an overnight or limited stay mobile home park.

Multi-Family Housing	Housing Units
Multi-family housing units *(not service connections)* as of July 1, 2013.	5 0
Indicate the net change (added and deleted) of multi-family housing units *(not service connections)* in your service area between July 1, 2013 and July 1, 2014.	6 0
Total multi-family housing units *(not service connections)* as of July 1, 2014.	7 0

Please contact the AMA Office if you need assistance completing this form.

(602) 771-8585

ARIZONA DEPARTMENT OF WATER RESOURCES

SCHEDULE F-1 PART 2

MUNICIPAL PROVIDER WATER DELIVERIES

ANNUAL REPORT 2014

PROVIDER NAME

1 QUAIL CREEK WATER COMPANY

RIGHT/PERMIT NO.

56-000367.0000

Total Production 624.826

Pursuant to the Third Management Plan (TMP) and the Groundwater Code, large water providers are required to supply the following information. Do not include direct use effluent on this schedule (please use Part 3 of Schedule F-1).

Month	DELIVERIES IN ACRE FEET									
	RESIDENTIAL			NON RESIDENTIAL						TOTAL
	32.71			3.01			1.16	6.49		43.37
	30.10			2.87			.85	1.10		34.92
	33.23			1.88			2.75	1.91		39.77
	38.67			2.65			4.03	2.85		48.20
	32.64			2.72			5.08	1.37		41.81
	39.36			2.78			5.70	.71		48.55
	38.57			3.68			6.36	.18		48.79
	31.72			1.96			5.23	1.74		40.65
	35.56			1.68			4.40	1.79		43.42
	32.70			1.65			2.34	.04		37.72
	34.26			2.06			3.50	.99		40.81
	31.69			1.69			3.09	.26		36.73
Total Water Delivered	2 411.19	3	4	5 28.63	6	7	8 45.50	9 19.42	10	11 504.74
Total Active Connections	12 1970	13	14	15 87	16	17	18 31	19	20	21 2088

* Turf Related Facilities includes turf-related facilities (10 or more acres of turf or other high water use landscaping) and landscaped public rights-of-way identified as Individual Users.

** Other Turf includes water delivered to other turf areas that are less than 10 acres.

*** Other includes unmetered deliveries. Unmetered deliveries must be calculated using a generally accepted method of estimating water use. Explain in a separate letter how any unmetered deliveries were calculated and to which category it would belong if it were metered. e.g. Industrial, Commercial, etc.

Please contact the AMA Office if you need assistance completing this form.

(602) 771-8585

ARIZONA DEPARTMENT OF WATER RESOURCES

SCHEDULE F-1 PART 3

MUNICIPAL PROVIDER DIRECT USE EFFLUENT

ANNUAL REPORT 2014

PROVIDER NAME

QUAIL CREEK WATER COMPANY

RIGHT/PERMIT NO.

56-000367.0000

Pursuant to the Third Management Plan, municipal water providers are required to supply the following information. Report the amount of effluent produced, received, delivered, reused, recharged or discharged in your service area in calendar year 2014. Please attach a list of all the plants at which wastewater generated by uses of water within your service area is treated. List the volume of effluent produced at each plant from uses of water within your service area during calendar year 2014.

Please include all effluent produced in your service area, even if it is sent to a regional or other wastewater treatment facility not owned or operated by you.

PART 1 - TOTAL AVAILABLE EFFLUENT

A. Effluent Produced from Uses of Water within your Service Area:

1.	Effluent produced within service area (include wastewater processed at all treatment plants/entities)	af
2.	Effluent used as process water at treatment plants	af
3.	PartA.1 - Part A.2 (total effluent produced within service area during CY 2014)	af

B. Additional Effluent Sources:

1.	Effluent received from other water right holders	af
2.	Effluent recovered as long-term storage credits pursuant to a Recovery Well (74) Permit (sum of recovered from all 74s)	af
3.	Part B.1 + Part B.2 (total effluent used during CY 2014 that was not produced within the service area during CY 2014)	af

C. Total Available Effluent:

1.	Total from Part 1.A.3 above + Total from Part 1.B.3 above:	af

PART 2 - TOTAL EFFLUENT USE

A. Effluent Delivered/Used within your Service Area:

1.	Effluent delivered/used within your service area for landscape watering	af
2.	Effluent delivered/used within service area for other purposes (please attach additional sheets and list and describe each use separately	af
3.	Part 2.A.1 + Part 2.A.2 (total effluent use within your service area during 2014)	af

B. Effluent Delivered to Other Rights/Permits (as shown on your Schedule D form):

1.	Total Effluent delivered to other water rights/permits	af

C. Total Available Effluent:

1.	Effluent delivered to recharge projects as reported on Water Storage Reports (73s)	af
2.	Effluent delivered/used (from Part 2.A) that is recovered annual storage credits:	af
3.	Part 2.C.1 – Part 2.C.2 (total effluent used for storage projects before evaporation or cuts to the aquifer)	af

D. Effluent Delivered to Entities Other than Rights/Permits/Water Storage Uses:

1.	Effluent delivered for additional uses not associated with a right/permit/water storage use	af

Please explain:

PART 3 - TOTAL EFFLUENT DISCHARGED

A. Effluent Discharged:

1.	Total effluent discharged (not recharged, delivered, or used)	0 af

Please contact the AMA Office if you need assistance completing this form.

(602) 771-8585

ARIZONA DEPARTMENT OF WATER RESOURCES

SCHEDULE S

SERVICE AREA MAP UPDATE

ANNUAL REPORT 2014

PROVIDER NAME

QUAIL CREEK WATER COMPANY

RIGHT/PERMIT NO.

56-000367.0000

Pursuant to A.R.S. §45-498 each city, town, private water company and irrigation district in an active management area shall maintain a current map clearly delineating its service area and distribution system in the director's office and shall furnish such other related data as the director may require.

2014 ANNUAL SERVICE AREA AND OPERATING DISTRIBUTION SYSTEM UPDATES RESPONSE FORM

Please complete and return THIS FORM along with your UPDATED DISTRIBUTION SYSTEM (WATER LINE) MAP and WATER SERVICE AREA BOUNDARY MAP to ADWR by MARCH 31, 2015 along with your 2014 ANNUAL WATER WITHDRAWAL & USE REPORT.

Service Area Map Contact Information:

If the contact person in your office for service area map updates has changed in the last year, please email ADWR with the updated contact person information. Please send that information to data_management@azwater.gov.

Please check the appropriate boxes:

OPERATING DISTRIBUTION SYSTEM MAP

Your ***operating distribution system*** includes your water lines, wells, storage tanks, water treatment facilities and related infrastructure used to treat and distribute water to your customers. If you have added any new water lines, wells, treatment or storage facilities over the last calendar year, please submit an updated map.

Were there changes to the operating distribution system within the last year? ( ) Yes (✓) No

WATER SERVICE AREA BOUNDARY MAP

Your ***service area boundary*** is an area delineated as a 100 foot buffer around the exterior of your water lines, excluding any small municipal providers, other large municipal providers, or areas that you do not serve (exempt domestic well areas) within the exterior boundary of your water lines.

Were there changes to the area in service within the last year ? ( ) Yes (✓) No

If there were changes to either your operating distribution system or your water service area boundary, please submit an updated map(s) in one of the following formats:

- Digital ArcGIS Shapefile
- Digital ArcGIS geodatabase file
- Digital AutoCAD file
- .pdf File
- Hardcopy (if no electronic form exists)

SUBMIT ALL MAP REVISIONS BY MARCH 31, 2015. If you would like to submit your map by uploading to ADWR's ftp or infoshare websites, please call the Active Management Area at (602) 771-8585 or email us for instructions at data_management@azwater.gov.

STEVE SORIANO	GEN MGR	480 895 5009
Name-Printed	Title	Phone
Steve Soriano	3/23/15	
Signature	Date	Email

Please contact the AMA Office if you need assistance completing this form.

(602) 771-8585

WORKSHEET W-1 2014

GROUNDWATER RIGHT/PERMIT/ BMP Farm Unit NO. 56-000367.0000

1 DWR WELL REGISTRATION NO. 55-219145 #12

10 Q	40 Q	160 Q	Sec	Twn	Rng
NE	NW	NE	8	18.0S	14.0E

2 TYPE OF MEASURING DEVICE: NO MEASURING DEVICE SPECIF

MAKE / MODEL:

SIZE:

UNITS MEASURED:

INSTALLATION OR OVERHAUL DATE:

3 POWER CO. NAME: TEP

ACCOUNT NO.: 2938770274

POWER METER NO.:

ENERGY CONSUMPTION: 395400 UNITS: KWH

4 DOES ENERGY METER SERVE USES OTHER THAN THE WELL PUMP? Yes ☐ No ☐

ENTER "Y" OR "N" IN COLUMN 5 OF SCHEDULE A

WATER TOTALIZING METER READINGS		
5 INITIAL	6 ENDING	7 DIFFERENCE
216605000	375395000	158790000

IF METER WAS REPLACED DURING THE YEAR, INDICATE BEGINNING AND ENDING READING FOR EACH METER IN THE BOXES ABOVE.

8 ACRE FEET	487.31	9 BREAKDOWN ESTIMATE	

Enter total Acre-feet Shown in 10 in one of Columns 4-8 of Schedule A

10 TOTAL IN ACRE-FEET	487.31

---

1 DWR WELL REGISTRATION NO. 55-608519

10 Q	40 Q	160 Q	Sec	Twn	Rng
SW	NW	SW	1	18.0S	13.0E

2 TYPE OF MEASURING DEVICE: TOTALIZER

MAKE / MODEL:

SIZE:

UNITS MEASURED:

INSTALLATION OR OVERHAUL DATE:

3 POWER CO. NAME:

ACCOUNT NO.:

POWER METER NO.:

ENERGY CONSUMPTION:

UNITS:

4 DOES ENERGY METER SERVE USES OTHER THAN THE WELL PUMP? Yes ☐ No ☐

ENTER "Y" OR "N" IN COLUMN 5 OF SCHEDULE A

WATER TOTALIZING METER READINGS		
5 INITIAL	6 ENDING	7 DIFFERENCE

IF METER WAS REPLACED DURING THE YEAR, INDICATE BEGINNING AND ENDING READING FOR EACH METER IN THE BOXES ABOVE.

8 ACRE FEET		9 BREAKDOWN ESTIMATE	

Enter total Acre-feet Shown in 10 in one of Columns 4-8 of Schedule A

10 TOTAL IN ACRE-FEET	

---

1 DWR WELL REGISTRATION NO. 55-608521

10 Q	40 Q	160 Q	Sec	Twn	Rng
NW	NE	NE	1	18.0S	13.0E

2 TYPE OF MEASURING DEVICE: TOTALIZER

MAKE / MODEL:

SIZE:

UNITS MEASURED:

INSTALLATION OR OVERHAUL DATE:

3 POWER CO NAME: TUCSON ELECTRIC POWER

ACCOUNT NO.: 0191-7875-3

POWER METER NO: 3AC-497

ENERGY CONSUMPTION:

UNITS:

4 DOES ENERGY METER SERVE USES OTHER THAN THE WELL PUMP? Yes ☐ No ☒

ENTER "Y" OR "N" IN COLUMN 5 OF SCHEDULE A

WATER TOTALIZING METER READINGS		
5 INITIAL	6 ENDING	7 DIFFERENCE

IF METER WAS REPLACED DURING THE YEAR, INDICATE BEGINNING AND ENDING READING FOR EACH METER IN THE BOXES ABOVE.

8 ACRE FEET		9 BREAKDOWN ESTIMATE	

Enter total Acre-feet Shown in 10 in one of Columns 4-8 of Schedule A

10 TOTAL IN ACRE-FEET	

---

1 DWR WELL REGISTRATION NO. 55-608522 #13

10 Q	40 Q	160 Q	Sec	Twn	Rng
NE	NW	SE	6	18.0S	14.0E

2 TYPE OF MEASURING DEVICE: TOTALIZER

MAKE / MODEL: WaterSpecialties

SIZE: 6"

UNITS MEASURED:

INSTALLATION OR OVERHAUL DATE: 1/11

3 POWER CO NAME: TRICO ELECTRIC POWER

ACCOUNT NO.: 0125115009 / 0192044123

POWER METER NO.: 3AC166

ENERGY CONSUMPTION: 847160 UNITS: KWH

4 DOES ENERGY METER SERVE USES OTHER THAN THE WELL PUMP? Yes ☐ No ☒

ENTER "Y" OR "N" IN COLUMN 5 OF SCHEDULE A

WATER TOTALIZING METER READINGS		
5 INITIAL	6 ENDING	7 DIFFERENCE
305623000	339818000	33995000

IF METER WAS REPLACED DURING THE YEAR, INDICATE BEGINNING AND ENDING READING FOR EACH METER IN THE BOXES ABOVE.

8 ACRE FEET	104.33	9 BREAKDOWN ESTIMATE	

Enter total Acre-feet Shown in 10 in one of Columns 4-8 of Schedule A

10 TOTAL IN ACRE-FEET	104.33

WORKSHEET W-1 2014

GROUNDWATER RIGHT/PERMIT/ BMP Farm Unit NO. 56-000367.0000

1 DWR WELL REGISTRATION NO. 55-608597 #11

10 Q	40 Q	160 Q	Sec	Twn	Rng
NW	SE	NW	8	18.0S	14.0E

2 TYPE OF MEASURING DEVICE: TOTALIZER
MAKE / MODEL: Water Specialties
SIZE: 6"
UNITS MEASURED: GAL
INSTALLATION OR OVERHAUL DATE: 6/08

3 POWER CO. NAME: TRICO ELECTRIC POWER
ACCOUNT NO.: 5268518416
POWER METER NO.: TR9-3275
ENERGY CONSUMPTION: 40000
UNITS: KWH

4 DOES ENERGY METER SERVE USES OTHER THAN THE WELL PUMP? Yes ☐ No ☒
ENTER "Y" OR "N" IN COLUMN 5 OF SCHEDULE A

WATER TOTALIZING METER READINGS

5 INITIAL	6 ENDING	7 DIFFERENCE
60535000	71361000	10826000

IF METER WAS REPLACED DURING THE YEAR, INDICATE BEGINNING AND ENDING READING FOR EACH METER IN THE BOXES ABOVE

8 ACRE FEET	33.22	9 BREAKDOWN ESTIMATE	

Enter total Acre-feet Shown in 10 in one of Columns 4-8 of Schedule A

10 TOTAL IN ACRE-FEET: 33.22

---

1 DWR WELL REGISTRATION NO. 55-608598 #16

10 Q	40 Q	160 Q	Sec	Twn	Rng
SE	SE	NE	8	18.0S	14.0E

2 TYPE OF MEASURING DEVICE: TOTALIZER
MAKE / MODEL: Water Specialties
SIZE: 8"
UNITS MEASURED:
INSTALLATION OR OVERHAUL DATE: 6/08

3 POWER CO. NAME: TUCSON ELECTRIC POWER
ACCOUNT NO.: 3825113576
POWER METER NO.: SC16-6197
ENERGY CONSUMPTION: 0
UNITS: KWH

4 DOES ENERGY METER SERVE USES OTHER THAN THE WELL PUMP? Yes ☐ No ☒
ENTER "Y" OR "N" IN COLUMN 5 OF SCHEDULE A

WATER TOTALIZING METER READINGS

5 INITIAL	6 ENDING	7 DIFFERENCE
20027000	20027000	0

IF METER WAS REPLACED DURING THE YEAR, INDICATE BEGINNING AND ENDING READING FOR EACH METER IN THE BOXES ABOVE.

8 ACRE FEET	0	9 BREAKDOWN ESTIMATE	

Enter total Acre-feet Shown in 10 in one of Columns 4-8 of Schedule A

10 TOTAL IN ACRE-FEET: 0

---

1 DWR WELL REGISTRATION NO.

10 Q	40 Q	160 Q	Sec	Twn	Rng

2 TYPE OF MEASURING DEVICE
MAKE / MODEL
SIZE
UNITS MEASURED
INSTALLATION OR OVERHAUL DATE

3 POWER CO. NAME
ACCOUNT NO.
POWER METER NO.
ENERGY CONSUMPTION
UNITS

4 DOES ENERGY METER SERVE USES OTHER THAN THE WELL PUMP? Yes ☐ No ☐
ENTER "Y" OR "N" IN COLUMN 5 OF SCHEDULE A

WATER TOTALIZING METER READINGS

5 INITIAL	6 ENDING	7 DIFFERENCE

IF METER WAS REPLACED DURING THE YEAR, INDICATE BEGINNING AND ENDING READING FOR EACH METER IN THE BOXES ABOVE

8 ACRE FEET		9 BREAKDOWN ESTIMATE	

Enter total Acre-feet Shown in 10 in one of Columns 4-8 of Schedule A

10 TOTAL IN ACRE-FEET:

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1 DWR WELL REGISTRATION NO.

10 Q	40 Q	160 Q	Sec	Twn	Rng

2 TYPE OF MEASURING DEVICE
MAKE / MODEL
SIZE
UNITS MEASURED
INSTALLATION OR OVERHAUL DATE

3 POWER CO. NAME
ACCOUNT NO.
POWER METER NO.
ENERGY CONSUMPTION
UNITS

4 DOES ENERGY METER SERVE USES OTHER THAN THE WELL PUMP? Yes ☐ No ☐
ENTER "Y" OR "N" IN COLUMN 5 OF SCHEDULE A

WATER TOTALIZING METER READINGS

5 INITIAL	6 ENDING	7 DIFFERENCE

IF METER WAS REPLACED DURING THE YEAR, INDICATE BEGINNING AND ENDING READING FOR EACH METER IN THE BOXES ABOVE

8 ACRE FEET		9 BREAKDOWN ESTIMATE	

Enter total Acre-feet Shown in 10 in one of Columns 4-8 of Schedule A

10 TOTAL IN ACRE-FEET:

SCHEDULE CER 2014

ARIZONA DEPARTMENT OF WATER RESOURCES

CONSERVATION EFFORTS REPORT

MODIFIED NON-PER CAPITA CONSERVATION PROGRAM

ANNUAL REPORT 2014

SERVICE AREA INFORMATION		
Total residential and non-residential connections reported on your most recent Provider Profile:	_2000_____	X Tier 1 (1 – 5000) ☐ Tier 2 (5001 – 30,000) ☐ Tier 3 (more than 30,000)
Total residential and non-residential connections as of December 31, 2013: (*See Schedule F1, Part 2, Box 21*)	_2,078_____	X Tier 1 (1 – 5000) ☐ Tier 2 (5001 – 30,000) ☐ Tier 3 (more than 30,000)
Did your system transition to a higher tier during this reporting year? If yes, has a new Provider Profile been submitted?	Yes ☐ Yes ☐	No X No ☐ If no, please attach
Have you submitted a copy of your current rate structure to ADWR?	Yes X	No ☐ If no, please attach.

PUBLIC EDUCATION PROGRAM

See page 3 for additional instructions. You may attach additional pages if more room is needed.

1. Communication to Customers: Describe how you communicated to customers (at least twice per year) about the importance of conservation and the availability of water conservation information.

- Included in the message box of every bill are water conservation tips and ideas.

2. Written Materials: Describe the free written conservation information you provided to customers. Include the locations where available and your plans for the current calendar year.

- Water Wise pamphlets are available at all Club Houses in SaddleBrooke and at Quail Creek Water Office.
- Customers who request pamphlets will be instructed to pick them up at the Club House, Quail Creek Water Office, or one can be mailed.

SCHEDULE CER 2014

ARIZONA DEPARTMENT OF WATER RESOURCES

BEST MANAGEMENT PRACTICES (BMPs) IMPLEMENTED PER YOUR MNPCCP REQUIREMENTS

Describe the following for each BMP:

1. Activities - What was developed, created or implemented, such as the processes, methods or events undertaken; where and how a program was made available; the participants or target audience.

Note: For a BMP implemented through participation in a partnership, describe the nature of your participation such as staff time, funding, and/or provision of supplies.

2. Results - What was accomplished, such as the number of activities, programs or materials created, the participants reached and their response, and other quantitative data.

3. Assessment - What worked and what needs modification or improvement; reasons for continuing or discontinuing an activity, such as whether or not a target audience was reached, materials or activities were effective, or the level of participation was adequate.

4. Plans - Whether or not a program or activity will be continued, discontinued, increased, decreased, or modified.

5. Substitution Explanation if Applicable - Describe the reasons for the substitution, when it was made and the relevance of the substitute BMP to your service area characteristics or water use patterns.

BMP Number	BMP Name	
3.6	Customer inquiry resolution for high consumption	Quail Creek has implemented a program to address all customer inquiries regarding high water use rates. This program has been implemented since the utility initiated water service to customers. Upon receipt of an inquiry, a work order is sent out into the field where Mr. MacMeans is responsible for customer contact and site visit to determine the cause of the increase in the water bill. In addition, Mr. MacMeans keeps a record of the inquiries including any follow up activities.
3.7	High consumption notification for customers	Quail Creek utilizes a billing program that sends an alert to staff when water usage is over 20,000 gallons. Upon receipt of the alert, the billing clerk reviews the customer's previous water use history to determine if this usage is out of the ordinary. If this usage is not consistent with the customers history the meter is re-read with a brief site investigation (to determine if the meter is turning, does it appear that the customers are gone, is there appearance of a leak or a bad irrigation system problem such as over-grown vegetation or large wet spots on the ground). Quail Creek makes every effort to contact the homeowner by phone to alert them of the high usage and possible problem. If requested by the customer a water meter tech is dispatched to meet with the customer to assist them in a resolution to the problem.
4.1	Leak detection program	Quail Creek implements an inspection and leak detection program throughout its system. Physical system losses are determined and, if needed, notices to residential customers are issued to address leaks in the distribution system. This program has been implemented since the utility initiated water service to customers. Effective and timely monitoring limits high water use due to the customer base being highly aware of water conservation efforts.
4.2	Meter Repair and Replacement	This program includes a routine monthly audit at well meters and customer meter reports. If any problems with meters are identified, Quail Creek Water Company will immediately implement a replacement and/or repair at devices as needed. It is Quail Creek Water Company's experience that prompt repair/replacement of water meters enables residents and businesses to accurately determine water usage and cost. This allows consumers to better regulate this water use. The program is relevant and applicable to all customers in our water service area.

SCHEDULE CER 2014

ARIZONA DEPARTMENT OF WATER RESOURCES

3.8	Water Waste Investigations and Information	Quail Creek currently has a process of investigation to aid in water conservation among our customers. Any complaints relevant to water waste are transferred to a hard copy in the form of a Work Order containing details such as; resident address, name, account number, questions/concerns and what the problem is. This Work Order is documented in a log book and then sent out into the field where a water technician performs a site inspection and educates the customer on best management practices for water usage and how best to solve any problem that might be occurring. The water technician is responsible for documenting any education advice as well as date, time, and any relevant information on the Work Order, which is then returned to the office and based on order of return is followed up with a phone call.

OPTIONAL: BMPs IMPLEMENTED IN ADDITION TO THOSE DESCRIBED ABOVE

If you implemented more BMPs than required, please list and/or describe them. This will enable ADWR to assess and document water conservation efforts around the state.

N/A

SIGN AND CERTIFY

Ed MacMeans SIGNATURE OF PERSON COMPLETING THIS FORM	Superintendent TITLE	2/26/2015 DATE
Ed MacMeans PRINTED NAME	LDOWCO@YAHOO.COM EMAIL ADDRESS	

–If you need help or have questions, contact ADWR Water Management Division at (602) 771-8585.

–For another copy of the Schedule CER form, go to Current Annual Reports at: http://www.azwater.gov/AzDWR/PermitsFormsApplications.

–For more information about the MNPCCP, visit http://www.azwater.gov/mnpccp.

WMG

5

EXHIBIT WMG-5

Approved
June 4, 2015

CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT
FINAL 2015/16 - 2019/20 RATE SCHEDULE

CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT ASSESSMENT RATES
Units = $/acre-foot

		Firm	Firm	Advisory			
	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Phoenix Active Management Area							
Water & Replenishment Component [1]	$ 160	$ 172	$ 179	$ 186	$ 196	$ 201	$ 222
Administrative Component [2]	45	45	45	42	38	34	30
Infrastructure & Water Rights Component [3]	245	294	353	353	353	353	333
Replenishment Reserve Charge [4]	58	63	67	70	71	76	85
Total Assessment Rate ($/AF)	$ 508	$ 574	$ 644	$ 651	$ 658	$ 664	$ 670
Pinal Active Management Area							
Water & Replenishment Component [1]	$ 140	$ 155	$ 160	$ 165	$ 173	$ 178	$ 198
Administrative Component [2]	45	45	45	42	38	34	30
Infrastructure & Water Rights Component [3]	245	294	353	353	353	353	333
Replenishment Reserve Charge [4]	65	70	75	81	85	91	101
Total Assessment Rate ($/AF)	$ 495	$ 564	$ 633	$ 641	$ 649	$ 656	$ 662
Tucson Active Management Area							
Water & Replenishment Component [1]	$ 183	$ 196	$ 202	$ 206	$ 214	$ 219	$ 238
Administrative Component [2]	45	45	45	42	38	34	30
Infrastructure & Water Rights Component [3]	245	294	353	353	353	353	333
Replenishment Reserve Charge [4]	75	80	85	90	92	98	111
Total Assessment Rate ($/AF)	$ 548	$ 615	$ 685	$ 691	$ 697	$ 704	$ 712
Contract Replenishment Tax - Scottsdale [5]							
Cost of Water	$ 144	$ 166	$ 179	$ 184	$ 190	$ 196	$ 199
Cost of Transportation	0	0	0	0	0	0	0
Cost of Replenishment	0	0	0	0	0	0	0
Administrative Component [2]	45	45	45	42	38	34	30
Total Tax Rate ($/AF)	$ 189	$ 211	$ 224	$ 226	$ 228	$ 230	$ 229

ENROLLMENT & ACTIVATION FEES
Units = $/Housing Unit

Enrollment Fee [6]	$ 198	$ 237	$ 284	$ 284	$ 284	$ 284	$ 284
Activation Fee - Minimum [7]	$ 196	$ 236	$ 282	$ 282	$ 282	$ 282	$ 282
Activation Fee - Phoenix AMA [7]	$ 196	$ 260	$ 350	$ 460	$ 610	$ 820	$1,080
Activation Fee - Pinal Post-2007 [7]	$ 196	$ 260	$ 350	$ 460	$ 610	$ 820	$1,080
Activation Fee - Tucson AMA [7]	$ 196	$ 250	$ 320	$ 400	$ 510	$ 640	$ 810

ANNUAL MEMBERSHIP DUES

Member Land Annual Membership Dues ($/Lot) [8]							
Phoenix Active Management Area	$13.19	$15.45	$20.78	tbd	tbd	tbd	tbd
Pinal Active Management Area	$ 1.74	$ 2.06	$ 2.80	tbd	tbd	tbd	tbd
Tucson Active Management Area	$ 8.38	$ 9.87	$13.21	tbd	tbd	tbd	tbd
Member Service Area Annual Membership Dues ($/AF) [8]	$20.08	$23.67	$32.34	tbd	tbd	tbd	tbd

Approved
June 4, 2015

CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT FINAL 2015/16 - 2019/20 RATE SCHEDULE

NOTES:

1) The Water & Replenishment Component covers the projected annual costs of satisfying replenishment obligations, including the purchase of long-term storage credits (LTSC) and the purchase and replenishment of water and effluent. For the Phoenix Active Management Area (AMA), replenishment is planned to be accomplished at direct underground storage facilities (USFs) and groundwater savings facilities (GSFs). For the Pinal AMA, replenishment is planned to be accomplished at GSFs. For the Tucson AMA, replenishment is planned to be accomplished at USFs.
2) The Administrative Component covers CAGRD administrative costs, except labor related costs associated with the acquisition of infrastructure and water rights. A $2/AF has been added to this component to fund the Board's CAGRD conservation program.
3) The Infrastructure & Water Rights Component covers the cost to develop additional water supplies and the cost to construct additional infrastructure as the need arises.
4) The Replenishment Reserve Charge covers costs associated with establishing a replenishment reserve of LTSCs as provided in ARS Sections 48-3774.01 and 48-3780.01.
5) The components of the Contract Replenishment Tax - Scottsdale reflect the provisions in the Water Availability Status Contract to Replenish Groundwater between CAWCD and Scottsdale.
6) The Enrollment Fee is collected pursuant to the CAGRD Enrollment Fee and Activation Fee Policy adopted by the Board on May 1, 2008. A $2 per housing unit is included in the Enrollment Fee to help fund CAGRD's conservation program.
7) The Activation Fees is in accordance with the Preliminary 2014/15 - 2019/20 CAGRD Activation fee schedule adopted by the Board on November 7, 2013.
8) The Annual Membership Dues for Member Lands and Member Service Areas are pursuant to ARS Sections 48-3772.A.8. and 48-3779 as well as the Policy on Collection of CAGRD Annual Membership Dues adopted by the Board on April 7, 2011. The advisory rate beginning 2016/2017 are listed as "to be determined" (tbd) as the membership dues formula requires discussion and possible revision before the 2016/2017 rates are established.

WMG

6

SECTION THREE

Conservation

Water conservation and the efficient use of water are critical components of integrated resources planning. Tucsonans have long embraced an ethic of water conservation. Water savings generated through behavioral changes and efficiency programs have had a positive impact on the overall water supply. This is evident as Tucsonans are today using the same volume of water as they used in the mid-1990s, despite a large increase in population (see Figure 3-1). With use of CAP water, the amount of mined groundwater has been reduced to levels from the 1940s.

The community response to water conservation efforts is unique in that reductions that began in the mid-1970s have been sustained. Information and education programs that form the foundation for all other programmatic efforts have established Tucson in the forefront of the field of water conservation. As shown in Figure 3-2, it remains among the largest communities in the American Southwest that maintain a low level of per capita water use.

Water issues tend to be area-specific in nature, and the solutions must reflect that reality. This is also true of water conservation programs because each water utility must deal with unique circumstances. A community suffering from impacts of a seasonal drought will institute restrictions to address a temporary water supply issue. That response differs when there is adequate water supply, but insufficient infrastructure or diminished delivery capabilities.

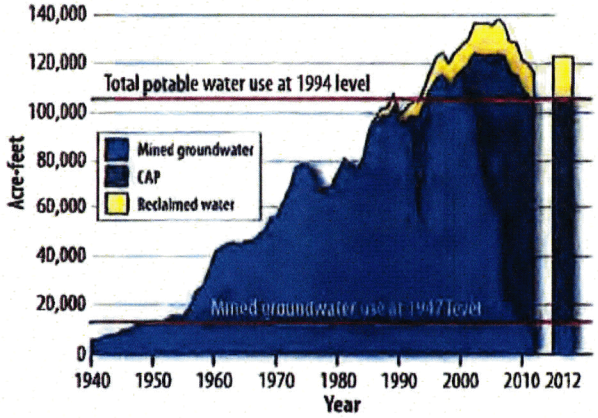


Figure 3-1. Water use in Tucson since the 1940s

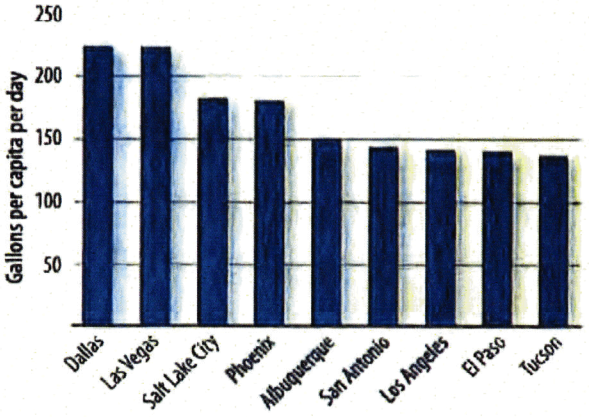


Figure 3-2. Per capita water use in select Southwestern cities

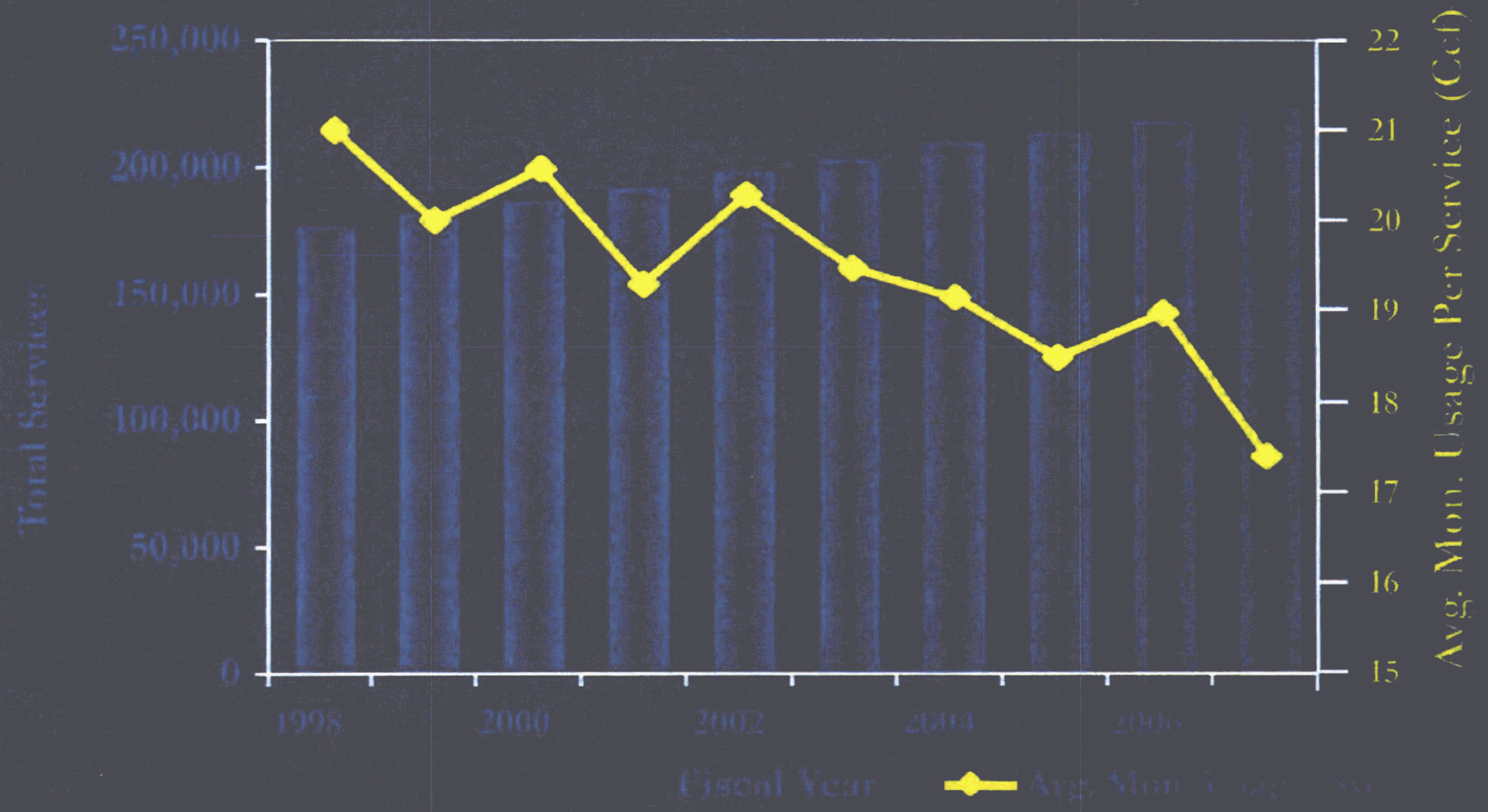
All water utilities should strive for efficient water use throughout the community, but the local drivers will dictate how a program is developed, what specific measures should be implemented, and how they are evaluated with respect to water use and cost effectiveness. A well-planned conservation program provides an appropriate response to the need it is attempting to address.

In the case of Tucson Water, the conservation program that began in 1976 as "Beat the Peak" was developed in response to inadequate infrastructure to meet peak summertime demands. As time progressed, the regulatory environment changed, public perception shifted, and investments were made in infrastructure and water supplies. As a result, the drivers behind the need to promote water conservation and the efficient use of water have changed.

The highly successful "Beat the Peak" program was rebranded to reflect this change. The new program, "Be WaterSmart," more accurately reflects the current need to consider demand management strategies that promote sustainable water use.

This section of the Water Plan identifies drivers for the "Be WaterSmart" conservation program and provides guidance for future efforts. Despite changes in drivers over time, the long-term effort to conserve water must continue to play an integral role in the community's water management plan. A successful demand management program ensures that quality of life is not diminished. Reductions in water use from a conservation program should not aggravate operational or environmental conditions in the community.

Accounts and Usage per Service



WMG

7

EXHIBIT WMG-7

WATER RATES

ARIZONA WATER COMPANY		A.C.C. No.	413
Phoenix, Arizona		Cancelling A.C.C. No.	None
Filed by:	R. E. Polenske	Tariff or Schedule No.	RW-256
Title:	President	Filed:	12-1-89
Date of Original Filing:	12-01-89	Effective:	For all service rendered on or after January 1, 1990
System:	APACHE JUNCTION		

RECLAIMED WATER SERVICE

AVAILABILITY:

Reclaimed water service to specific portions of Gold Canyon Resort and elsewhere as provided, limited, and delineated in that certain Agreement dated March 15, 1989 between Arizona Water Company, Gold Canyon Sewer Company, and Superstition Mountain Investment, Ltd. (the "Reclaimed Water Agreement"), approved by the Arizona Corporation Commission in Decision No. 56631 on September 14, 1989.

RATE: $250.00 per acre foot; or such rate as the Arizona Corporation Commission approves; plus the applicable monthly minimum charge as set forth in the Arizona Water Company Apache Junction General Service tariff schedule, for appropriate meter size and applicable taxes and governmental levies pursuant to Paragraphs 4 and 11 of the Reclaimed Water Agreement.

TERMS AND CONDITIONS:

Subject to the terms and conditions of the Reclaimed Water Agreement and the applicable rules, regulations, and conditions of Arizona Water Company and the Arizona Corporation Commission.

EXHIBIT
AWC-3
ADMITTED

AWC -3

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

BOB STUMP - Chairman
GARY PIERCE
BRENDA BURNS
BOB BURNS
SUSAN BITTER SMITH

IN THE MATTER OF THE APPLICATION OF ARIZONA WATER COMPANY FOR AN EXTENSION OF ITS CERTIFICATE OF CONVENIENCE AND NECESSITY AT CASA GRANDE, PINAL COUNTY, ARIZONA	**DOCKET NO. W-01445A-03-0559**

Direct Testimony

of

Fredrick K. Schneider

(Hearing on Remand - Phase 2)

ARIZONA WATER COMPANY

Direct Testimony of

Fredrick K. Schneider, P.E.

I. **Introduction and Background.**

Q. **PLEASE STATE YOUR NAME, EMPLOYER AND OCCUPATION.**

A. My name is Fredrick K. Schneider. I am employed by Arizona Water Company as Vice President - Engineering.

Q. **DID YOU PROVIDE WRITTEN REBUTTAL TESTIMONY FOR THE REMAND HEARING IN DOCKET NO. W-01445A-03-0559 CONCERNING THE POTENTIAL DELETION OF ARIZONA WATER COMPANY'S CERTIFICATE OF CONVENIENCE AND NECESSITY ("CCN")?**

A. Yes, I did. The rebuttal testimony was filed in this docket on February 5, 2008.

Q. **ARE YOU ADOPTING YOUR EARLIER PREFILED REBUTTAL TESTIMONY?**

A. Yes, I adopt all of my previous pre-filed testimony in this matter.

Q. **WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

A. The purpose of my testimony is to provide an update on: (1) Arizona Water Company's water system planning, design, and construction efforts to meet the needs of developments in Arizona Water Company's planning area, including the Cornman Tweedy property; and, (2) Arizona Water Company's willingness to provide wastewater service to areas where there is a need for and there is no provider for such service, which includes wastewater service to the Cornman Tweedy property.

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Q. WILL YOU BE SPONSORING ANY EXHIBITS WITH YOUR TESTIMONY?

A. Yes. I will be sponsoring the exhibits listed on the attached listing of Exhibits, with the exhibits themselves following the listing of Exhibits in tabbed order:

1. Arizona Water Company's Pinal Valley Certificate of Convenience and Necessity and Water System Planning Area
2. Arizona Water Company's Pinal Valley Water System Master Plan
3. Arizona Water Company's Pinal Valley Water System Master Plan – Cornman Tweedy property
4. Updated Exhibit CMT-1.21, showing the names and location of development adjacent to and contiguous with the Cornman Tweedy property
5. Arizona Water Company's Pinal Valley Water System Master Plan – PhoenixMart, Post Ranch and Cornman Tweedy property
6. Arizona Water Company's City of Coolidge Water Resources Plan
7. Arizona Water Company's Proposed Central Arizona Project ("CAP") Recharge and Recovery Facility Plan
8. Reclaimed Water Use Conceptual Master Plan for the City of Casa Grande and the Arizona Water Company Pinal Valley Planning Area
9. Arizona Water Company's Copper Mountain Ranch Reclaimed Water Master Plan
10. Map showing wastewater providers in Arizona Water Company's Pinal Valley planning area

These documents are true and accurate copies of documents from Arizona Water Company's business records, or were prepared directly by me or Arizona Water Company staff under my supervision.

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II. Arizona Water Company's water system planning, design, and construction efforts to meet the needs of developments in its Pinal Valley planning area.

Q. PLEASE DESCRIBE ARIZONA WATER COMPANY'S PINAL VALLEY CCN AND PLANNING AREA.

A. Arizona Water Company's Pinal Valley CCN and planning area are shown in Exhibit FKS-1. Arizona Water Company's Pinal Valley CCN comprises approximately 172,160 acres or 269 square miles and its Pinal Valley planning area includes approximately 305,280 acres or 477 square miles.

Q. HAS ARIZONA WATER COMPANY COMPLETED A WATER SYSTEM MASTER PLAN FOR ITS PINAL VALLEY PLANNING AREA?

A. Yes. Arizona Water Company has invested a significant amount of time and effort to plan for the water needs of its Pinal Valley water system and planning area. In preparing its Pinal Valley Water System Master Plan (the "Master Plan"), Arizona Water Company worked very closely with the communities it serves so that its water system and water supply plan support community-specific plans for new home building and development. Arizona Water Company regularly meets and confers with city and county staff in the communities it serves.

Arizona Water Company updated its Master Plan in 2009. The updated Master Plan was submitted to the Arizona Corporation Commission ("Commission") as Exhibit BG 8.5 in Docket W-01445A-06-0199. In fact, the Commission's Utilities Division ("Staff") relied on the completed design report and Master Plan in that docket in recommending approval of Arizona Water Company's CCN application. The Master Plan has proven a valuable tool for the cities within the planning area. Most recently, the City of Casa Grande requested a copy of the Master Plan so it could incorporate the Arizona Water Company's planned water distribution system into its Graphical Information System ("GIS") for use in their planning

...

effort. A copy of the Master Plan, which includes the Cornman Tweedy property, is included as Exhibit FKS-2.

Q. PLEASE DESCRIBE ARIZONA WATER COMPANY'S WORK IN FULFILLING ITS OBLIGATION TO MEET THE NEEDS OF DEVELOPERS IN ITS PLANNING AREA.

A. Arizona Water Company prepared the Master Plan to guide its efforts to obtain additional sources of supply, water treatment facilities, storage tanks, distribution pipelines, and other utility plants in the region so it can provide reliable water service to existing and future customers. The Master Plan is a detailed and comprehensive document that describes the location and size of water distribution facilities, as well as the location and capacity of wells and storage tanks needed to provide service within Arizona Water Company's Pinal Valley planning area. The Master Plan identifies Arizona Water Company's existing and planned pipelines, treatment plants, storage tanks, wells, and booster stations, as well as each pressure zone. Arizona Water Company estimated population in the planning area (needed to project water system demands) by using City of Casa Grande, City of Coolidge and Pinal County planning and zoning maps and their respective population growth data. The Master Plan details the facilities required to provide service to this planning area over the next 50 years. The Master Plan also shows the completed interconnection of the Casa Grande and Coolidge water systems into the Pinal Valley water system and the location of the 66-acre site purchased for Arizona Water Company's planned Central Arizona Project ("CAP") recharge and recovery facility. Arizona Water Company will update and revise the Master Plan as necessary. Exhibit FKS-3, which is a portion of the overall Master Plan (Exhibit FKS-2), shows the existing and planned water infrastructure facilities located within and adjacent to the Cornman Tweedy property.

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1 Q. **HAS ARIZONA WATER UPDATED ITS PINAL VALLEY MASTER PLAN TO**
2 **REFLECT ANY CHANGES IN PLANNED DEVELOPMENT IN THE VICINITY OF**
3 **THE CORNMAN TWEEDY PROPERTY?**
4 A. Yes. Arizona Water Company updated the Master Plan in 2013 to reflect necessary revisions
5 to accommodate PhoenixMart, a large project adjacent to and contiguous with the Cornman
6 Tweedy property. I have included an update to Arizona Water Company's original Exhibit
7 CMT-1.21, which shows the most recent information on development in the Cornman
8 Tweedy area, Exhibit FKS-4.
9 Q. **WHAT IS THE PHOENIXMART PROJECT?**
10 A. PhoenixMart is a global commerce center that is modeled after three similar projects: (1)
11 DragonMart International City in Dubai, United Arab Emirates; (2) DragonMart in Cancun,
12 Mexico; and (3) DragonMart in YiWu, China. At 585 acres, PhoenixMart is one of the
13 largest single level trade centers in the U.S. PhoenixMart is nearly three football fields wide
14 by nearly six football fields long. The master-planned center includes a 1.7 million square
15 foot, multi-functional products center and 4 million square feet of support facilities.
16 PhoenixMart's business goal is to connect thousands of North American manufacturers and
17 distributors with domestic and global buyers, creating a wide selection of industries and
18 products available in one location. More important to this proceeding, the PhoenixMart
19 project represents a significant demand for water service.
20 Q. **ARE THERE ANY OTHER PLANNING ACTIVITIES NEAR THE CORNMAN**
21 **TWEEDY PROPERTY?**
22 A. Yes. The Post Ranch development is immediately adjacent to the western boundary of the
23 Cornman Tweedy Property. In conjunction with planning for the PhoenixMart development,
24 the developer for Post Ranch has prepared a master plan for Post Ranch. The developers of
25 PhoenixMart and Post Ranch are working together in this joint planning effort.

Q. HOW DOES THE PHOENIXMART PROJECT AFFECT THE CORNMAN TWEEDY PROPERTY?

A. Because the PhoenixMart project is adjacent to and contiguous with the Cornman Tweedy property, the water distribution system to serve Cornman Tweedy will be extended from PhoenixMart. Arizona Water Company's Master Plan incorporates planning for distribution system water mains to Cornman Tweedy from PhoenixMart. Specifically, Arizona Water Company will construct 12-inch and 16-inch water distribution mains for the PhoenixMart distribution system along the north property line of the Cornman Tweedy property, as shown in Exhibit FKS-5. Water mains planned for the Post Ranch development, which are in close proximity to the Cornman Tweedy project, are also shown on Exhibit FKS-5.

Q. IS THERE A BENEFIT TO EXTENDING WATER DISTRIBUTION MAINS FROM PHOENIXMART TO CORNMAN TWEEDY?

A. Yes. Extending water distribution mains from PhoenixMart to Cornman Tweedy property will increase redundancy and reliability and reduce the extent and cost of infrastructure needed to provide water service to the Cornman Tweedy property.

Q. WHAT IS THE DESIGN STATUS OF PHOENIXMART?

A. The developer has hired well known architect Bing Yu to design PhoenixMart as a contemporary open structure. The developer has also hired qualified and experienced engineering design firms to complete the onsite design, including roads, sewer, and water infrastructure.

Q. WHAT IS THE STATUS OF CONSTRUCTION OF THE PHOENIXMART?

A. The developer has selected McCarthy Contractors to construct PhoenixMart and is in the process of selecting the Construction Manager at Risk, commonly referred to as "CMAR," to construct the supporting infrastructure such as roads, sewer and water. Arizona Water Company participated in the CMAR selection process.

1 Q. **HOW IS ARIZONA WATER COMPANY INVOLVED IN THIS SIGNIFICANT**
2 **PROJECT?**
3 A. Arizona Water Company holds the water CCN and is working with PhoenixMart to finalize
4 the project's water master plan. As Arizona Water Company's representative for this project,
5 I attend biweekly meetings with PhoenixMart representatives, City of Casa Grande staff,
6 utility representatives and other interested agencies.
7 Q. **HAS CONSTRUCTION OF PHOENIXMART BEGUN?**
8 A. Yes. The groundbreaking ceremony was held on November 7, 2013, and was attended by
9 federal and state delegates as well as community and business leaders from both the United
10 States and abroad.
11 Q. **HAS PHOENIXMART SCHEDULED A GRAND OPENING?**
12 A. Yes, the grand opening is scheduled for the 4th quarter of 2015.
13 Q. **PLEASE DESCRIBE OTHER SIGNIFICANT EFFORTS ARIZONA WATER**
14 **COMPANY HAS UNDERTAKEN TO PROVIDE WATER SERVICE WITHIN ITS**
15 **PLANNING AREA.**
16 A. The City of Coolidge is located within Arizona Water Company's Pinal Valley CCN and
17 most of the City of Coolidge's planning area overlays Arizona Water Company's planning
18 area. The City of Coolidge recently updated its general plan and approached Arizona Water
19 Company to partner in preparing a water resource master plan as part of that update. As a
20 result of that partnership, Arizona Water Company engineers updated the Master Plan and
21 developed the City of Coolidge's Water Resources Plan. The City's Water Resources Plan
22 also included Arizona Water Company's Recharge and Recovery Plan, a plan which
23 includes storing Arizona Water Company's CAP allocations at a 66-acre site in the Coolidge
24 area. Arizona Water Company and City staff presented the draft plan to the Coolidge
25 community through a series of workshops and presentations. Arizona Water Company

completed the City of Coolidge Water Resources Plan on November 11, 2013, and a copy of the plan is attached hereto as Exhibit FKS-6. The City of Coolidge incorporated Arizona Water Company's plan into the City's updated general plan.

Q. WHAT IS THE STATUS OF THE CITY OF COOLIDGE'S UPDATED GENERAL PLAN?

A. On May 16, 2014, the City of Coolidge Planning and Zoning Commission held hearings on the general plan. As a result of that hearing, the City of Coolidge Planning and Zoning Commission recommended that City staff send the general plan to the Coolidge City Council for review. That review is scheduled for June 9, 2014. The City Council is scheduled to consider approval of the general plan on June 23, 2014.

Q. PLEASE DISCUSS ARIZONA WATER COMPANY'S PLANS TO PROVIDE WATER FOR FIRE PROTECTION IN THE PINAL VALLEY PLANNING AREA.

A. As part of Arizona Water Company's planning process, its engineers work closely with local fire jurisdictions to plan for and provide water for fire protection, which is an essential process to ensure public safety. For the Cornman Tweedy property, because of Arizona Water Company's work and planning effort, the Pinal Valley water system can readily provide water for fire protection. In contrast, smaller isolated systems often lack the ability to provide reliable water supply and flow rates sufficient for fire protection purposes.

Q. PLEASE DESCRIBE ARIZONA WATER COMPANY'S PLAN TO USE ITS 10,884 ACRE FEET CENTRAL ARIZONA PROJECT ALLOCATION IN THE PINAL VALLEY PLANNING AREA.

A. Arizona Water Company has two subcontracts totaling 10,884 acre-feet of CAP water for the Casa Grande and Coolidge areas. Arizona Water Company engineers evaluated a number of options to use this allocation of CAP water for the Casa Grande and Coolidge areas and determined that recharging and recovering CAP water was the most cost effective

option. As a result, Arizona Water Company engineers developed a Proposed Central Arizona Project Recharge and Recovery Facility plan ("Recharge and Recovery Plan"). The plan was finalized on April 11, 2014, and is attached hereto as Exhibit FKS-7.

Q. PLEASE DESCRIBE THE RECHARGE AND RECOVERY PLAN.

A. Arizona Water Company plans to deliver, store and recover all or a portion of the company's 10,884 acre feet per year of CAP surface water allocations that are not currently delivered directly to customers in the Casa Grande and Coolidge areas of the Pinal Valley Division. The company will store this amount of unused CAP surface water in underground storage through recharge at the company's existing 66-acre site ("Recharge and Recovery Site") for the direct beneficial use of its customers.

Untreated CAP surface water will flow by gravity from the CAP canal to five (5) recharge basins constructed at the Recharge Site through a 3,000-linear foot 24-inch transmission main that will be installed from the CAP canal to the Recharge and Recovery Site within the company's existing Arizona State Land Department lease. The company will use an ultrasonic meter located at the point of delivery from the CAP canal to measure water deliveries to the 24-inch pipeline. Water quality characteristics of the Colorado River and the CAP aqueduct have been studied extensively and are well known. The company is planning to use percolation spreading basins as its method of recharge at the Recharge Site. Due to the high quality of CAP surface water, the untreated CAP surface water will not require pre-treatment prior to entering the percolation spreading basins.

The percolation basins will be approximately 700 feet long, 540 feet wide and 12 feet deep. Company engineers will determine the actual size, depth and number of percolation basins after a hydrologic study of the Recharge and Recovery Site is completed by a hydrologic consulting firm. The company will drill and maintain two monitoring wells

...

near the recharge basins to measure the level of groundwater mounding caused by percolating CAP water.

An eight foot tall chain link fence topped with razor ribbon or barbed wire will prevent unauthorized entry, potential contamination to the water supply, vandalism and damage to or theft of equipment, and will reduce the amount of debris that could enter the Recharge and Recovery Site.

The company will recover stored CAP surface water from wells at the Recharge and Recovery Site and from other wells in the company's Pinal Valley service area, pursuant to recovery well permits from ADWR. The water recovered from the on-site wells will flow from the Recharge and Recovery Site through a 36-inch transmission main to the Pinal Valley water system, along an east-west alignment that is one mile north of the Cornman Tweedy property.

Q. WHAT IS THE STATUS OF THE RECHARGE AND RECOVERY PLAN?

A. In March 2014, Arizona Water Company sent a request for proposals to qualified consultants to perform detailed engineering and field analysis to determine how much CAP water Arizona Water Company could recharge and recover. Arizona Water Company engineers evaluated proposals and, in May 2014, selected Clear Creek Associates to perform the necessary evaluation. The kick-off meeting was held on May 21, 2014, and work is scheduled for completion in December.

Q. IS ARIZONA WATER COMPANY CURRENTLY PROVIDING CAP WATER TO CUSTOMERS IN ITS PINAL VALLEY CCN?

A. Yes. Arizona Water Company is providing untreated CAP water to several customers in its Pinal Valley water system pursuant to a Commission-approved tariff for such service. Arizona Water Company provides approximately 1,600 acre-feet of untreated CAP water under this tariff to Salt River Project's Desert Basin power plant, the Francisco Grande Golf

Resort, and the City of Casa Grande Sports Complex at Francisco Grande. Arizona Water Company's Recharge and Recovery plan will expand Arizona Water Company's use of CAP water for its Pinal Valley water system customers.

Q. WHAT ARE ARIZONA WATER COMPANY'S PLANS CONCERNING RECLAIMED WATER SERVICE IN THE PINAL VALLEY PLANNING AREA?

A. Arizona Water Company recognizes the importance of reclaimed water in meeting the water needs of its customers and in achieving a more sustainable water supply. For the portion of Arizona Water Company's CCN located within the City of Casa Grande's wastewater service area, Arizona Water Company partnered with the City of Casa Grande to develop its Reclaimed Water Use Conceptual Master Plan. A copy of this plan is attached as Exhibit FKS-8.

Arizona Water Company also plans to provide reclaimed water and water service in the western portion of Arizona Water Company's Pinal Valley planning area. Global Water – Palo Verde Utilities Company ("Global") plans to provide wastewater service, pursuant to a settlement agreement dated May 15, 2008. Arizona Water Company anticipates that reclaimed water will be provided to turf facilities and other non-potable uses in this area, in addition to recharging reclaimed water.

Q. ARE THERE OTHER AREAS WITHIN ARIZONA WATER COMPANY'S PLANNING AREA WHERE IT INTENDS TO PROVIDE RECLAIMED WATER?

A. Yes. Copper Mountain Ranch is a 3,500 acre master planned development which was added to Arizona Water Company's Pinal Valley CCN in Commission Decision No. 73780, March 21, 2013. Copper Mountain Ranch is also located within the City of Casa Grande's wastewater service area. Arizona Water Company engineers prepared the Reclaimed Water Master Plan for Copper Mountain Ranch and it has been approved by the developer and the City of Casa Grande. Commission Staff also relied on this master plan in recommending

approval of Arizona Water Company's CCN extension. A copy of Arizona Water Company's Copper Mountain Ranch Reclaimed Water Master Plan is attached hereto as Exhibit FKS-9.

Q. CAN ARIZONA WATER COMPANY ALSO PROVIDE RECLAIMED WATER TO THE CORNMAN TWEEDY PROPERTY?

A. Yes. Reclaimed water planning similar to the City of Casa Grande Reclaimed Water Conceptual Master Plan can be coordinated between Arizona Water Company and Picacho Sewer.

Q. DOES ARIZONA WATER COMPANY REMAIN READY, WILLING, AND ABLE TO PROVIDE WATER SERVICE TO THE CORNMAN TWEEDY PROPERTY?

A. Yes. The Cornman Tweedy property is part of the Arizona Water Company's existing CCN established in Decision No. 66893 and is part of the Arizona Water Company's Pinal Valley water system. In addition, Arizona Water Company has taken the necessary steps to plan for water service to the Cornman Tweedy property, as discussed earlier in my testimony. Arizona Water Company has not wavered from its plans to provide water service to the Cornman Tweedy property and it remains ready, willing, and able and is positioned to serve the property.

III. <u>Arizona Water Company's willingness to provide wastewater service to areas where there is a need and no provider for such service</u>.

Q. PLEASE DESCRIBE ARIZONA WATER COMPANY'S POLICY REGARDING PROVIDING WASTEWATER SERVICE.

A. It is Arizona Water Company's policy to provide wastewater service in those areas where it provides water service and where there is no existing wastewater provider already established or certificated and there is a need for wastewater service.

...

1 Q. **PLEASE EXPLAIN WHY ARIZONA WATER COMPANY HAS NOT PROVIDED**
2 **WASTEWATER SERVICE TO CUSTOMERS IN PINAL VALLEY.**
3 A. Like many parts of the state, there are several qualified wastewater providers already
4 providing wastewater service within Arizona Water Company's Pinal Valley service area,
5 specifically, there are three municipal wastewater providers, three commission-regulated
6 wastewater providers and one sanitary district currently providing or poised to provide
7 wastewater service as shown on Exhibit FKS-10. If there is no wastewater service provider
8 for an area, Arizona Water Company is willing and able to provide that service, if there is a
9 need for wastewater service.
10 Q. **PLEASE EXPLAIN HOW ARIZONA WATER COMPANY CAN PROVIDE**
11 **WASTEWATER SERVICE TO THE CORNMAN TWEEDY PROPERTY.**
12 A. After a thorough and complete review of various wastewater design and construction
13 companies, Arizona Water Company began discussions with PERC Water Corporation
14 ("PERC Water"). From those discussions, Arizona Water Company developed a memo of
15 understanding to permit, design and construct the necessary wastewater facilities in areas
16 where Arizona Water Company is currently, or could potentially be, the water provider and
17 where no wastewater provider currently exists.
18 Q. **PLEASE PROVIDE A BACKGROUND OF PERC WATER.**
19 A. PERC Water's business is the design, construction and operation of water recycling facilities
20 and wastewater treatment plants. PERC Water has designed more than 55 wastewater and
21 water reclamation facilities across the United States – 20 of which PERC Water operates
22 under contract.
23 ...
24 ...
25 ...

1 **Q. DOES PERC WATER ALSO OPERATE WASTEWATER TREATMENT PLANTS?**

2 A. Yes. PERC Water has commissioned and operated all of the wastewater treatment plants it
3 has constructed, and continues to offer support services to clients that have assumed
4 operation of PERC-constructed wastewater facilities.

5 **Q. HAS PERC WATER CONSTRUCTED WASTEWATER TREATMENT FACILITIES**
6 **IN ARIZONA?**

7 A. Yes. PERC Water has constructed, commissioned and operated several facilities in Arizona,
8 including:

9 - City of Surprise – SPA 2 facility
10 - City of Surprise – SPA 3 facility
11 - City of Goodyear – Palm Valley facility
12 - City of Buckeye – Sundance facility
13 - City of Buckeye – Tartesso facility
14 - City of El Mirage – El Mirage facility

15 PERC Water has constructed, commissioned and operated numerous other
16 wastewater facilities in Arizona and other states.

17 **Q. DOES ARIZONA WATER COMPANY HAVE ANY OTHER AGREEMENTS WITH**
18 **WASTEWATER PROVIDERS?**

19 A. Yes. Arizona Water Company has an agreement with Global to provide wastewater service
20 within its Pinal Valley planning area west of Montgomery Road and the City of Casa Grande
21 is committed to provide wastewater service to nearby areas. In fact, the Commission relied
22 on this agreement when it approved Arizona Water Company's Pinal Valley water CCN
23 extension application in Decision No. 73146, May 1, 2012.

24 ...

25 ...

1 Q. **DO YOU HAVE EXPERIENCE MANAGING WASTEWATER TREATMENT**
2 **PLANTS?**
3 A. Yes. As Manager of Arizona Operations for Citizens Water Resources and Arizona-
4 American Water Company, I was responsible for the operation and maintenance of seven
5 wastewater treatment plants varying in treatment capacity from approximately 60,000 gallons
6 per day to more than 3 million gallons per day.
7 Q. **WHERE ARE THESE PLANTS LOCATED?**
8 A. Four of these treatment plants are located in Maricopa County and three are located in
9 Mohave County.
10 Q. **WHAT WERE YOUR RESPONSIBILITIES AS MANAGER OF OPERATIONS FOR**
11 **CITIZENS WATER RESOURCES AND ARIZONA-AMERICAN WATER**
12 **COMPANY?**
13 A. I was responsible for the operation and maintenance of all water and wastewater operations
14 in Arizona, including water quality, customer service, billing and environmental compliance.
15 Q. **DOES ARIZONA WATER COMPANY HAVE THE KNOWLEDGE, ABILITY, AND**
16 **QUALIFIED EMPLOYEES TO PROVIDE WASTEWATER SERVICE IF SUCH**
17 **SERVICE IS NEEDED?**
18 A. Yes, it does. I am certified by the Arizona Department of Environmental Quality ("ADEQ")
19 as a Grade 3 wastewater collection system operator and as a Grade 2 wastewater treatment
20 plant operator. I would be Arizona Water Company's operator of record for the wastewater
21 collection and treatment facilities.
22 Q. **DOES ARIZONA WATER COMPANY HAVE OTHER CERTIFIED**
23 **WASTEWATER OPERATORS?**
24 A. Yes, it does. Arizona Water Company has a total of eleven employees who are ADEQ
25 certified wastewater collection and/or wastewater treatment operators.

Q. IS ARIZONA WATER COMPANY WILLING AND ABLE TO PROVIDE WASTEWATER SERVICE TO THE CORNMAN TWEEDY PROPERTY?

A. Yes, Arizona Water Company is willing and able to provide wastewater service to the Cornman Tweedy property. I note, however, that Picacho Sewer Company currently holds the wastewater CCN for the Cornman Tweedy property. However, should the Commission determine that it is in the public interest for Arizona Water Company to provide both water and wastewater service to the Cornman Tweedy property, Arizona Water Company would make arrangements to do so, provided the Commission first deletes Picacho Sewer Company's CCN.

Q. DOES THIS COMPLETE YOUR PREPARED TESTIMONY?

A. Yes, it does.

ARIZONA WATER COMPANY/CORNMAN TWEEDY

EXHIBIT LIST

Fredrick K. Schneider, P.E.

FKS-1	Arizona Water Company's Pinal Valley Certificate of Convenience and Necessity and Water System Planning Area
FKS-2	Arizona Water Company's Pinal Valley Water System Master Plan
FKS-3	Arizona Water Company's Pinal Valley Water System Master Plan – Cornman Tweedy property
FKS-4	Updated Exhibit CMT-1.21 showing the locations development adjacent to and contiguous with the Cornman Tweedy property
FKS-5	Arizona Water Company's Pinal Valley Water System Master Plan – PhoenixMart and Cornman Tweedy property
FKS-6	Arizona Water Company's City of Coolidge Water Resources Plan
FKS-7	Arizona Water Company's Proposed Central Arizona Project ("CAP") Recharge and Recovery Facility plan
FKS-8	Reclaimed Water Use Conceptual Master Plan for the City of Casa Grande and the Arizona Water Company Pinal Valley Planning Area
FKS-9	Arizona Water Company's Copper Mountain Ranch Reclaimed Water Master Plan
FKS-10	Map showing wastewater providers in Arizona Water Company's Pinal Valley planning area

FKS

1

EXHIBIT FKS-1

Arizona Water Company Pinal Valley Water System Planning Area

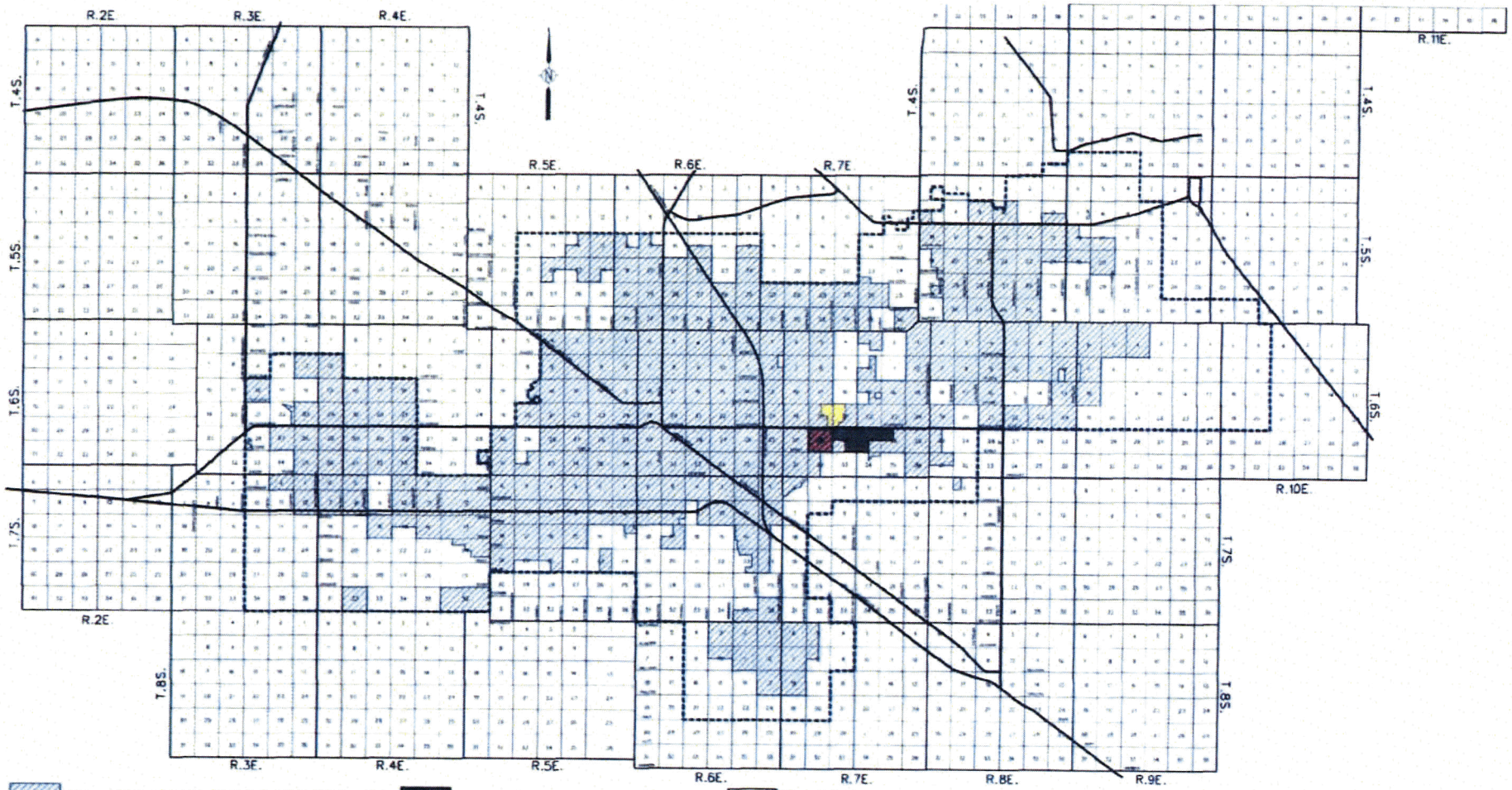

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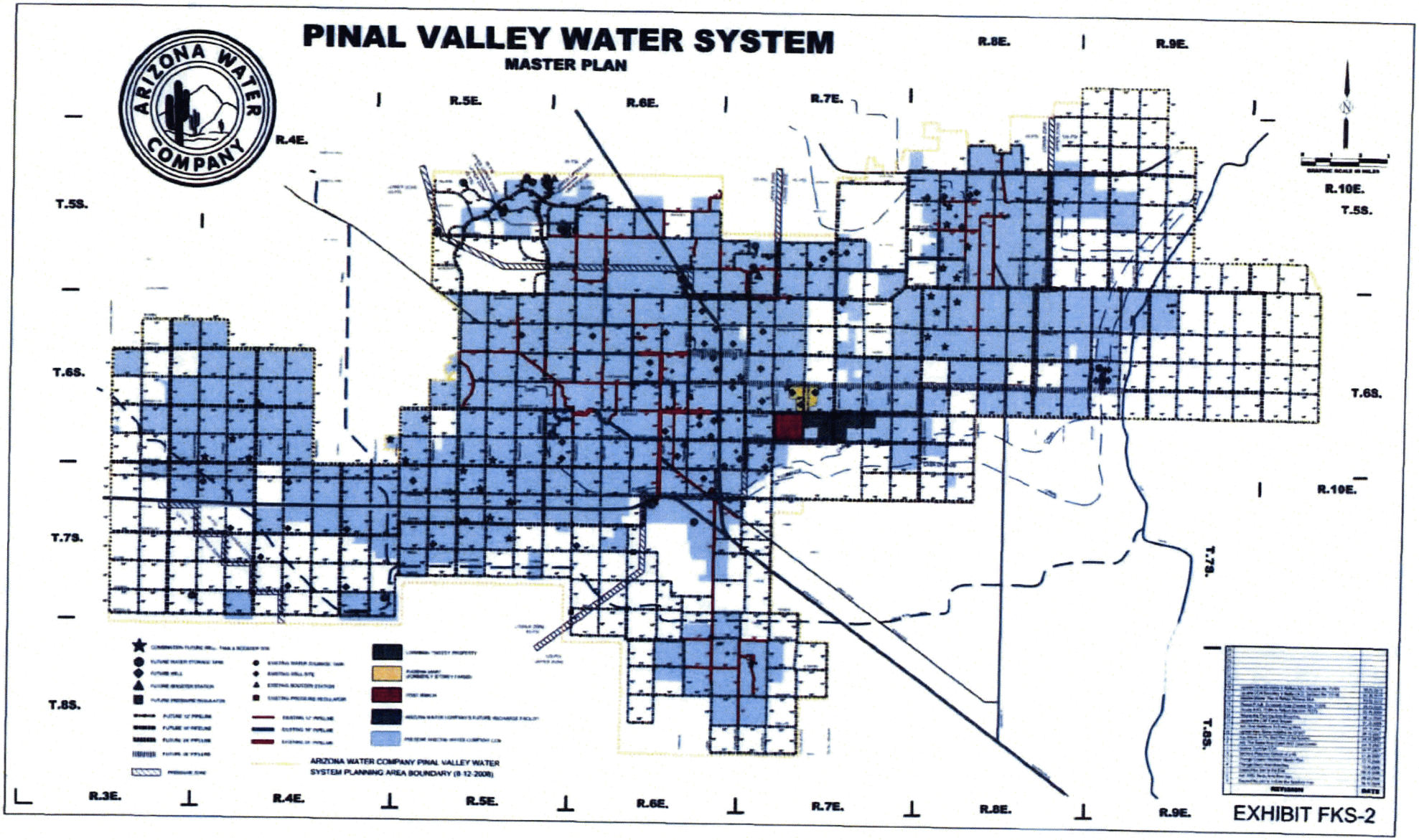
EXHIBIT FKS-2

PINAL VALLEY WATER SYSTEM

MASTER PLAN



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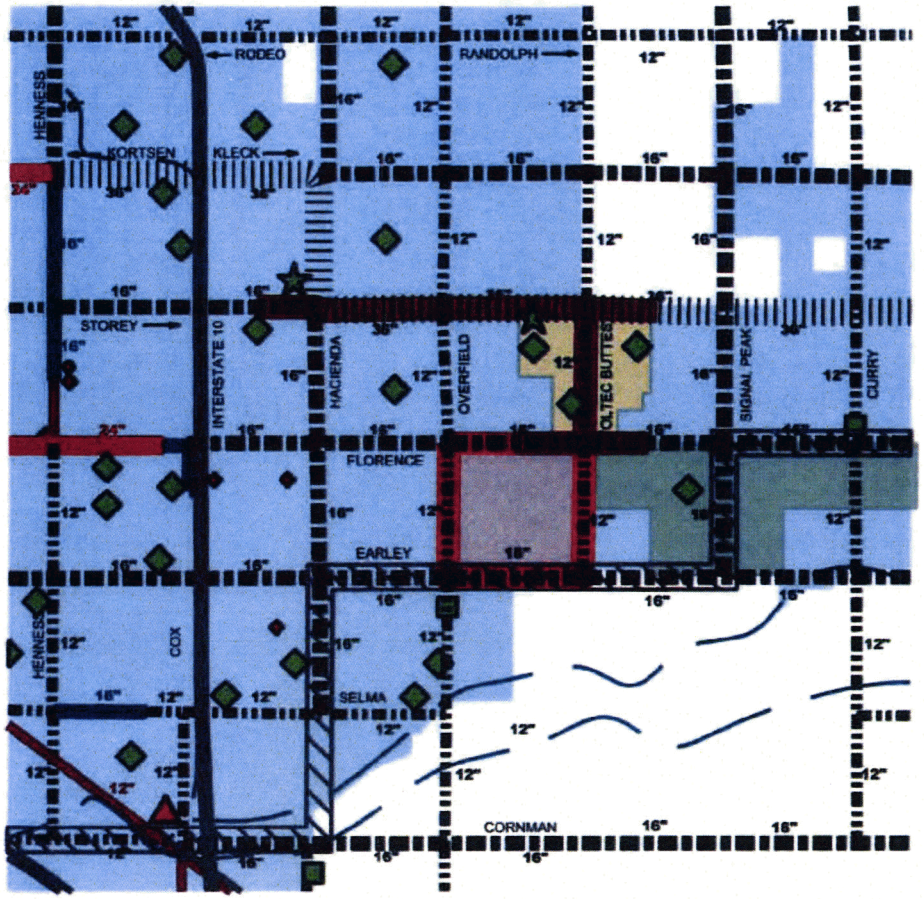

PRESENT ARIZONA WATER COMPANY CCN

CORNMAN TWEEDY PROPERTY

POST RANCH

PHOENIX MART (FORMERLY STOREY FARMS)

EXISTING WATER STORAGE TANK

EXISTING WELL SITE

EXISTING BOOSTER STATION

EXISTING PRESSURE REGULATOR

EXISTING 12" PIPELINE

EXISTING 16" PIPELINE

EXISTING 24" PIPELINE

PRESSURE ZONE

WATER MAINS ASSOCIATED WITH PHOENIX MART

WATER MAINS ASSOCIATED WITH POST RANCH

COMBINATION FUTURE WELL, TANK & BOOSTER SITE

FUTURE WATER STORAGE TANK

FUTURE WELL

FUTURE BOOSTER STATION

FUTURE PRESSURE REGULATOR

FUTURE 12" PIPELINE

FUTURE 16" PIPELINE

FUTURE 24" PIPELINE

FUTURE 36" PIPELINE

N

0 1 2

Graphic Scale in Miles

EXHIBIT FKS-3

FKS

4

EXHIBIT FKS-4

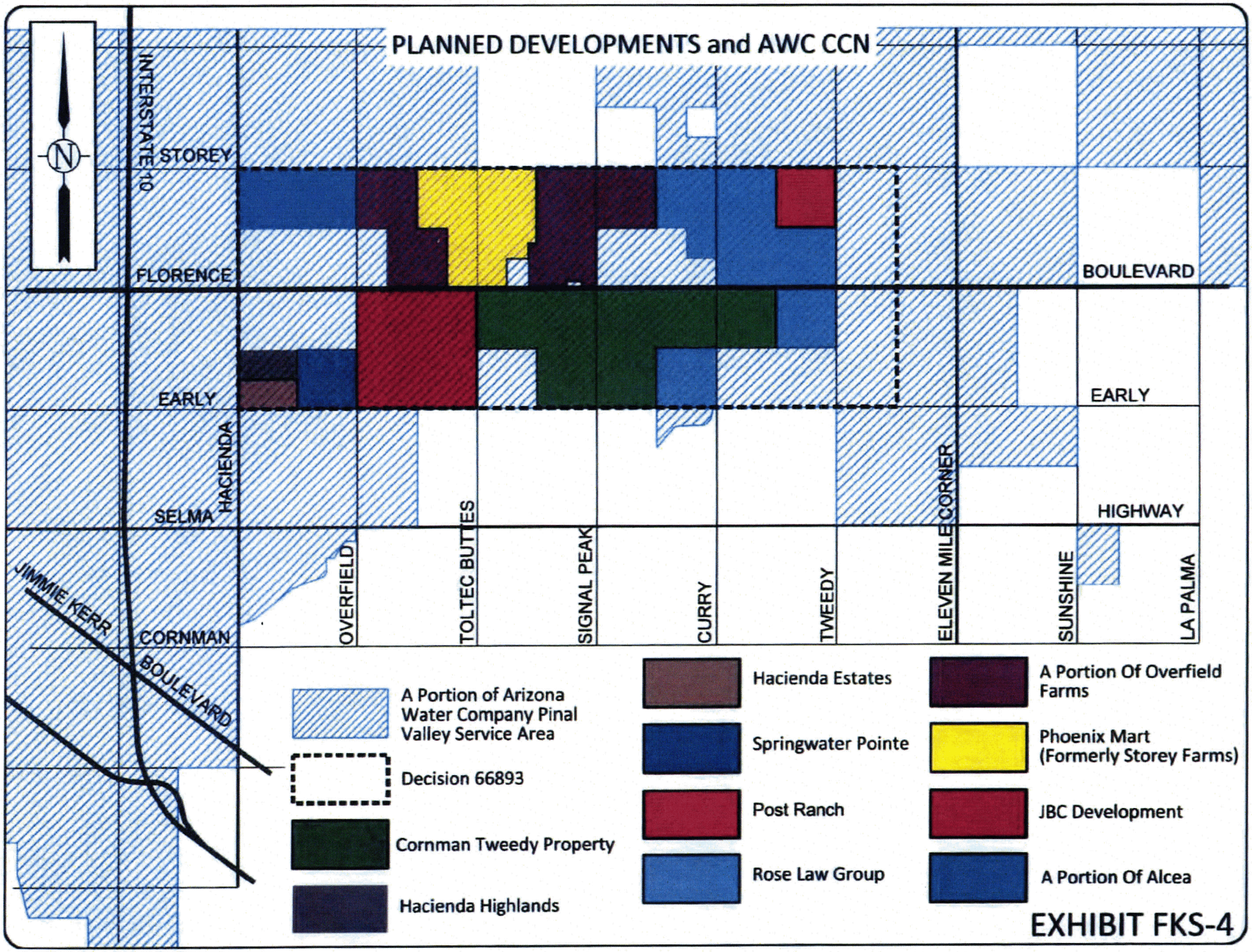

EXHIBIT FKS-4

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5

EXHIBIT FKS-5

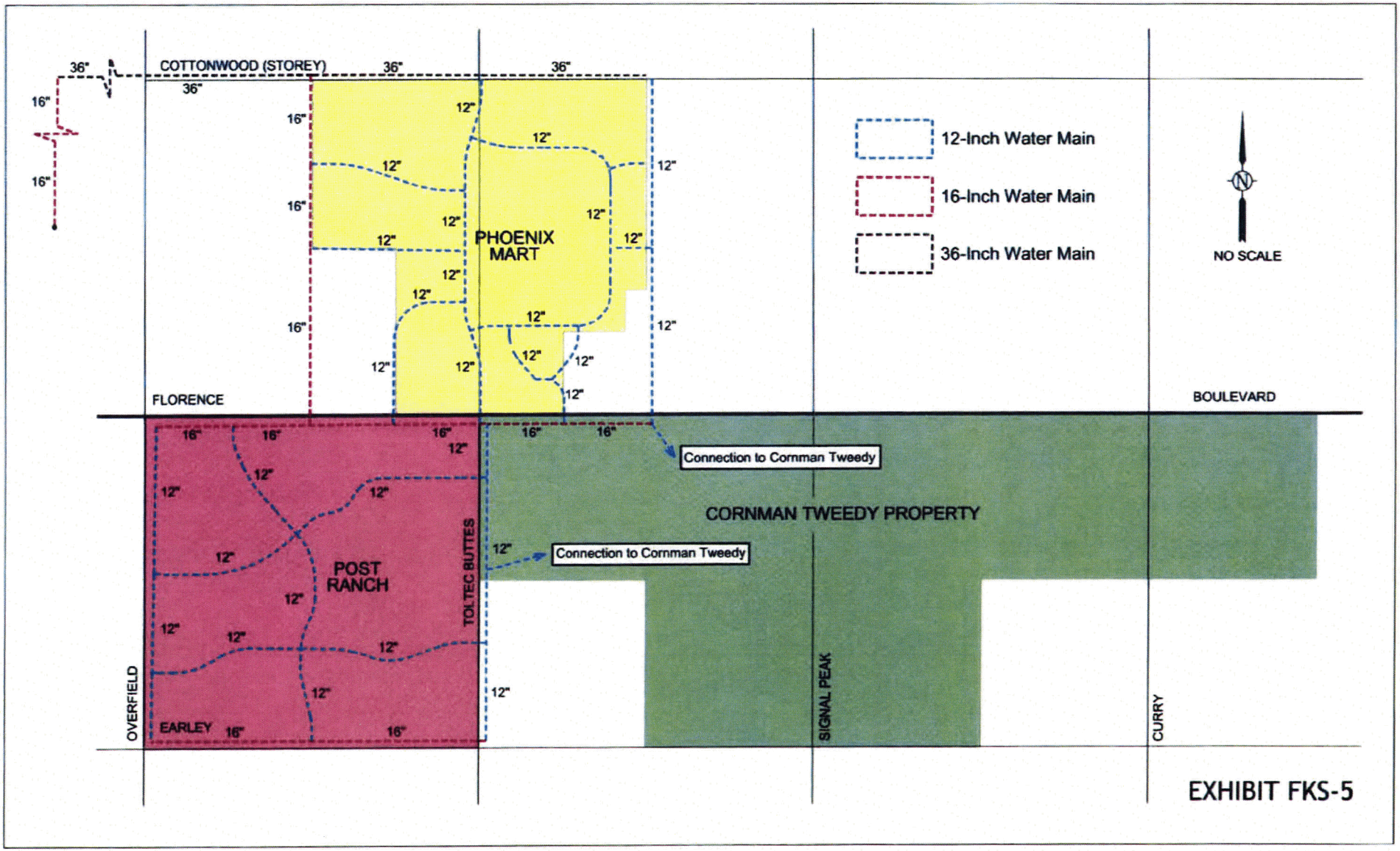

EXHIBIT FKS-5

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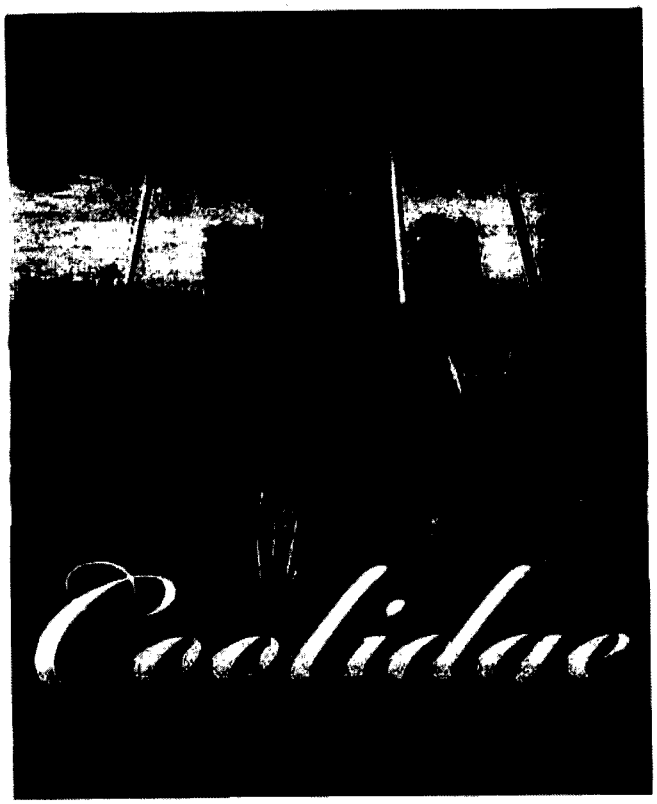
6

EXHIBIT FKS-6

City of Coolidge

Water Resources Plan



Prepared for the City of Coolidge

Prepared by Arizona Water Company

ARIZONA WATER COMPANY

Registered Professional Engineer (Civil)
CERTIFICATE NO.
29838
FREDRICK K.
SCHNEIDER
11-22-13
Signed
ARIZONA, U.S.A.

Exp 9-30-2016

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Registered Professional Engineer (Civil)
CERTIFICATE NO. 28336
FREDRICK K. SCHNEIDER
Date Signed 11-22-13
ARIZONA, U.S.A.
Exp 9-30-16

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INTRODUCTION

Arizona Water Company ("AWC") is a public service corporation regulated by the Arizona Corporation Commission ("ACC") which owns, operates and maintains the Pinal Valley water system which serves the City of Coolidge (the "City") and the surrounding areas. AWC prepared the *City of Coolidge Water Resources Plan* ("*Water Resources Plan*") with AWC's historical information and projections as well as information provided by the City. The *Water Resources Plan* addresses the development and delivery of safe, reliable and adequate water supplies within the City's projected planning area through the year 2025.

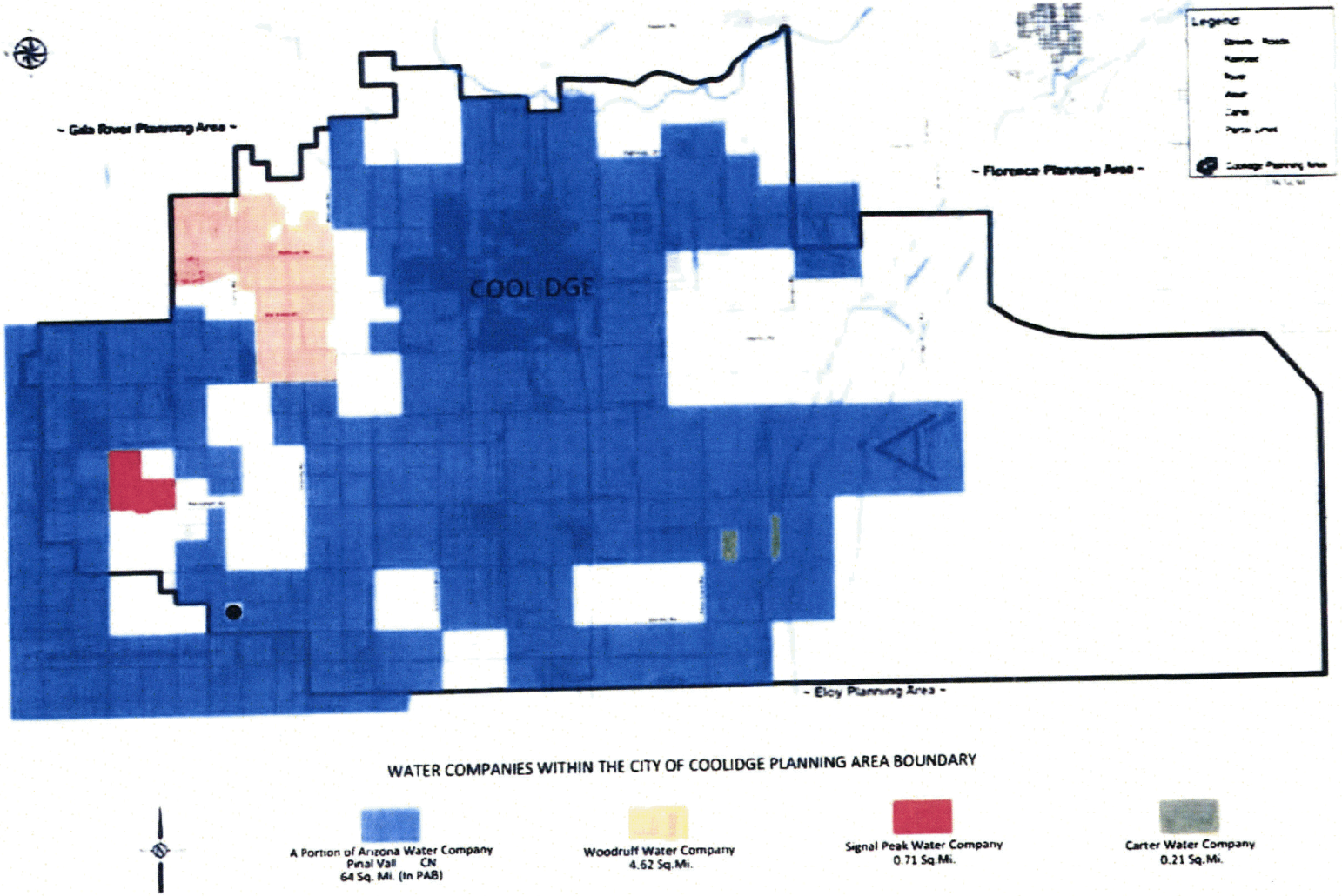
The *Water Resources Plan* focuses on issues that influence water availability, supplies and demands through the year 2025. Among the issues are current and future sources of supply, population growth rates and projections, projected water demands and conservation requirements. The *Water Resources Plan* focuses, in a large part, on areas within the City's projected planning area with the highest potential for growth.

BACKGROUND

Planning Area

There are four (4) public service corporations (or water companies) that provide water service within the City's planning area boundary; AWC, Carter Water Company, Signal Peak Water Company, and Woodruff Water Company. AWC provides potable water service to residential, commercial, and industrial users and is the largest potable water provider in the Coolidge area with a service area encompassing 64 square miles of the City's planning area. Woodruff Water Company has the second largest service area with approximately five (5) square miles although it serves only a few customers. Signal Peak Water Company and Carter Water Company have the smallest service area with 0.71 and 0.21 square miles respectively. Figure 1.1 shows the ACC-authorized Certificates of Convenience and Necessity areas for water providers in the City's planning area.

Figure 1.1: Certificates of Convenience and Necessity Areas

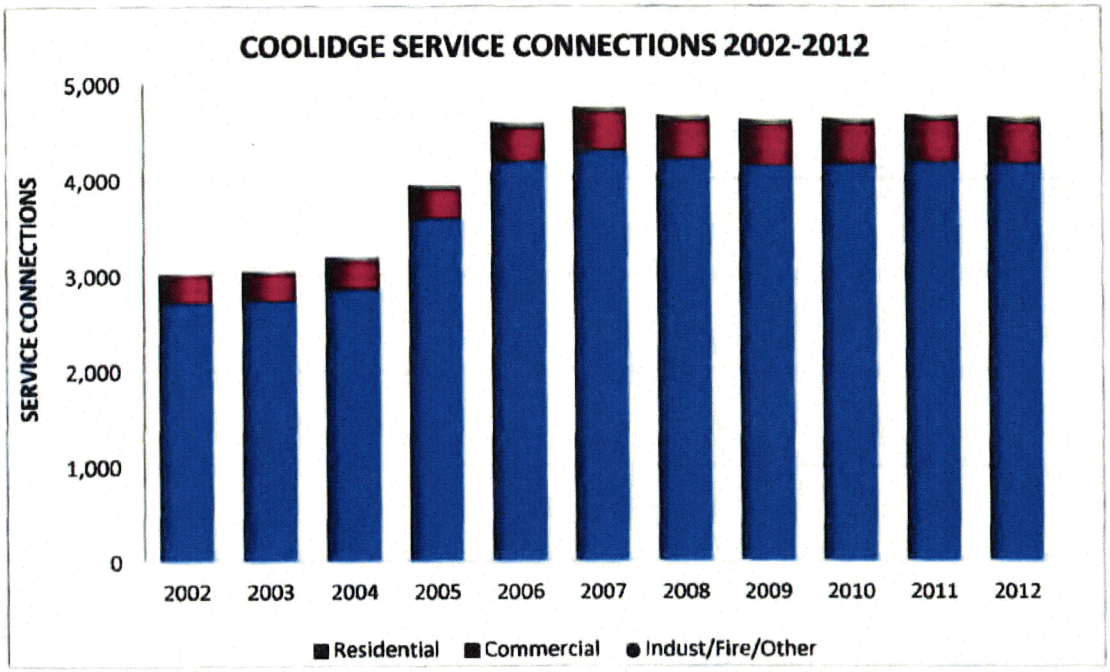


Service Connections

At the end of 2012, AWC's Pinal Valley water system provided water service to about 27,850 service connections of which more than 4,600 are in the City's planning area. Ninety percent of the service connections are residential; nine (9) percent are commercial; the remaining one (1) percent are either industrial, private fire service or other types of non-residential service.

In the past ten (10) years, AWC has added over 1,600 new service connections within the City's planning area. Growth during this time has resulted in a fifty-four percent increase in the number of residential service connections and a fifty-six percent increase in the number of commercial and other non-residential service connections, as illustrated in Graph 1.1. The majority of this growth occurred between 2004 and 2006. Since 2007, growth has been flat.

Graph 1.1: AWC Coolidge Service Area Connections by Type



The other water companies within the City's planning area: Signal Peak Water Company, Carter Water Company, and Woodruff Water Company collectively have less than 60 service connections. There has been very little or no growth in these three water companies' service areas.

Groundwater Supply

Within the City's planning area, AWC currently provides water from seven (7) groundwater wells located in the Coolidge area and from one (1) groundwater well located in the Casa Grande area, through a 16-inch water main located on the west side of Coolidge. These eight (8) wells have a combined supply capacity of over 5,000 gallons per minute ("GPM") or 7.73 million gallons per day ("MGD"), as shown in Table 1.1, below.

Table 1.1: Well Identification and Source Capacity

Source of Supply	ADWR Well ID Number	Source Capacity (GPM)	Source Capacity (MGD)
Well No. 7	55-616606	1,100	1.60
Well No. 9	55-616608	1,240	1.80
Well No. 10	55-616609	1,430	2.00
Well No. 27	55-568553	455	0.65
Well No. 1 VF	55-616686	250	0.36
Well No. 2 VF	55-616687	250	0.36
Well No. 1 CL	55-620899	350	0.50
Well No. 2 CL	55-620900	320	0.46
	Total	5,395 GPM	7.73 MGD

Woodruff Water Company has one (1) well with a maximum pump yield of 1,760 GPM and Carter Water Company has one (1) well with a maximum pump yield of 20 GPM. Signal Peak Water Company has no wells. Instead AWC supplies water to Signal Peak Water Company from a connection to AWC's Pinal Valley water system.

Treatment and Storage

AWC's 7.73 MGD of source capacity located within the City's planning area includes one 1.4 MGD nitrate treatment facility and one (1) 0.7 MGD arsenic treatment facility. The remaining water sources comply with the safe drinking water requirements without treatment, other than chlorination.

Within the City's planning area AWC currently has eight (8) water storage tanks with a combined capacity of over two (2) million gallons. Five (5) of the water storage tanks are centrally located within or near the center of the City. The remaining three (3) water storage tanks are located at Valley Farms, Coolidge Airport and at the Well No. 27 site near Overfield and McCartney Roads.

Carter Water Company has one (1) 2,500-gallon water storage tank for its service area. According to the annual reports on file at the ACC, Woodruff Water Company and Carter Water Company do not list any water storage tanks.

Water Conservation Requirements – Best Management Practices

As part of the ACC and ADWR's Best Management Practices, AWC proposed and the agencies approved the following ten (10) water conservation programs for AWC in the City's planning area:

1. Public Education Program
2. Residential Audit Program
3. Customer High Water Use Notification
4. Customer High Water Use Inquiry Resolution
5. Water Waste Investigations and Information
6. Special Events/Programs and Community Presentations
7. New Homeowner Landscape Information
8. Landscape Consultations
9. Leak Detection Program
10. Meter Repair or Replacement Program

The first eight (8) water conservation programs are customer-oriented conservation measures. The Leak Detection and Meter Repair or Replacement Programs are water conservation measures AWC uses to monitor and control water loss.

AWC's Leak Detection Program utilizes visual inspection as well as state of the art electronic leak detection equipment to quickly identify leaks and breaks. Consequently, leaks and breaks can be identified quickly and repaired in a timely manner, thus reducing water loss.

AWC's Meter Shop, located in the City of Coolidge, has established specific meter replacement criteria based on total gallons and years in service. Meter Shop employees also perform periodic testing of meters both while in service and after replacement to provide an ongoing assessment of the current replacement criteria. In this manner, AWC thereby ensures that meter accuracy is maintained and confirmed.

In addition to the water conservation measures described above, the City requires that any new and expanded development adhere to the plumbing guidelines outlined in the *2006 International Plumbing* Code, which provides specific criteria for low-flow water fixtures and appliances. Also, Article XII of the *City of Coolidge Zoning Code* promotes water conservation with specific landscape design and maintenance requirements for all new and expanded developments within the City. Included in Article XII is a low water use plant list which includes a wide variety of trees, plants, shrubs and grasses indigenous to arid regions.

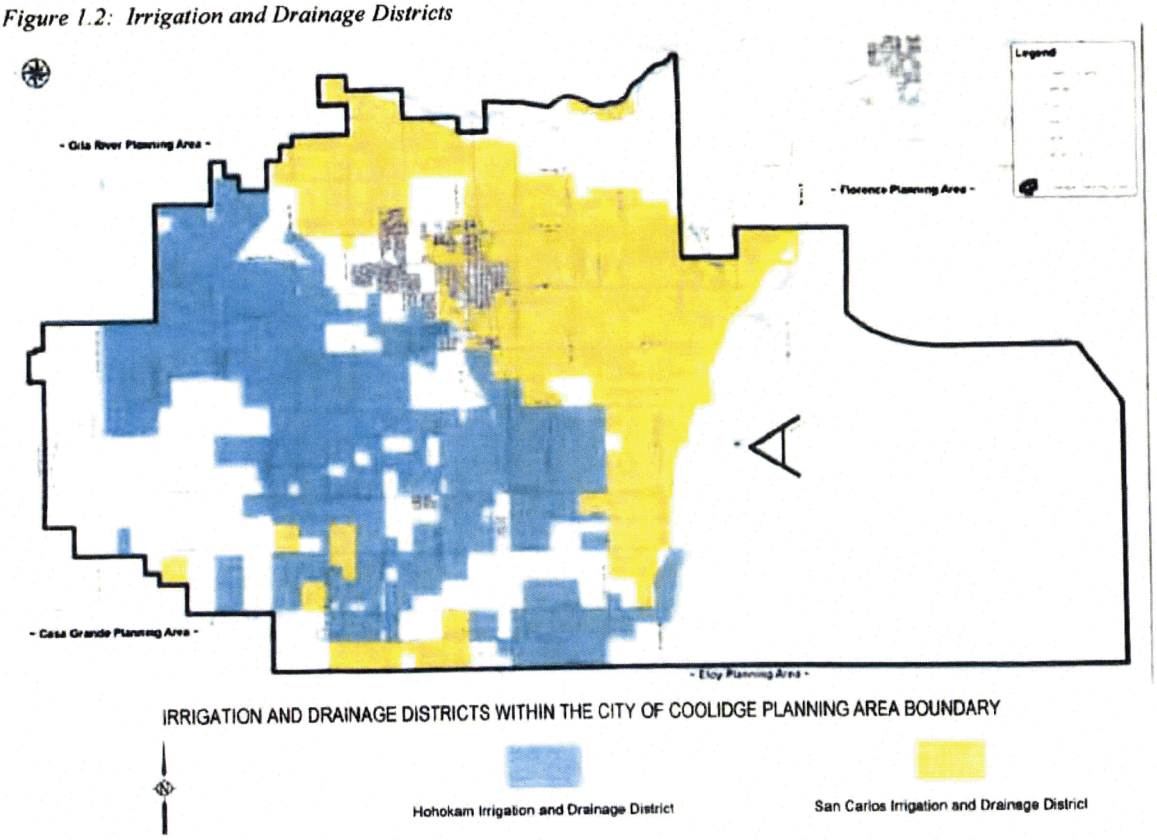
Additional Sources of Supply

In addition to the available groundwater supply within the City's planning area, several other sources of supply are available. AWC currently has Central Arizona Project ("CAP") water allocations for its Pinal Valley water system. These municipal and industrial CAP subcontracts entitle AWC to 2,000-acre-feet and 8,884 acre-feet respectively of CAP water per

year for AWC's Coolidge and Casa Grande areas, respectively. The other three water companies in the City's planning area do not have CAP allocations.

Hohokam Irrigation and Drainage District ("HIDD") provides irrigation water for 32 square miles of agricultural land within the planning area, also San Carlos Irrigation and Drainage District ("SCIDD") provides irrigation water for 28.5 square miles of agricultural land within the planning area. Figure 1.2 shows the service area for each irrigation and drainage district.

Figure 1.2: Irrigation and Drainage Districts



HIDD receives 47,303 acre-feet of non-Indian agricultural CAP water per year. HIDD also banks over 85,000 acre-feet of water annually for the Arizona Water Banking Authority. When available, SCIDD also has the ability to receive and deliver over 100,000 acre-feet of Gila River water annually. SCIDD delivers over 35,000 acre-feet of CAP water annually for agricultural irrigation.

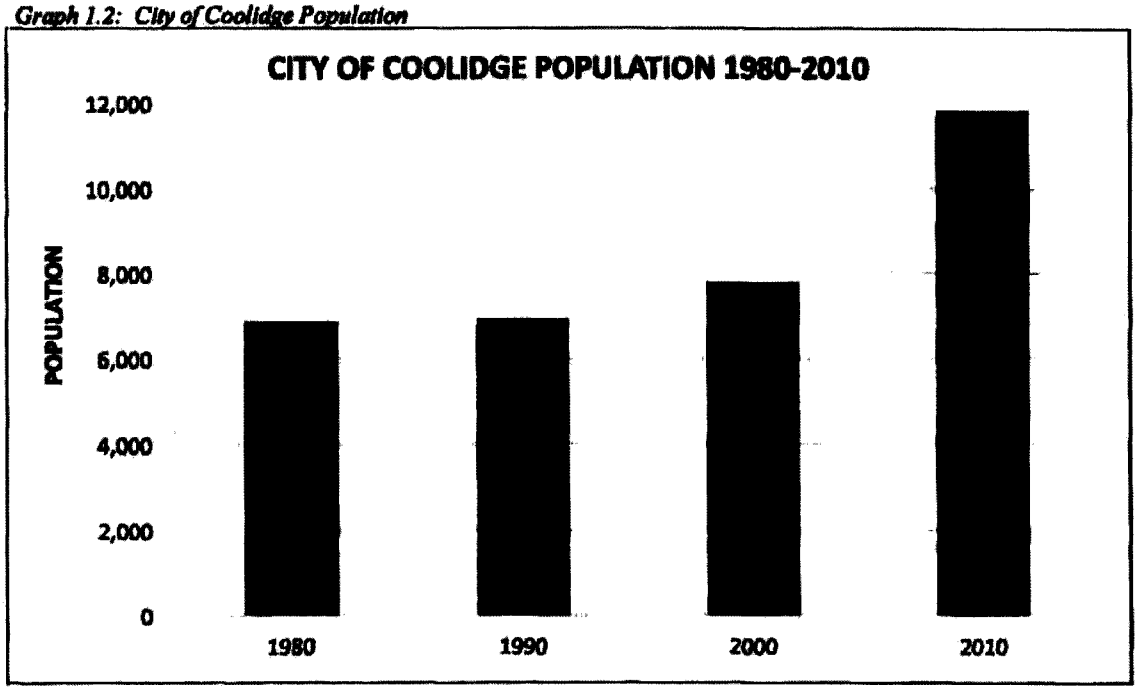
The City's wastewater treatment facility receives and treats up to 1 million gallons per day. The treated reclaimed water is then delivered to adjacent farms for non-edible crops.

POPULATION

Historical Population and Growth Rates

The City's population has increased from 6,581 in 1980 to 11,825 in 2010, according to the United States Census Bureau. Population growth rates vary by decade and were 0.11 percent between 1980 and 1990, 1.24 percent between 1990 and 2000, and 5.19 percent between 2000 and 2010, respectively as shown in Graph 1.2 below.

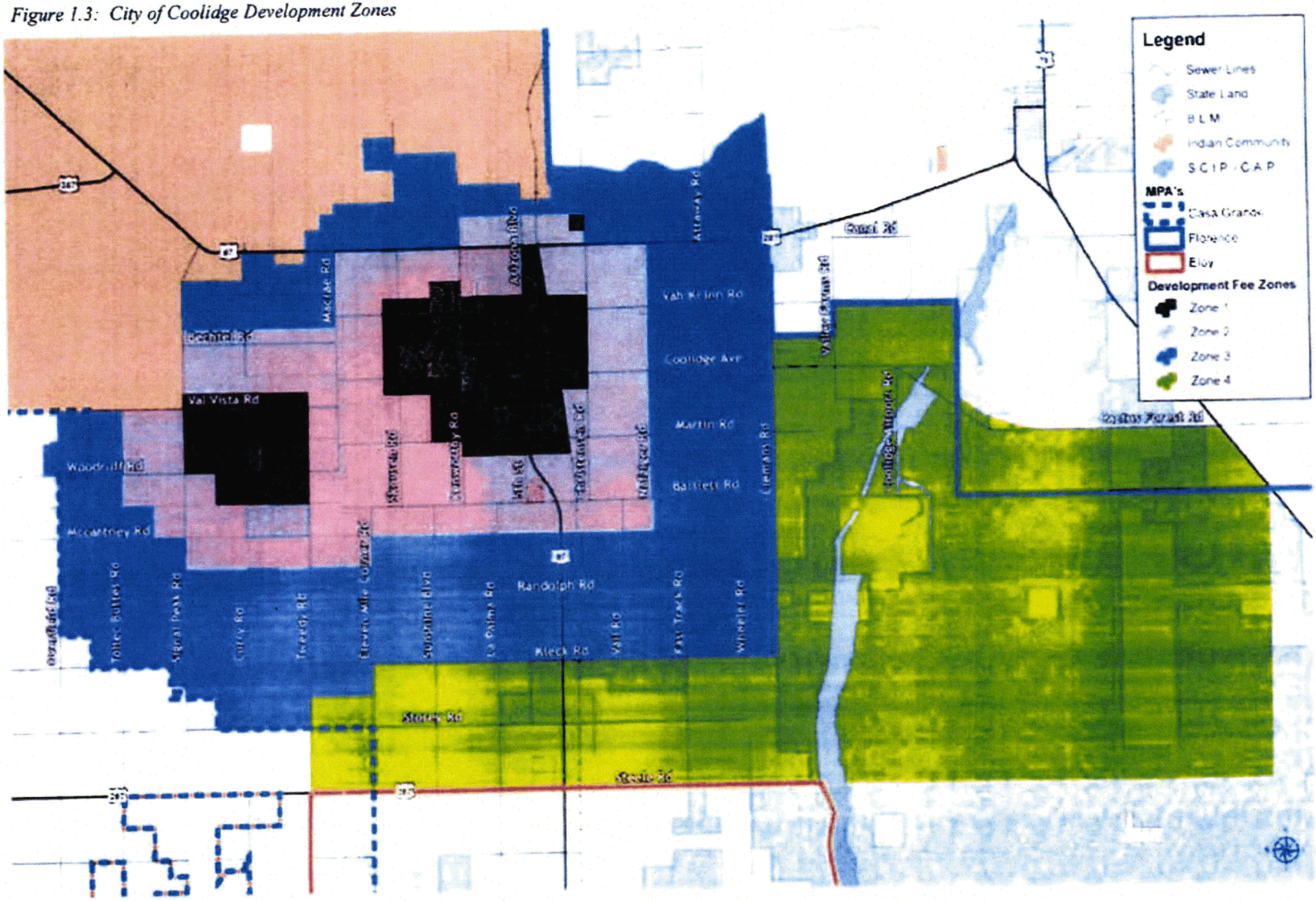
Graph 1.2: City of Coolidge Population



Regional Corridors Affecting Growth

The City divided the planning area into four (4) development zones (Figure 1.3).

Figure 1.3: City of Coolidge Development Zones



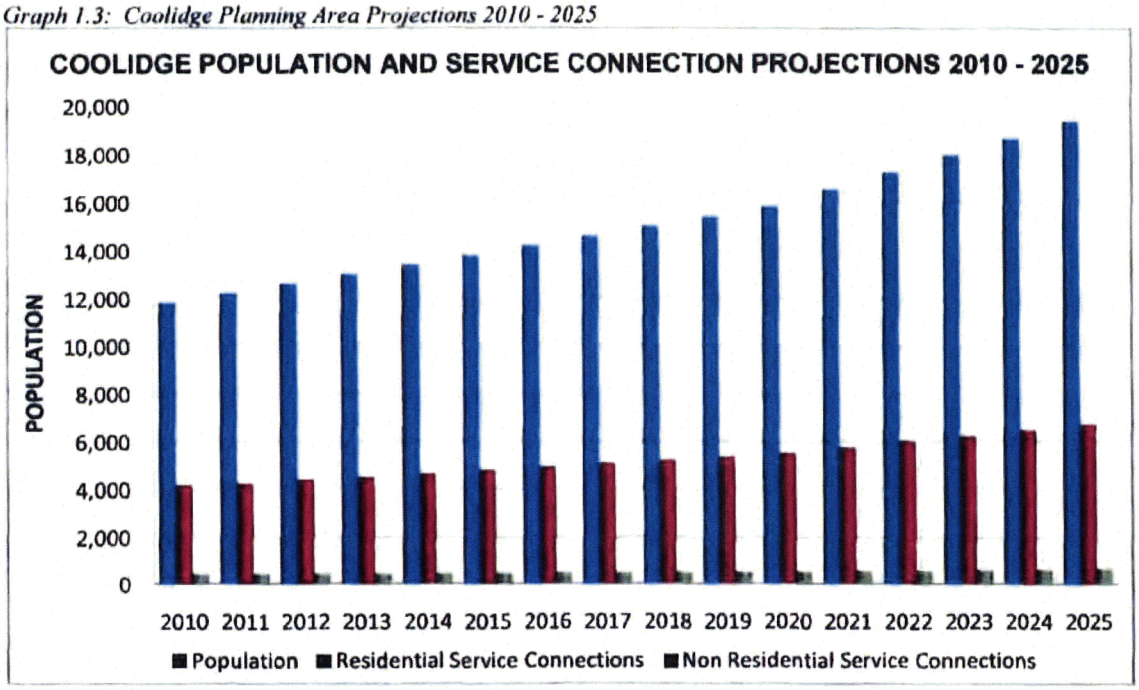
Zone 1 is the current boundary for the City's wastewater collection system. Within this 10.5 square mile area, approximately 5.1 square miles are presently undeveloped. Since over 2,300 lots in Zone 1 are permit ready, and nearly 500 additional lots only lack completion of pavement to obtain permits, it is anticipated that near term future growth will occur predominantly within this zone.

Zone 2 comprises over 20 square miles. Significant growth is not expected in this area until 2030. There is no specific timeframe when Zones 3 and 4 would experience any notable growth.

Population and Service Connection Projections (2025)

The 2010 census data estimates an average of 2.88 persons per household in the City's planning area. Central Arizona Governments ("CAG") estimates a growth rate of 3.4 percent between 2010 and 2020, and 4.45 percent between the 2020 and 2025. Based on this population per household and growth rate data, the City estimates its planning area could have a population of over 19,000 by the year 2025. Utilizing the same census data, there could be over 6,700 residential and nearly 700 non-residential service connections in the City's planning area by the year 2025.

Graph 1.3: Coolidge Planning Area Projections 2010 - 2025

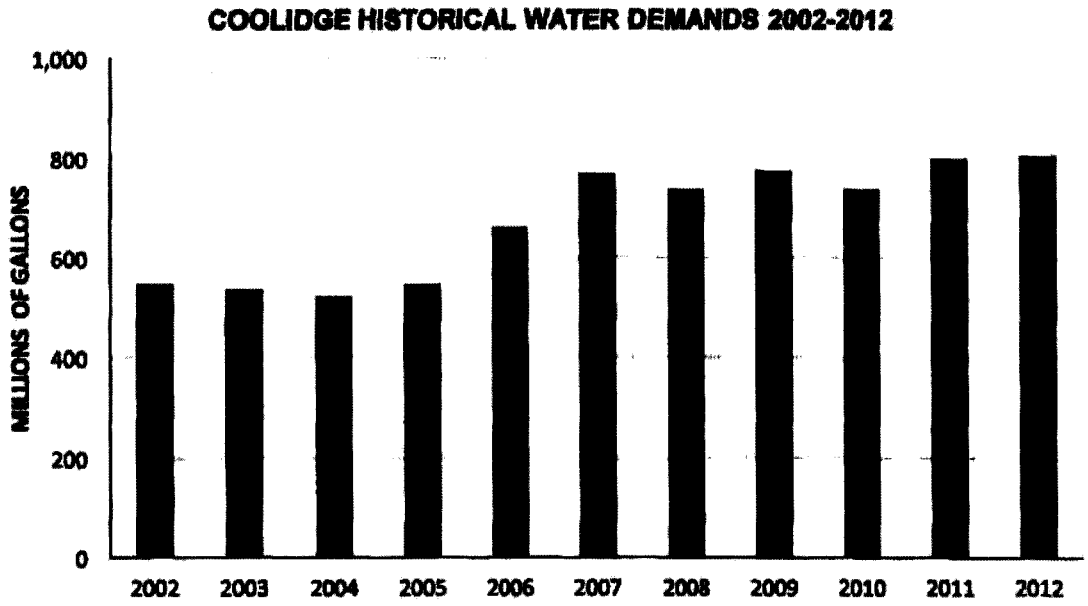


WATER DEMAND

Current Demands

Annual water demands within the City have grown from nearly 550 million gallons in 2002, to nearly 800 million gallons in 2012, representing a 46 percent increase in annual water demands during this time period. The majority of this increase in water demands occurred between 2002 and 2007. Since 2007, demands have been stable.

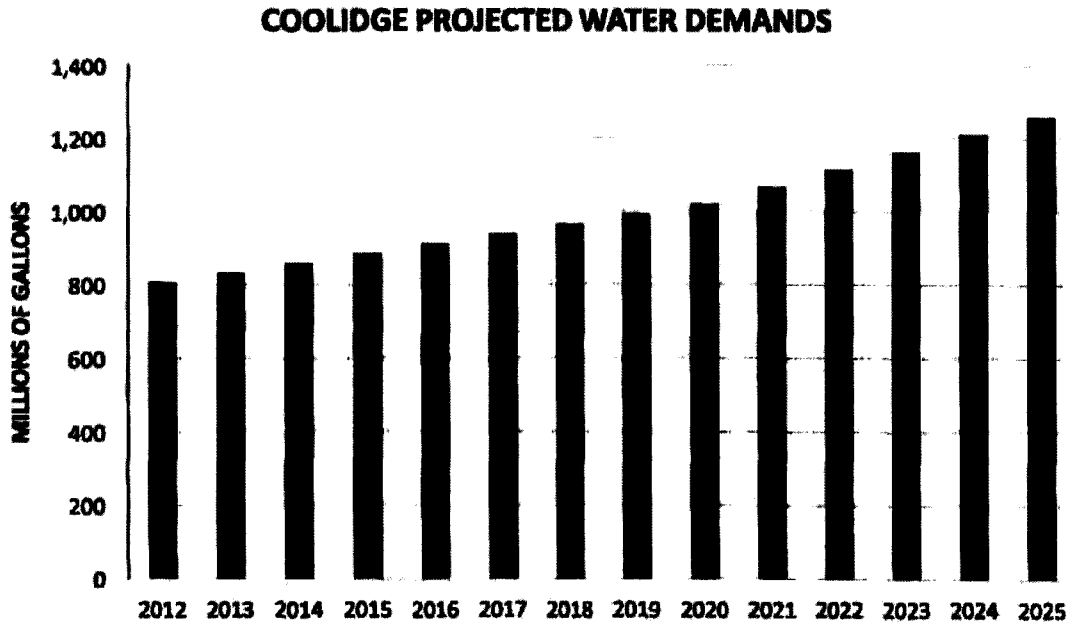
Graph 1.4: Coolidge Historical Water Demands



Projected Demands (2025)

Based on AWC's 2012 average water demands for customers within the City and surrounding areas and CAG estimated population growth rates, AWC estimates water demands could be over 1.2 billion gallons per year by 2025 for the Coolidge area. As stated previously, growth will predominantly occur in Zone 1 within the City's planning area. Graph 1.5 shows the projected water demands from 2012 through 2025.

Graph 1.5: Coolidge Projected Water Demands



Fire Flow Requirements

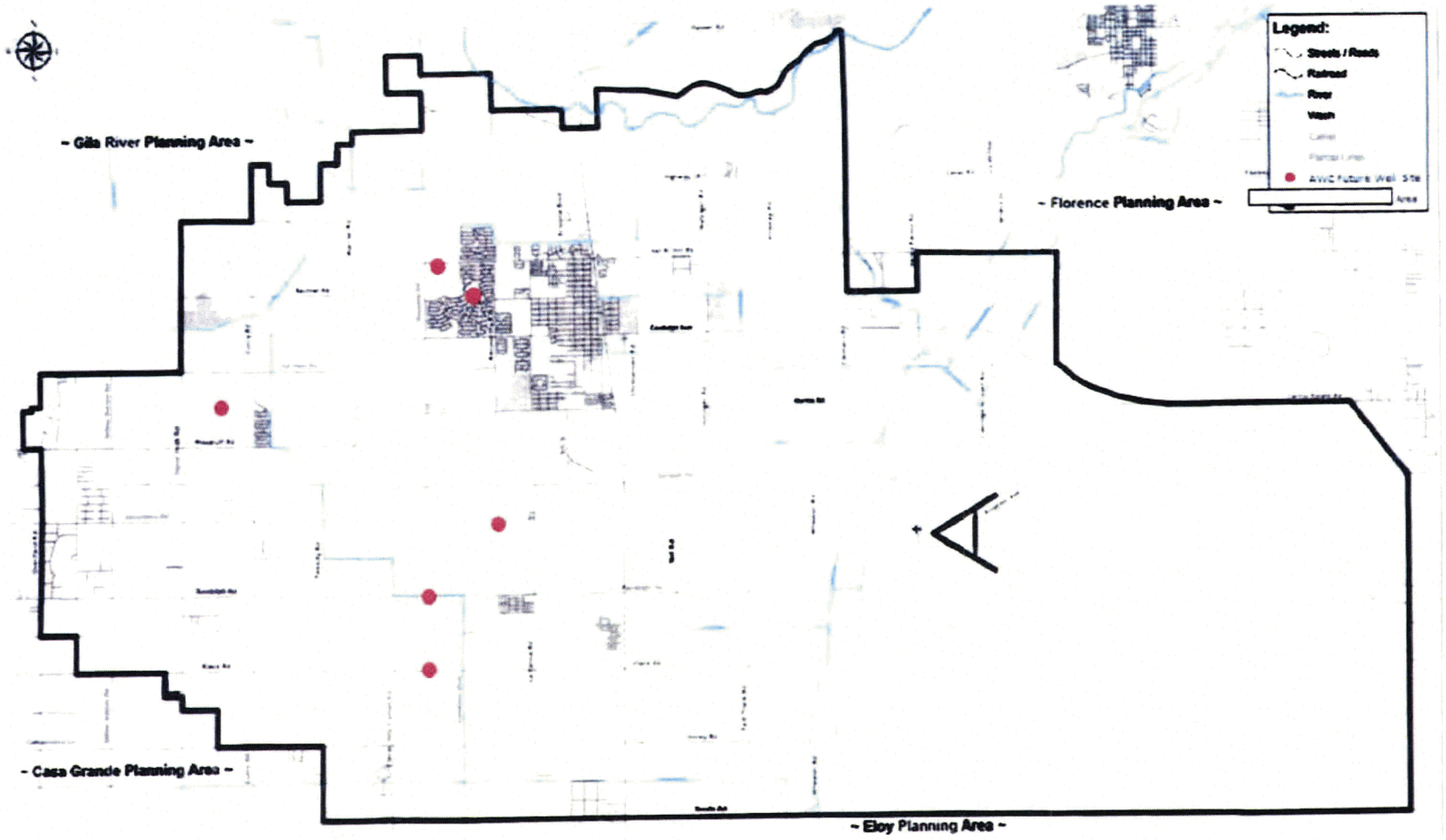
The City's Fire Chief has set the current fire flow criteria for the planning area at 1,200 gpm for residential areas, 2,000 gpm for commercial areas, and 2,750 gpm for industrial areas for durations ranging from two (2) to four (4) hours. As a result, over 650,000 gallons of water storage are needed for fire protection. AWC currently owns and operates eight (8) water storage tanks in the Coolidge and surrounding areas that store more than two (2) million gallons.

FUTURE PLANNING

Short-term Planning

To meet the projected annual demands of 1.2 billion gallons in 2025 for the City's planning area by 2025 it will be necessary to acquire or develop additional sources of supply. To meet these new demands, AWC plans to drill and equip six (6) wells within the City's planning area. These six (6) new wells will be funded primarily by developers as part of developing new subdivisions. The new wells are needed to meet the projected demands of these new subdivisions.

Figure 1.4: Additional Wells in City of Coolidge Planning Area



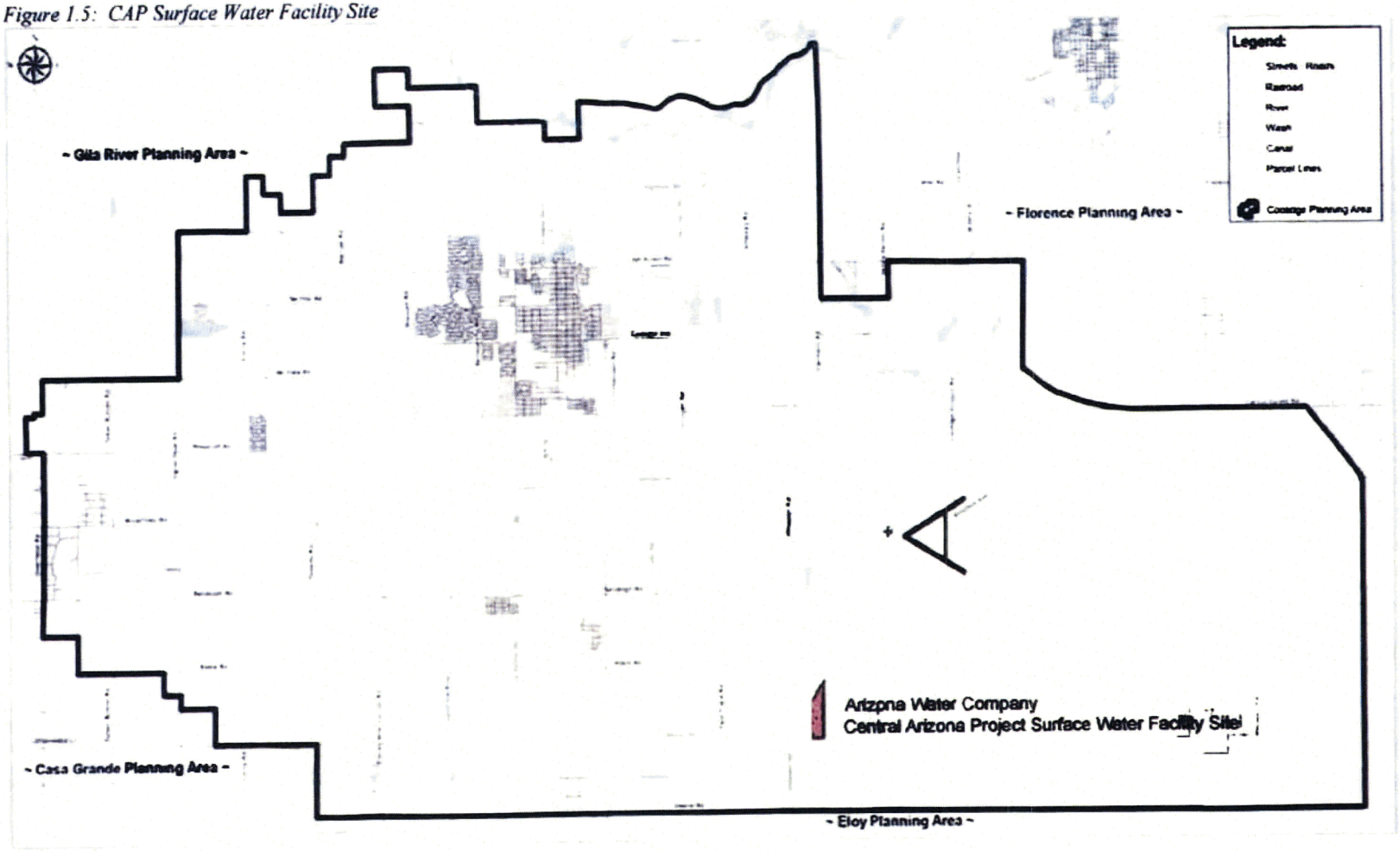
Also, AWC is developing other short-term plans to meet the increased water supply needs in the City's planning area. AWC is developing a plan to use its CAP allocation through water recharge and recovery. Recharge is accomplished through two (2) methods, direct and indirect recharge. Direct basin recharge is a recharge method by which water is placed in spreading basins allowing surface water to percolate down through the soil, recharging the groundwater aquifers. Another method of direct recharge involves the use of injection wells where high-quality water is pumped directly into the aquifer. In both instances, the water is stored in what is known as an Underground Storage Facility ("USF"). Indirect recharge or in-lieu recharge is a method of utilizing renewable surface water supplies instead of groundwater to irrigate farmland, allowing groundwater to remain in the aquifer. The facility that utilizes the surface water instead of groundwater is known as a Groundwater Savings Facility ("GSF"). When needed, using a USF or GSF, AWC can recover stored water to offset its use of groundwater to meet annual demands. AWC is evaluating the construction of recharge basins and recovery wells in Coolidge, to expand available water supply.

Long-term Planning

AWC also has identified several long-terms plans to meet the increasing demands in the City's planning area. While there is no set timeframe for the implementation of these long-term plans, AWC continually monitors development within the City's planning area should further refinement and implementation of these long-term plans become necessary.

AWC will continue to look for opportunities to utilize the full amount of its CAP allocations and will consider acquiring additional CAP allocations as they become available. AWC also acquired a site in the southern portion of the City's planning area (Figure 1.5) for a CAP surface water treatment facility. The surface water treatment facility would employ best available treatment technology for direct potable use. Also, AWC is developing a proposed water recharge and recovery facility at the site. The facility will help to offset the need for additional groundwater supplies.

Figure 1.5: CAP Surface Water Facility Site



The City's wastewater reclamation facility will also provide another source of water for the City's planning area. While currently treating up to 1 million gallons per day, the water reclamation facility has an expansion capability of up to 4 million gallons per day which could be delivered to additional agricultural users. Upgrades to the City's wastewater reclamation facility to Class A+ quality reclaimed water will also allow reclaimed water to be recharged into groundwater basins. Other long-term plans for additional supplies within the City of Coolidge planning area will focus on the conversion of water used for agriculture to municipal and industrial uses.

CONCLUSIONS

The goal of this *Water Resources Plan* is to provide the City an overview of AWC's plan of operation in the City's planning area through the year 2025. In summary, AWC will meet the short-term water demands by using existing and future groundwater supplies as well as CAP water through recharge and recovery. AWC will also continue to identify and pursue other renewable supplies of water when available and needed to provide safe, adequate and reliable water supplies through 2025 and beyond. AWC will continue to work with the City to monitor its plan of operation to provide a reliable and long-term water resources plan to attract development and protect the local water supply.

FKS

7

EXHIBIT FKS-7

ARIZONA WATER COMPANY

Proposed Central Arizona Project ("CAP") Recharge and Recovery Facility

Coolidge, Arizona

Registered Professional Engineer (Civil)
CERTIFICATE NO.
29096
FREDRICK K. SCHNEIDER
Date Signed 4-11-14
ARIZONA, U.S.A.

Exp 9-30-16

April 11, 2014

ARIZONA WATER COMPANY
Pinal Valley Division

Proposed Central Arizona Project ("CAP") Recharge and Recovery Facility
Coolidge, Arizona

1. Project Summary

Arizona Water Company plans to deliver, store and recover all or a portion of the company's 10,884 acre feet per year of CAP surface water allocations that are not currently delivered directly to customers in the Casa Grande and Coolidge areas of the Pinal Valley Division. The company will store this amount of unused CAP surface water in underground storage through recharge at the company's existing 66-acre site ("Recharge Site") for the direct beneficial use of its customers.

The company will take delivery of this CAP surface water from the company's planned 24-inch transmission main from the CAP canal to the Recharge Site. The CAP surface water will flow into one or more recharge basins and percolate into the groundwater basin and be stored pursuant to an Underground Storage Facility ("USF") permit from the Arizona Department of Water Resources ("ADWR"). The company will recover stored CAP surface water from wells at the Recharge Site and from other wells in the company's Pinal Valley service area, pursuant to recovery well permits from ADWR. The water recovered from the on-site wells will flow from the Recharge Site through a 36-inch transmission main to the Pinal Valley water system. Storing CAP surface water at the Recharge Site will assure long-term availability of sustainable water supplies for the company's customers in Coolidge and elsewhere in the Pinal Valley water system.

2. Location

The Recharge Site is located north of Steele Road and east of Wheeler Road, south of the Coolidge municipal airport (Pinal County Assessor's Parcel Number 400-01-006C, see attached parcel map).

3. Background

Agriculture accounts for more than 90 percent of total water use in the Pinal Active Management Area and the general Pinal Valley service area. But demand for water supplies to serve municipal and industrial uses is rising. Beginning with new assured water supply ("AWS") rules in 1995 and continuing with revisions to the AWS rules in 2005, 2007 and 2010, ADWR requires a Physical Availability Demonstration ("PAD") showing water is physically available for a proposed development for at least 100 years. Also, the AWS rules require that groundwater delivered to new developments must be replenished with renewable supplies, such as CAP surface water or reclaimed water.

ADWR approved the company's PAD in 2010, showing that certain quantities of groundwater are physically available for a 100-year period which can be allocated to planned subdivisions to satisfy AWS requirements. As of November 1, 2013, at least 11,500 acre feet of groundwater remain physically available for new developments in the company's Pinal Valley service area.

In addition to abundant local groundwater, the company holds two CAP surface water allocations: 8,884-acre feet for Casa Grande and 2,000 acre feet for Coolidge. In 2012, the company delivered 1,668-acre feet of untreated CAP surface water to three (3) customers in the Pinal Valley service area; two are turf facilities and one is a Salt River Project power plant. The remaining approximately 9,200 acre-feet of CAP water remain available to meet customer demands.

The company's ability to serve growing numbers of customers is tied in large part to AWS rules that require physically available and renewable supplies for new developments. The company can put its full CAP allocation to beneficial use, either through recharge and recovery or through direct delivery.

The company has plans for a 10 million gallon per day CAP surface water treatment facility at the Recharge Site, which would employ best available treatment technology for direct potable use. The company extended the schedule for the CAP surface water treatment facility originally planned for 2012 because of the severe downturn in home building in Pinal County. Instead of building a CAP surface water treatment facility at this site for more than $75 million, the company will design and operate facilities at the Recharge Site to recharge, store and recover CAP water until a treatment plant is needed.

4. Project Objectives

The primary objectives for the Project are to fully use the company's 10,884 acre foot Pinal Valley service area subcontract for CAP water, to maximize the use of renewable supplies and to add to the company's physically available supplies.

5. Project Description

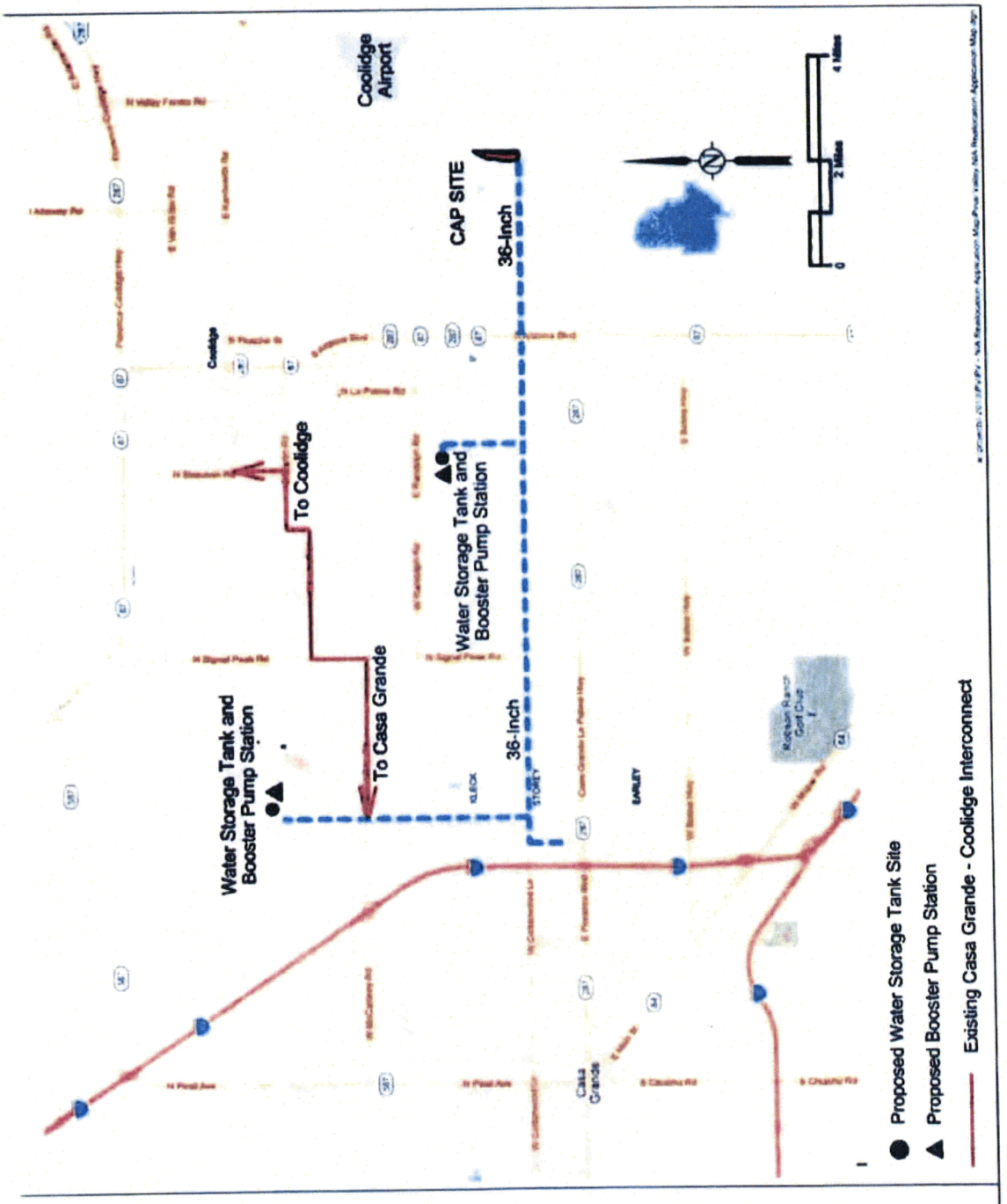
Untreated CAP surface water will flow by gravity from the CAP canal to five (5) recharge basins constructed at the Recharge Site through a 3,000-linear foot 24-inch transmission main that will be installed from the CAP canal to the Recharge Site within the company's existing Arizona State Land Department lease. The company will use an ultrasonic meter located at the point of delivery from the CAP canal to measure water deliveries to the 24-inch pipeline. Water quality characteristics of the Colorado River and the CAP aqueduct have been studied extensively and are well known. The company is planning to use percolation spreading basins as its method of recharge at the Recharge Site. Due to the high quality of CAP surface water, the untreated CAP surface water will not require pre-treatment prior to entering the percolation spreading basins.

The percolation basins will be approximately 700 feet long, 540 feet wide and 12 feet deep. Company engineers will determine the actual size, depth and number of percolation basins after a hydrologic study of the Recharge Site is completed by a hydrologic consulting firm. The company will drill and maintain two monitoring wells near the recharge basins to measure the level of groundwater mounding caused by percolating CAP water. A proposed design of the Recharge Site is attached.

An eight foot tall chain link fence topped with razor ribbon or barbed wire will prevent unauthorized entry, potential contamination to the water supply, vandalism and damage to or theft of equipment, and will reduce the amount of debris that could enter the Recharge Site.

ARIZONA WATER COMPANY PROPOSED PINAL VALLEY RECHARGE FACILITY
SITE LAYOUT

PROPOSED CENTRAL ARIZONA PROJECT RECHARGE AND RECOVERY FACILITY COOLIDGE ARIZONA.DOCX
THH.bndl | 2/21/2014 | 8:14AM



Proposed Pinal Valley Water System CAP Distribution

FKS

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EXHIBIT FKS-8

Reclaimed Water Use Conceptual Master Plan for the City of Casa Grande and the Arizona Water Company Pinal Valley Planning Area

Final Report
March, 2008

Larson and Associates
Water Resources Consulting

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Introduction

The City of Casa Grande updated its Wastewater Master Plan in 2006 (Carollo Engineers). The plan calls for expansion of the Kortsen Road Water Reclamation Plant to 12 million gallons per day (MGD) capacity by 2009 and upgrading the treatment level to A+ quality water suitable for open-access irrigation uses, and planning for water reclamation plant expansion at or near the existing plant site to accommodate the estimated buildout wastewater flows of 50 MGD. The plan also called for development of a plan to maximize use of available reclaimed water in the future.

This Reclaimed Water Use Conceptual Master Plan builds on the Carollo master plan. The project was a joint planning effort between the City of Casa Grande and Arizona Water Company (AWC). AWC provided in-kind services related to engineering analysis, mapping, and support services.

The objectives of this project are to:

- Provide a high level analysis of the reclaimed water use alternatives available for implementation within the planning area.
- Evaluate the potential costs, benefits, technical challenges, regulatory issues, and financing alternatives for effluent reuse options.
- Provide a recommended implementation action plan, including system funding alternatives
- Discuss and provide a potential framework for a Memorandum of Understanding between Casa Grande and Arizona Water Company designed to facilitate reclaimed water use within the service area.
- Identify additional engineering, hydrologic, and financial analyses required.

Chapter 1 – State Laws and Regulations Affecting the Use of Reclaimed Water

1.0 Overview of Regulations

The Arizona Department of Water Resources (ADWR) and the Arizona Department of Environmental Quality (ADEQ) administer multiple laws and regulations that control the discharge, management and use of reclaimed water within Arizona's Active Management Areas. This chapter summarizes the key regulations that must be complied with in order to effectively manage the City of Casa Grande's reclaimed water resources. Many of these laws and rules regulate the underground storage and recovery of effluent and the direct use of effluent for various uses. Some rules relate to restrictions on groundwater use in the Active Management Areas and are designed to encourage the reuse of effluent rather than continued discharge to stream channels. The A.R.S. statute number or ADWR or ADEQ Rule numbers are referenced below for selected topics.

1.1 Arizona Department of Water Resources – Statutes and Rules

1.1.1 Underground Storage Facility (USF) Permits (A.R.S. 45-801.01)

In order to accrue recharge storage credits, a recharge facility must be permitted as an Underground Storage Facility. There are two types of underground storage facility permits that may be obtained from ADWR. A "Constructed" USF permit allows for water to be stored in an aquifer using some type of constructed device, such as injection wells, percolation basins (spreading basins), or vadose zone wells. To be considered a constructed USF, a "body of water" must have been "designed, constructed, or altered so that water storage is a principal purpose of the body of water" (A.R.S. 45-815.01). A "Managed" USF permit allows for water to be discharged to a natural stream channel that allows water to percolate into the aquifer without the assistance of a constructed device.

With a Constructed USF permit, the permit holder can receive a storage credit for nearly all of the water discharged to the storage facility, minus evaporation and other losses and a "cut to the aquifer" of 5 percent. Generally evaporation and other losses such water uptake by plants and losses from water conveyance pipelines is less than 3 percent. Most of the approximately 60 permitted underground storage facilities in Arizona are constructed facilities. The 5 percent cut to aquifer is not deducted for effluent stored at a USF.

With a Managed USF, storage credits may be provided up to a maximum of 50 percent of the water discharged to the facility after evapotranspiration losses are deducted. For this reason, managed facilities are less common and only 6 such permits have been issued to date by ADWR.

To receive a permit, a USF permittee must demonstrate that:

- The project must be hydrologically feasible.
- The applicant must demonstrate financial and technical capability to carry out the project.
- The project will cause no unreasonable harm to land or other water users within the area of hydrologic impact of the project.
- The project must continue to be monitored to ensure water storage will not cause the migration of poor quality groundwater.

USF permits generally require the holder of the permit to, at a minimum, submit quarterly groundwater level and water quality sampling data and reports. Several monitor wells (minimum of 3) are normally required. Quarterly and annual reports are required to be filed with ADWR. USF permits list the specific water sources that are allowed to be stored at the facility. The permitting process through ADWR is relatively rigorous and is governed by A.R.S. 45-801.01 and R12-12-151. A hydrogeologic study is required to be submitted that calculates the "area of hydrologic impact" and demonstrates the facility will not cause unreasonable increasing harm to the land or other nearby well owners. The area of impact (AOI) is defined by a one-foot rise in the water table that is the result of the water recharge activity. There is a 295-day requirement for ADWR to complete a substantive review. However, in some cases, USF permits can require up to two years to obtain from the time the permit is first applied for, if questions arise regarding the technical aspects of the hydrologic modeling study.

Pilot Scale USF permits are available from ADWR for small projects in which less than 10,000 acre-feet of total aquifer storage will occur. These permits have an expedited review process and somewhat less detailed hydrologic study and monitoring requirements. Some holders of standard USF permits have begun by obtaining a pilot project permit and then converting to a standard permit after collecting more hydrologic data during operation of the storage facility.

1.1.2 Groundwater Savings Facility (GSF) Permits (A.R.S. 45-812.01)

A Groundwater Savings Facility Permit is obtained by an irrigation district. It allows the holder to utilize a renewable water supply (such as effluent or CAP water) to replace groundwater pumping thus creating groundwater savings. The renewable water source is referred to as "in-lieu" water. The operator of a GSF must agree to reduce its groundwater pumping on a gallon-for-gallon basis. The person delivering in-lieu water to a GSF is eligible to accrue long-term groundwater storage credits for later use. The Area of Impact for water stored using a Groundwater Savings Facility is considered to be the entire areal extent of the irrigation district boundaries. Approximately 20 Groundwater Savings Facilities have been permitted to date in Arizona. The following Pinal County irrigation districts have permitted GSFs and currently receive in-lieu Central Arizona Project water:

- San Carlos Irrigation and Drainage District (SCIDD)
- Maricopa Stanfield Irrigation and Drainage District (MSIDD)
- Central Arizona Irrigation and Drainage District (CAIDD)
- Hohokam Irrigation District
- Gila River Indian Irrigation and Drainage District

These facilities could potentially be used to store effluent underground and generate long-term storage credits if agreements could be established with the holder of the GSF permit. The GSF permits would likely need to be modified to include effluent as an eligible in-lieu water source.

1.1.3 Water Storage Permits (45-831.01)

A water storage permit allows the permit holder to store water at a permitted USF or GSF. In order to store water, the applicant must provide evidence of its legal right to the source water. The water storage permit creates a water storage account that is monitored and updated annually by ADWR. The holder of a USF permit must also obtain a water storage permit to store water. Annual water storage reports must be filed whether or not water was stored pursuant to the permit.

1.1.4 Long-term Storage Credits and Accounting

Operators of USFs and GSFs report to ADWR annually the amount of water stored for each storage permit holder. A long-term storage account is established by ADWR for each water storage permit holder. In order to accrue a long-term storage credit for water stored, it must be demonstrated that the water could not have been used directly, the water was not recovered in the year in which it was stored, and the water would not have been recharged naturally. Long-term storage credits may be gifted, sold, or leased to another entity by the holder of the credits. ADWR provides forms that must be filled out and submitted regarding transfers of credits to other entities.

Storage credits may be recovered using "recovery wells" from anywhere within the same AMA in which the water was stored, provided the use of the recovered water is "consistent with the AMA Management Plan." In general, this means the water is not being wasted by the user (i.e. the user is in compliance with ADWR management plan conservation requirements) and the use is generally a recognized beneficial use.

1.1.5 Recovery Well Permits and Storage Credit Recovery Issues

A recovery well permit allows the permit holder to recover long-term storage credits or to recover stored water annually. When recovered, stored water retains the legal character of the water that was originally stored (e.g. effluent remains effluent). The impact of recovering stored water must not damage other land and water users as noted in ADWR's well spacing and impact rules (R12-15-1301-1308). Existing wells operated as general service area wells by a water provider can also be permitted as recovery wells. However,

there are some restrictions on the recovery of long-term storage credits using recovery wells that limit uses of the credits. These restrictions include:

- If a proposed recovery well is located within three miles of the service area of a municipal water provider (or water company certificated area), the owner/operator of the recovery well must have the consent of the potentially impacted provider.
- If recovered outside of the modeled "Area of Impact," the existing rate of groundwater level decline in the area must not exceed 4 feet per year.

When accounting for effluent storage credits recovered from within the hydrologic Area of Impact, the use of recovered water is not counted against a water provider's gallons per capita per day water conservation requirement established through the Active Management Area (AMA) management plans. Other incentives to encourage effluent reuse in the AMAs are discussed in section 2.5.

1.1.6 Other Management Plan and Statutory Incentives for Use of Reclaimed Water

The Lakes Rule (45-131 to 45-139)

The Lakes Rule was adopted in 1987 to stop the practice of constructing artificial lakes in the AMAs using groundwater or surface water. The lakes rule does allow these sources of water to be used in lakes within public parks and other facilities open to the public and golf course lakes. It also allows reclaimed water or poor quality groundwater to be used to fill decorative lakes. Interim use permits may be issued by ADWR for use of surface water or groundwater in non-public facility lakes for up to three years or until effluent is available to fill the lake. In 2007 ADWR issued a Substantive Policy Statement defining criteria that must be met to qualify as a public facility under the statute. These criteria have significantly tightened the definition and fewer facilities will likely qualify in the future. This policy statement could have the effect of increasing the demand for reclaimed water to fill new recreational and decorative lakes in developer-built parks and common areas within AMAs.

Other Effluent Use Incentives

When irrigating golf courses and other turf facilities over 10 acres in size (facilities subject to ADWR management plan turf water conservation allotments), 1 acre-foot of effluent use is counted as only 0.6 acre-foot of use toward the annual water use target. This provides a significant incentive for effluent use at turf facilities subject to conservation targets. Effluent stored underground and recovered from wells located within the hydrologic Area of Impact also qualify for this incentive. As mentioned earlier, effluent recharged and recovered from within the AOI is not subject to the 5 percent "cut to the aquifer" that surface water storage is subject to.

1.1.7 Water Exchanges – A Tool for Reclaimed Water Management

Water exchanges, regulated under A.R.S. 45-1001, provide a useful tool to help facilitate the beneficial use of reclaimed water. The purpose of water exchange is to match the water quality required by the user with available water supplies. For example, effluent from a municipal wastewater treatment plant could be exchanged with an agricultural irrigation district or individual farmer for surface water (e.g. Gila River water), CAP water, or groundwater rights. The water quality required by the agricultural user is met by municipal effluent delivered by the municipality. The higher quality surface water or groundwater can be delivered to the municipal provider or water company to access and deliver to its customers in a cost-effective manner. Exchanges can be an effective means of minimizing the costs of water conveyance to the point of use.

Water exchange contracts between entities must be enrolled with ADWR and an exchange permit is issued to both entities. Annual reports must be filed with ADWR by both entities involved in the exchange. The permit establishes the annual exchange water volume limits that each entity must adhere to. The water received in an exchange retains the legal character of the water given in an exchange. Numerous water exchanges have been permitted by ADWR to date and the permitting process is relatively straightforward. Exchanges can also involve more than two entities. Several examples of ongoing effluent for surface water exchanges include:

- The City of Phoenix-Salt River Project (SRP)-Roosevelt Irrigation District (RID) exchange. This is a three-way exchange whereby Phoenix provides reclaimed water to RID for irrigation use, RID provides groundwater to the SRP, and SRP provides surface water to Phoenix's water treatment plant for potable use.
- The cities of Chandler and Mesa provide effluent to the Gila River Indian Community for agricultural use and the GRIC provide CAP water in exchange.

One potential disadvantage of exchanging effluent for another higher quality water source is that a discount of 10-20 percent may be requested by the entity providing the higher quality source, thereby lowering the volume of water available for use by the entity providing the lower quality source water. Both of the exchanges described above involve such a discount.

1.1.8 100-Year Assured Water Supply Rules – Value of Reclaimed Water and Underground Storage Credits

Arizona's Assured Water Supply (AWS) Rules require that within the state's Active Management Area (including the Pinal AMA), all subdivisions containing more than 6 lots must demonstrate a 100-year supply of water will be continuously available to the new homes. To demonstrate an AWS, the subdivision must be located within a water provider service area that has and maintains an "Assured Water Supply Designation" for the entire service area, or the developer must obtain an "Assured Water Supply

Certificate" for the subdivision. Most private water companies do not maintain AWS Designations but require each developer to apply for and obtain an AWS certificate from ADWR. This is the AWS model that Arizona Water Company operates under within the City of Casa Grande. With either method, it must be demonstrated that water that meets drinking water standards will be physically and legally available. The water provider must also demonstrate it has the financial capability to construct and maintain the water supply infrastructure required over the long-term. Developers may also be required to enroll the subdivision in the Central Arizona Groundwater Replenishment District (CAGRD) or pledge sufficient Irrigation Grandfathered Right extinguishment credits. The CAGRD is then responsible for replenishing the groundwater that is provided annually to each subdivision by the water provider. CAGRD accomplishes this by either:

- Purchasing existing underground storage credits stored within the same AMA as the groundwater use that is to be replenished.
- Purchasing effluent or surface water (CAP or other) and delivering it to a recharge facility located within the same AMA.

The CAGRD Plan of Operation (2006) identifies effluent as one of the primary new sources of water the CAGRD will pursue over the next five years. Projected CAGRD replenishment requirements within Pinal County and potential partnering opportunities with the City and AWC are discussed in Chapter 6.

One of the key issues for developers in obtaining an AWS certificate in the future in Casa Grande will be demonstrating physical availability of groundwater, since groundwater will continue to an important water source for Arizona Water Company (AWC). To meet this requirement, it must be shown that groundwater levels after 100 years will not exceed 1,100 feet below land surface. Recent groundwater modeling studies conducted by AWC indicate that maximum use of surface water (like use of AWC's Central Arizona Project allocation and future use of Gila River water) and maximum use of Casa Grande and Pinal AMA effluent will be important in ensuring that the physical availability requirement can be met as the City of Casa Grande and other areas develop.

In summary, direct and indirect use (recharge and recovery of storage credits) of Casa Grande's reclaimed water will continue to be of high value to: 1) developers within Casa Grande, 2) the Central Arizona Groundwater Replenishment District (CAGRD), and 3) Arizona Water Company and other private water companies.

1.2 Arizona Department of Environmental Quality (ADEQ) Reclaimed Water Permits

1.2.1 General Permit Requirements

A Reclaimed Water Individual Permit or Reclaimed Water General Permit issued by ADEQ applies to wastewater treatment facilities supplying reclaimed water and to the sites where the water is applied or used. A permit is required if you are:

- An owner or operator of a sewage treatment facility that generates reclaimed water for direct reuse.
- An owner or operator of a reclaimed water blending facility that mixes reclaimed water with other sources for distribution.
- A reclaimed water agent (an entity that receives water from a wastewater provider and distributes it to multiple end users).
- An end user of reclaimed water.
- A person who uses gray water.
- A person who directly reuses reclaimed water from a sewage treatment facility combined with industrial wastewater or combined with reclaimed water at an industrial wastewater treatment facility.
- A person who directly reuses reclaimed water from an industrial wastewater treatment facility in the production or processing of a crop or substance that may be used as human or animal food.

All wastewater treatment facilities providing reclaimed water for reuse must have an individual Aquifer Protection Permit (APP), or amend an existing APP to include certification for a particular Class of reclaimed water (A+, A, B+, B, or C). For the City of Casa Grande Phase 3 wastewater treatment plant expansion and modification to Class A+ water, the APP will be amended to Class A+ water. The new APP will require regular monitoring and reporting of reclaimed water quality to ensure that water quality limits for A+ water are met.

1.2.2 Classes of Reclaimed Water

Arizona's reclaimed water quality standards establish five classes of reclaimed water expressed as a combination of minimum treatment requirements (treatment processes) and a limited set of numeric water quality criteria. The City of Casa Grande has made the decision to make the necessary treatment process improvements during the upcoming Phase 3 plant expansion to produce A+ quality water. Class A+ water is water that has undergone secondary treatment, filtration, and disinfection. Class A reclaimed water is required for reuse applications where there is a relatively high risk of human exposure to potential pathogens in the reclaimed water (see Table 1.1 below, source A.A.C. 18-11-301). In order to produce Class A water, tertiary filtration and disinfection of wastewater is required. The + designation is given to effluent that meets a total nitrogen concentration of less than 10 mg/l. Denitrification of effluent to achieve the A+ rating

will minimize regulatory concerns over nitrate contamination of groundwater where underground storage of effluent is desired. Thus the general permits for the direct reuse of Class A+ do not include additional nitrogen removal as a condition of reuse. Having A+ quality effluent will enable Casa Grande to maximize beneficial reuse opportunities for the water.

Table 1.1 - Minimum Reclaimed Water Quality Requirements for Direct Reuse

Type of Direct Reuse	Minimum Class of Reclaimed Water Required
Irrigation of food crops	A
Recreational impoundments	A
Residential landscape irrigation	A
Schoolground landscape irrigation	A
Open access landscape irrigation	A
Toilet and urinal flushing	A
Fire protection systems	A
Spray irrigation of an orchard or vineyard	A
Commercial closed loop air conditioning systems	A
Vehicle and equipment washing (does not include self-service vehicle washes)	A
Snowmaking	A
Surface irrigation of an orchard or vineyard	B
Golf course irrigation	B
Restricted access landscape irrigation	B
Landscape impoundment	B
Dust control	B
Soil compaction and similar construction activities	B
Pasture for milking animals	B
Livestock watering (dairy animals)	B
Concrete and cement mixing	B
Materials washing and sieving	B
Street cleaning	B
Pasture for non-dairy animals	C
Livestock watering (non-dairy animals)	C
Irrigation of sod farms	C
Irrigation of fiber, seed, forage, and similar crops	C
Silviculture	C

Note: Nothing in this Article prevents a wastewater treatment plant from using a higher quality reclaimed water for a type of direct reuse than the minimum class of reclaimed water listed in Table A. For example, a wastewater treatment plant may provide Class A reclaimed water for a type of direct reuse where Class B or Class C reclaimed water is acceptable.

1.2.3 Individual Reuse Permits

An individual permit is required for the reuse of industrial wastewater that contains a component of sewage or is used in processing any crop or substance that may be used as a human or animal food. An individual permit could be required if Casa Grande effluent was delivered to agricultural growers growing food crops. This requirement does not apply to industrial wastewater that is recycled or used in industrial processes.

1.2.4 General Permits

The City of Casa Grande will most likely need to obtain or amend its existing general reclaimed water permit to deliver water to new direct users. There are several types of general reclaimed water permits:

- Type 1 General Permit does not require notification and does not expire if the general permit conditions are continually met. These permits apply to home use of residential graywater.
- Type 2 General Permit requires a Notice of Intent (NOI) be filed with ADEQ and are valid for five years.
- Type 3 General Permit requires a Notice of Intent (NOI) be filed with ADEQ and are valid for five years. Type 3 General Permits are issued to reclaimed water blending facilities, reclaimed water agents, and users of gray water (not treated wastewater from a municipal water treatment plant). If the City sold water to an end user who then redistributed or sold water to other users as a delivery agent, a Type 3 permit would be required of the delivery agent.

Delivery of Class A+ effluent from the City's wastewater treatment plant to multiple direct users will require a Type 2 General Permit for Class A+ water. Each end user of the water has the responsibility of meeting all permit requirements such as signage and containment of the water on the site. The general requirements for this type of permit can be found in ADEQ rule R18-9-712. This rule states the following: Type 2 Reclaimed Water General Permit for Direct Reuse of Class A+ Reclaimed Water

- A Type 2 Reclaimed Water General Permit for Direct Reuse of Class A+ Reclaimed Water allows any direct reuse application of reclaimed water listed in 18 A.A.C. 11, Article 3, Appendix A, if the conditions in this Article are met.
- Record Maintenance. A permittee shall maintain records for five years that describe the direct reuse activities. The records shall be made available to the Department upon request.
- A permittee shall post signs as specified in R18-9-704(H).
- No lining is required for an impoundment storing Class A+ reclaimed water.

1.2.5 End User Signage Requirements for Reuse of Class A+ Water

Direct use of Class A+ water in some cases requires signage notifying the public that reclaimed water is in use on the site as follows:

- All hose bibs: signage required.
- With residential irrigation: Front yard, or all entrances to a subdivision if the signage is supplemented by written yearly notification to individual homeowners by the homeowner's association.
- School-ground irrigation: Signage on premises visible to staff and students.
- Other open access irrigation sites (e.g. public parks or open space): No signage required.
- Restricted Access Irrigation (e.g. golf courses, cemeteries): No signage required.
- Mobile Reclaimed Water Dispersal: Signage on back of truck or tank.

1.3 Water Quality Impacts on Long-term Use of Reclaimed Water

1.3.1 Effluent Total Dissolved Solids Content

Arizona's reclaimed water use standards are among the most stringent of any state. Therefore, standards are not anticipated to become more stringent in the foreseeable future. However, the higher salinity level of reclaimed water versus fresh water is an issue that must be managed in relation to long-term use of reclaimed water for irrigation and industrial uses. In general, municipal wastewater is 200 mg/l to 300 mg/l higher in total dissolved solids (TDS) content than the potable source water. Salt buildup in the soil must be managed properly by periodically applying excess irrigation water to flush the salts through the root zone of the grass in order to maintain healthy turf. Some turf grasses are more salt tolerant than others, with Bermuda grass being among the more salt tolerant species. The total dissolved solids content of quarterly effluent samples from the Casa Grande Water Reclamation Plant from 2005 through 2007 is shown in Table 1.2.

The data indicates that Casa Grande effluent averages approximately 1000 to 1100 mg/l TDS. This level of salt content is acceptable for most irrigation uses, including irrigation of Bermuda grasses. However, the data indicates there may be an increasing trend in salt levels over the three-year period. If salt content continues to increase, some potential uses for reclaimed water could be negatively impacted at some point in the future. The increasing trend (if the trend bears out) could be due to variations in levels of TDS in the potable source water or additional salt loads being discharged to the wastewater stream. Additional salt loading could be due to factors such as: 1) increasing use of water softeners, 2) increasing industrial salt loads, or 3) lower levels of residential or commercial interior water use due to water conservation efforts, particularly in new homes meeting the existing low-flow plumbing codes. Other central Arizona communities have experienced increasing TDS levels in wastewater over the last decade (e.g. the City of Phoenix). It is recommended that the City of Casa Grande continue to monitor quarterly or monthly TDS levels and trends.

Table 1.2
Casa Grande Effluent Total Dissolved Solids Concentrations

	1Q 2005	2Q 2005	3Q 2005	4Q 2005	Avg.
TDS mg/L	1100	1000	1000	1000	1025
	1Q 2006	2Q 2006	3Q 2006	4Q 2006	Avg.
TDS mg/L	970	960	990	1000	980
	1Q 2007	2Q 2007	3Q 2007	4Q 2007	Avg.
TDS mg/L	1100	1100	1100	730	1008

1.3.2 Emerging Contaminants

There are several potential emerging contaminant issues that could impact future Aquifer Protection Permit water quality standards and the ability (and cost) to recharge reclaimed water in the future. The current water quality parameters and constituents of concern include:

- Endocrine disruptors/pharmaceuticals and personal care products. Ultra-Violet (UV) or Ozone treatment may be required in the future to reduce the occurrence of these chemicals in effluent.
- NDMA – California currently has an action level of 20 ng/l. UV oxidation can reduce NDMA levels in effluent.
- Perchlorate
- Total Organic Carbon – This is a potential issue for recharge, particularly recharge using injection or vadose zone wells. Other states currently have more stringent standards than Arizona (e.g. California). Advanced treatment with Granular Activated Carbon and or enhanced coagulation may be considered in the future.
- Arsenic – the standard of 10 ug/l must be met.
- Salinity issues could become a consideration in the future.
- The Phase 3 Plant Expansion will use Chlorine as the primary disinfection agent. Therefore, the formation of disinfection byproducts (Trihalomethanes) is a concern related to meeting APP permit water quality requirements when considering direct injection as a recharge method. If direct injection is the chosen method of recharge, advanced oxidation processes using a UV-peroxide system will likely be needed to remove TTHMs to below drinking water standards.

It is possible that as more data becomes available on the occurrence of these and other constituents in wastewater effluent and the health effects of low concentrations of the

chemicals, EPA may implement standards for some constituents that will require advanced treatment systems to be installed by wastewater providers.

1.4 Central Arizona Association of Governments (CAAG) Resolution No. 2007-9

In November of 2007, CAAG adopted Resolution No. 2007-9 regarding new policies on wastewater management planning within Pinal and Gila Counties. In this resolution, the agency adopted the following standards that will impact future effluent management decisions by the City of Casa Grande:

- Cooperation with local jurisdictions to foster and create Regional solutions to water quality issues.
- The creation of Regional wastewater treatment facilities, rather than numerous smaller facilities or large on-site collection systems, where feasible.
- The elimination of package plants where feasible.
- The reclamation of effluent for reuse or recharge, rather than discharge.
- In the event of necessary or unavoidable discharge, treating effluent to A or A+ quality standards.
- The reduction of discharge points, and ensuring discharges are beneficial, or at a minimum, not destructive or harmful to adjacent areas.
- The avocation of all municipalities providing sewer service to become Designated Management Agencies.

This policy statement indicates the preference of Pinal County and CAAG for maximizing the reuse of reclaimed water as opposed to continued discharges to stream courses. However, this policy does not minimize the importance of having viable discharge options and permits for use during periods when adequate reuse alternatives are not available, during periods of wet weather, or during distribution system emergencies when deliveries to reuse customers is not possible.

Chapter 2 – Reclaimed Water Use in Selected Arizona Cities

2.0 Overview

Arizona is one of the leaders among states in water reuse. This chapter provides a summary of how selected Arizona communities and water providers are using or are planning to use reclaimed water. This information is provided as background information useful in shaping future reclaimed water use decisions by the City of Casa Grande.

2.1 Town of Gilbert

Since 1986 the Town of Gilbert has used 100 percent of its reclaimed water, operating an extensive water reclamation system that delivers water to over 26 direct users, including golf courses, parks, schools, HOA common areas, decorative lakes, wildlife habitat areas, and industrial facilities. Gilbert also operates several spreading basin recharge facilities (18 ponds), including the 110-acre Riparian Preserve, a multi-use recharge and wildlife preserve which opened in 1999. Recharge basins comprise 70-acres of the Preserve. The facility also provides amenities such as trails for hiking, bicycling, and equestrian uses; campsites and picnic ramadas; wetland areas that create wildlife habitat and viewing opportunities; a 5-acre urban fishing lake filled with recovered reclaimed water; an environmental education center (planned); and a police substation. Water storage credits recovered using recovery wells in the shallow aquifer are also used to provide water to several water ski lakes.

In 2004, Gilbert delivered 6,983 acre-feet of effluent to direct users, and recharged 5,229 acre-feet of effluent. The total reuse amount equaled 30 percent of Gilbert's 2004 potable water deliveries. The water reclamation facility (WRF), with a capacity of 11 million gallons per day (MGD), treats water to Class A+ standards. A second WRF has been constructed in partnership with the City of Mesa and the Town of Queen Creek that will treat 16 MGD in its initial phase, with Gilbert's capacity being 7 MGD.

Developers of new communities and businesses are financially responsible for building the infrastructure needed to connect to Gilbert's backbone reclaimed water distribution system. There are no plans to require individual homeowners to use reclaimed water. The Town's water conservation ordinance, adopted in 2000, is designed to encourage reclaimed water use in new developments several key features of this ordinance are:

- Landscaping in common areas of new single family and multifamily developments shall be limited to 10 percent of the turfed area, unless irrigated with reclaimed water. If irrigated with reclaimed water, 50 percent turf is allowed.
- For commercial developments, water-intensive landscaped area is limited to 10,000 square feet plus 20 percent of the landscaped area, unless reclaimed water is used at the site. If irrigated with reclaimed water, up to 50 percent of the landscaped area may be water-intensive landscaping.

2.2 City of Flagstaff

Reclaimed water is produced by both of Flagstaff's WRPs. Treated effluent from the Wildcat Hill Plant provides Class B effluent to golf courses and recreational areas on the east side of town. Effluent from the Rio de Flag WRP supplies Class A+ water to schools and parks, a golf course, cemeteries, and public landscapes, and several residences. Over 1.4 MGD of effluent (AAD) is supplied each year for irrigation. The City maintains over 5 miles of distribution mains.

Flagstaff also provides effluent at four water hauling stations for use in vehicle washing, street and sidewalk cleaning, dust control, livestock watering and other uses. The guidelines for water hauling include adequate signage on water trucks. Billing is done on the honor system, with customers agreeing to log and pay for each load.

2.3 City of Mesa

The City of Mesa produces over 40,000 acre-feet per year of reclaimed water from 3 water reclamation plants. Most of the effluent Mesa produces is used for groundwater recharge and for agricultural irrigation. To date, Mesa has accrued over 70,000 AF of long-term storage credits. Effluent from the Northwest WRP (capacity 18 MGD) is discharged to two recharge sites and the Salt River. Effluent from this plant is also used to irrigate a nearby golf course and for landscape irrigation along the 202 Freeway. The Southeast Water Reclamation Plant (8 MGD capacity) produces Class A+ water for golf course irrigation, pond replenishment, and agricultural irrigation.

The City of Mesa jointly owns the new Greenfield Road WRP (16 MGD capacity) with the Towns of Gilbert and Queen Creek. Mesa's portion of the effluent from this plant will be delivered to the Gila River Indian Community (GRIC) for agricultural irrigation as part of water exchange. Mesa's contract allows up to 29,400 AF/YR of effluent to be delivered to the GRIC in exchange for 23,530 AF/YR of CAP water. The ultimate capacity of this plant is slated to be 52 MGD, with Mesa owning 24 MGD of the total. (Reference: City of Mesa Website).

2.4 City of Tucson

The City of Tucson, one of the leaders in water reuse in Arizona, began operating its water reclamation system in 1984. Today, Tucson provides over 12,000 acre-feet/year of reclaimed water for direct use to over 900 customers, including: 14 golf courses, 35 parks, and 47 schools (the University of Arizona and Pima Community College included). Tucson maintains approximately 100 miles of reclaimed water Distribution mains. Tucson's reclaimed water plant at Roger Road near I-10 has been producing Class A effluent for 23 years. Reclaimed water makes up about 8 percent of the water delivered to customers each year.

The remainder of the water produced at its reclamation plant or obtained from the Pima County WWTP (about 6,000 acre-feet/year) is recharged and stored seasonally at its Sweetwater groundwater recharge facility (a multi-use wetlands-spreading basin facility) and recovered through recovery wells for delivery to reclaimed water customers during the high-demand summer period.

Tucson provides effluent for residential use to only two subdivisions. However, in calendar year 2003, only 1.6 percent of the total reclaimed water delivered to direct use customers went to single family residences. Tucson does not actively seek out additional subdivisions for residential use because of difficulties experienced in the past with: 1) maintenance of reclaimed water notification signs and 2) performance of periodic cross connection tests has been difficult in one of the subdivisions because residents have been uncooperative. Therefore, in many cases the backflow inspector must visit sites several times to complete the inspection. Because of the relatively small lot sizes, placement of the required backflow device and reclaimed water warning sign has been problematic. Tucson will make reclaimed water available to subdivisions that request the service on a case-by-case basis if the homeowners pay all costs of installation of facilities and ongoing maintenance costs.

Tucson water charges $2.13/1000 gallons for reclaimed water service. Tucson and Pima County have ordinances that require new golf courses to irrigate with reclaimed water. Tucson requires all new turf facilities 10 acres and larger to be served with reclaimed water. The Tucson water resources plan calls for full use of available effluent resources in the future. (References: City of Tucson Website; Reclaimed Water – Is it for Everyone? Tom Clark, and Karen Dotson, Tucson Water; Sweetwater Recharge Facilities: Serving Tucson for 20 Years, John P. Kmiec, Tim M Thomure, Tucson Water).

2.5 City of Peoria

The City of Peoria developed a water reuse master plan in 2005. This plan calls for development of an extensive water reclamation system broken up into 3 distinct planning areas of the City, each served by its own water reclamation facility. Currently, Peoria delivers effluent from its Jomax Road WRP (0.75 MGD capacity) to direct users for turf and landscape irrigation of golf courses, parks, and schools within the Vistancia development. This facility will be expanded to 9 MGD and will continue to supply new turf users. Construction of a groundwater recharge facility to recharge excess effluent is also planned.

The central area of Peoria is served by the 4 MGD capacity Beardsley Road WRP and related aquifer recharge facilities. This facility is planned for ultimate expansion to 8 MGD by 2025. The southern portion of Peoria is served by the new Butler Drive WRP (10 MGD). Peoria plans to recharge effluent from this plant in the Salt River Project's "NAUSP" spreading basin recharge facility located about 2 miles south of the WRP. In addition, Peoria plans to connect direct users (turf facilities and industrial users) located in close proximity to the effluent transmission main. In the near-term (through 2010), the

plan calls for Peoria to: 1) expand its recharge facilities at the Beardsley Road WRP, 2) expand direct use deliveries to large turf users from the Jomax Road WRP to new developing subdivisions, 3) initiate a public involvement process regarding direct use of effluent from the City's other WRPs, and 4) finalize reuse policies, ordinances, and standard customer agreements. Peoria's plan calls for connecting additional direct use customers in all planning areas after 2011. The total projected demand for direct use by 2025 is 12.2 MGD, or approximately 60 percent of total projected effluent available by that date. (Reference: City of Peoria Water Reuse Master Plan Executive Summary – June, 2005).

2.6 City of Phoenix

The City of Phoenix reuses its effluent in several ways, including:

- Delivery to the Roosevelt Irrigation District (RID) or agricultural irrigation. This is accomplished in a three-way water exchange that includes the Salt River Project (discussed further below).
- Sale to the Palo Verde Nuclear Generating station for cooling water.
- Direct delivery to large turf users for irrigation needs.
- Habitat restoration and habitat enhancement in the Tres Rios Wetlands facility.

RID-SRP-Phoenix Effluent Exchange – RID Groundwater Savings Facility

In this exchange, Phoenix provides RID with up to 30,000 AF/YR of effluent from the 23rd Avenue WRP. In exchange, RID pumps up to 20,000 AF/YR of groundwater into SRP's canal system for use in meeting irrigation demands. SRP then provides Phoenix with up to 20,000 AF/YR of Salt River surface water supplies for treatment at Phoenix's potable water treatment plants. Additional effluent (up to 30,000 AF additional), can be provided to the RID for indirect groundwater recharge in its Groundwater Savings Facility (GSF).

Palo Verde Nuclear Power Plant (PVNPP) Deliveries

Effluent deliveries from the regional 91st Avenue waste water treatment plant (WWTP) to the PVNPP began in the 1970s. Annual deliveries average approximately 75,000 AF/YR.

Tres Rios Constructed Wetlands Project

Historically, effluent from the 91st Avenue WWTP that could not be used directly by PVNPP was discharged to the Salt River under a NPDES permit. Increasing costs of compliance with more stringent water quality standards for discharge led Phoenix and the other Valley cities that own the plant to look for alternative uses for effluent. The remote location of the plant in relation to existing potential direct users of effluent makes direct use for irrigation very costly.

As a result, the Tres Rios constructed wetlands was built in the late 1990's to test the feasibility of a large scale flood control, habitat restoration, and wastewater treatment plan downstream of the 91st Avenue WWTP. After a successful test of the pilot scale treatment, the full scale Tres Rios project is now under construction. This project will improve and enhance a 7-mile long, 1500-acre section of the Salt and Gila Rivers in southwestern Phoenix. The project consists of a flood protection levee, effluent pump station, emergent wetlands, and riparian corridors and open water marsh areas to replace existing non-native salt cedar in the river. The Tres Rios Full Scale Project is being 65% funded by the U.S. Army Corps of Engineers. The primary goals of the project are flood protection for the local residents and habitat restoration for the native animals. (Reference: City of Phoenix Website).

Agua Fria Linear Recharge Project

Phoenix is in the feasibility study phase regarding a groundwater replenishment project called the Agua Fria Linear Recharge Project. Incidental opportunities for providing passive recreation and/or enhancing native habitat along the Agua Fria River are also being investigated. Most of the reclaimed water from the 91st Avenue WWTP is currently reused for ecosystem habitat restoration, agricultural irrigation and industrial purposes. However, an estimated 13 to 20 billion gallons of this water currently is not used for these purposes and is discharged annually to the Salt River. The current Agua Fria Linear Recharge Project conceptual plan is based on in-stream recharge. This type of recharge project usually involves discharging water into a dry riverbed or wash and allowing the water to seep into the bed of the river. This conceptual plan uses the in-stream recharge method with an option of discharging water into the Agua Fria channel at several locations. This multiple discharge is called linear recharge. The proposed study area for linear recharge extends from Indian School Road to Bell Road along the Agua Fria River. (Reference: City of Phoenix Website).

Cave Creek WRP Direct Uses and Recharge

The Cave Creek WRP is located in developing northeast Phoenix, north of the CAP canal (capacity 8 MGD). This plant produces Class A+ effluent for delivery to large turf users and for groundwater recharge. Recharge is accomplished through a Managed USF facility in Cave Creek and through on-site vadose zone wells. Phoenix City Code requires all new turf facilities large than five acres to be irrigated with reclaimed water and developers must provide reclaimed water infrastructure to supply effluent. Developers must construct effluent distribution lines to connect to the City's backbone system. If it is not cost-effective to provide reclaimed water due to the distance from the City's reclaimed water system, the facilities must be built to facilitate future conversion to reclaimed water (e.g. purple pipe is installed initially). Another water reclamation plant is planned in the future to serve northwest Phoenix that will also provide water for direct use and groundwater recharge.

2.7 City of Scottsdale

The City of Scottsdale is a golf course mecca. Scottsdale provides Class A+ effluent for irrigation uses at approximately 22 golf courses through the City's Reclaimed Water Delivery System (RWDS). Golf courses pay all the costs to receive reclaimed water for irrigation through the RWDS. The RWDS is the largest reclaimed water system in the Valley, with a peak delivery capacity of 20 MGD. The system delivers effluent and some untreated CAP water during peak demand months to all golf courses along Pima Road north of the Loop 101. City policy requires that any future golf courses must provide their own renewable surface water supply in order to locate in Scottsdale.

The Scottsdale Water Campus, a state-of-the-art facility that treats wastewater to irrigation standards, went into service in 1999. In winter, when golf course irrigation needs are low, the effluent is further purified to drinking water standards using reverse osmosis technology, and recharged using a system of approximately 28 vadose zone wells having an average capacity of 500 gallons per minute (gpm). In recent years, Scottsdale recharged about 6,000 acre-feet (1,955,106 gals) of reclaimed water and CAP water at the Water Campus. Stored water credits are recovered through the City's existing potable well system. Approximately half of the reclaimed water produced at the plant (Plans call for the Water Campus and its recharge capacity to be expanded to meet growth needs). At buildout capacity, the plant will have the capacity to meet all existing golf course peak-day demands. Scottsdale requires all new golf courses, landscaping, and park turf areas to be irrigated with non-potable water to the greatest extent possible. (References: City of Scottsdale Website, Scottsdale Integrated Water Resources Master Plan, 2005, Malcolm Pirnie)

2.8 Arizona American Water (AAW)

AAW is the largest private water company in Arizona and one of the few private water providers that provides wastewater treatment and water reuse facilities. AAW is the service provider for the Sun Cities area and the Anthem development north of Phoenix. AAW operates the Northwest Valley WRP (5 MGD capacity) located in Sun City West. The Class A+ effluent produced at this facility is used entirely for groundwater recharge. The recharge is accomplished using a series of approximately 12 spreading basins located on land adjacent to the plant. In the future, plans call for some of the reclaimed water to be delivered to a local golf course for direct use.

At the Anthem development, a relatively new master planned community of approximately 8,500 homes and businesses, AAW operates a microfiltration water reclamation plant. Anthem was planned for total reuse of all wastewater. Class A+ effluent blended with untreated CAP water is delivered for turf irrigation at golf courses, parks, and schools, and roadway medians. In the winter months, excess effluent is recharged using a trench-type recharge facility and long-term storage credits are recovered through potable system wells.

2.9 Summary – Common Themes in Effluent Utilization

Most cities in Arizona's Active Management Areas and across the state have taken decisive steps to maximize the beneficial use of effluent. This summary of reclaimed water use among communities shows differences in approach from city to city. However, several common themes and strategies can be identified that relate to common circumstances and situations facing the providers. These common elements include:

- Several cities have constructed extensive distribution systems to deliver water to direct turf users and utilize the majority of reclaimed for turf irrigation (Note Flagstaff, Tucson, Scottsdale, Gilbert). However, to make this type of reuse cost-effective, most communities either implemented the programs early during the development of the city so reclaimed water mains could be constructed when developments were being built, or other reuse opportunities (i.e. groundwater recharge) were limited (e.g. Flagstaff due to geology of the region).
- Even in communities where direct uses predominate, groundwater recharge plays a key role in maximizing effluent reuse potential. In most cases, long-term storage credits are recovered using potable water wells, but in one case, recovered water was delivered to turf facilities through the reclaimed water distribution system (Tucson).
- The predominant recharge method is use of spreading basins where the local geology permits. Where not feasible, injection wells and vadose zone wells are used. Two providers (Phoenix and Peoria) have used stream channel recharge to accomplish recharge.
- In relatively built-out cities where constructing an effluent distribution system through developed areas would be expensive and disruptive to the community (e.g. Mesa, Phoenix, Sun Cities), groundwater recharge or providing effluent in water exchanges in return for another water source is the predominant approach. This is also the preferred approach in situations where the water reclamation plant is located remote from potential users.
- In new developing areas of the community, most cities require new golf courses and large turf facilities (larger than either 5 acres or 10 acres) to be irrigated with effluent. An effort is made to maximize cost-effective direct uses and recharge is used as a supplemental reuse strategy.

Chapter 3 – Projected Effluent Available for Use by Casa Grande and Within the Pinal AMA

3.0 Chapter Overview

This chapter presents wastewater flow projections and the projected quantities of effluent that may be available for reuse from the City of Casa Grande Kortsen Road Water Reclamation Plant (WRP) and from other Pinal AMA wastewater treatment plant locations. Projections are provided for the following primary wastewater providers in the AMA: City of Casa Grande, City of Eloy, City of Coolidge, and Arizona Sanitary District. The current uses of reclaimed water and the future reuse plans of the non-Casa Grande entities are briefly discussed. The locations of the existing WRPs of these entities are shown in Figure 3.1. Information for the non-City of Casa Grande entities was derived from the wastewater master plans, 208 Amendment Applications of the entities, or personal communications with staff.

Currently, the relatively large distances between the WRPs in the Pinal AMA make partnering on joint recharge projects unlikely in the near-term. Future partnering between entities related to effluent recharge activities may be more feasible in the future as reclaimed water distribution networks are built enabling effluent to be conveyed in the direction of neighboring WRPs.

3.1 City of Eloy

The City of Eloy completed a master plan update in 2007 and made application to CAAG for a 208 Water Quality Management Plan Amendment and Designated Management Agency (DMA) Area Amendment (Carollo Engineers, 2007). Eloy currently operates an existing WWTP with a peak flow capacity of 2.0 MGD and an annual average daily flow (AADF) capacity of 0.74 MGD. The plant currently produces class B effluent which is recharged in basins located on the WWTP site. The Master Plan calls for the existing Eloy WWTP to be expanded to a capacity of 10.5 MGD in 3 expansion phases. The Phase 1 expansion to 4 MGD AADF is scheduled for construction in 2008. The Phase 2 expansion to 7 MGD is projected to be on-line by 2010. With this expansion, the plant tertiary treatment (filtration) will be added to produce Class A+ water.

3.1.1 Eloy DMA Future Regional Wastewater Treatment and Reuse Strategy

The proposed Eloy DMA area encompasses 158 square miles and is shown on Figure 3.1. The total buildout population of the DMA is 628,484 with a buildout wastewater flow of 65.3 MGD. Eloy's Master Plan calls for developers to construct small first phases (less than 2 MGD) of 8 separate regional water reclamation plants (WRPs) serving a defined sub-area of the DMA. These facilities are projected to be brought on-line between 2010 and 2015, after which they will be turned over to Eloy for operation and maintenance. The construction schedule of the plants will depend on the development schedule of the lead developer constructing the plants. The regional facilities will then be expanded by the City as population in the collection areas grow. The projected buildout capacity of

these regional facilities ranges from 3.2 MGD to 9.3 MGD. All regional plants will be constructed to produce class A+ water to enable open access irrigation uses.

3.1.2 Eloy Regional Effluent Projections

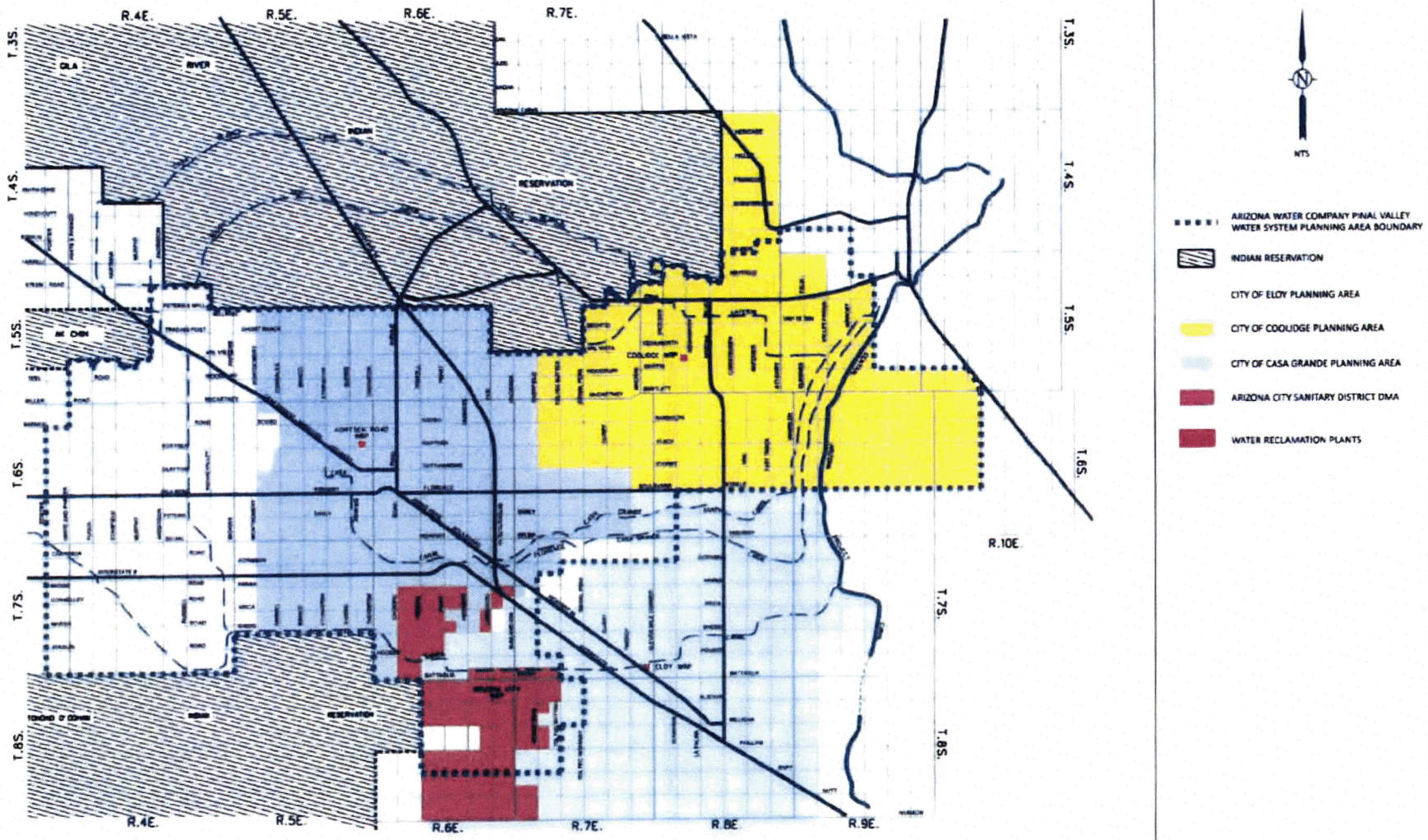
The effluent from each of Eloy's planned WRPs will be used for irrigation of large turf areas, community lakes and groundwater recharge. The WRPs will be located close to water reuse opportunities to facilitate reuse. Projected wastewater flows and effluent availability are shown in Table 3.1. The buildout flow of 65.3 MGD exceeds the buildout flow projected for the City of Casa Grande Planning area. (Reference: City of Eloy CAAG 20 Water Quality Management Plan Amendment and Designated Management Agency (DMA) Area Amendment; Carollo Engineers, 2007)

Table 3.1
City of Eloy Wastewater Flow and Effluent Projections
(MGD)

Year	2010	2020	2030	Buildout
Existing Plant	4.0	7.0	10.4	10.4
Sub-Areas Composite	0	14.0	42.4	54.9
Total	4.0	21.0	52.8	65.3

3.2 City of Coolidge

The City of Coolidge operates a lagoon type wastewater treatment plant located about 2 miles west of the downtown area. The plant produces Class C effluent that is delivered to farms south of the plant for agricultural irrigation of City-owned and privately owned land. The plant was expanded in 2007 from 1.35 MGD capacity to 2.0 MGD. Currently, the plant treats approximately 750,000 gal/day of flow on an average annual basis. It is estimated that it will be 4-5 years before another plant expansion in needed. In 2005, CAAG approved Coolidge's 208 Water Quality Plan Amendment application to expand the plant to 12 MGD and convert the plant to a mechanical plant. No schedule has been developed for this plant expansion due to the recent slowdown in housing construction in the Coolidge area. (References: Coolidge website and personal communication, Bob Flatley, City Manager).



Pinal Valley Water Reclamation Facilities and Planning Area

Figure 3.1

3.3 Arizona City Sanitary District

The Arizona City Sanitary District operates a wastewater treatment plant that currently produces Class B effluent. The existing rated capacity of the plant is 1.5 MGD. Average annual daily (AAD) flow in 2007 was 0.85 MGD. Projections indicated that by 2014, the AAD flow at the plant will be 1.2 MGD. Currently, the effluent is delivered at no cost to the Arizona City Golf Course (Avg. annual delivery of 350,000 gal./day), with the remainder delivered to a nearby farmer and discharged to a wash via an AZPDES permit.

Arizona City is in the process of permitting a spreading basin recharge facility located on 7 acres of District-owned land located about ½ mile northwest of the plant adjacent to the agricultural land that now receives effluent. The facility has been permitted through ADWR as an Underground Storage Facility (USF) with a permitted capacity for Phase 1 of the project of 250,000 gal./day. The facility consists of 3, 1-acre recharge basins. It is estimated the 7-acre site could ultimately support the recharge of 1.5 to 2.0 MGD.

The DMA of the District was updated in 2005 to include approximately 42 square miles. The District plans to complete an update of its master plan within the next two years. The District's current plan is to expand the existing plant capacity to 3.3 MGD as growth in the area dictates. Another "satellite" plant is planned to be located southwest of the current plant to serve several proposed new developments in the area. A plant location has not yet been selected (Reference: Personal Communication, Gary Boileau, District Plant Superintendent).

3.4 City of Casa Grande

3.4.1 Wastewater Master Plan Update and Plant Expansion Plans

In 2006, the City of Casa Grande contracted with Carollo Engineers to complete a Conceptual Wastewater Master Plan and Wastewater Feasibility Study. The wastewater flow projections done for the City's existing wastewater plant in the Carollo plans are used as the basis of the effluent projections presented in this Reclaimed Water Use Conceptual Master Plan. It should be noted that the Carollo projections in near-term (next 5 years) may be somewhat aggressive in light of the slowdown in housing construction that has occurred in 2007 and is continuing in 2008. Thus the near-term effluent flow projections in this plan should also be considered on the high side and may not occur until 2 or 3 years further out than shown in this plan.

The Carollo plans evaluated four different alternatives for expansion of the City's wastewater treatment plant capacity beyond the current 12 MGD Phase III expansion at the existing Kortsen Road plant. These alternatives included building one or more new regional treatment plants in the eastern and western parts of the planning area and expanding the treatment capacity at or near the current plant site on Kortsen Road. The selected alternative (Alternative 4), calls for the area west of Montgomery Road to be served by Global Water. Wastewater from the remainder of the service area beyond the 12 MGD capacity of the Phase III plant expansion will be collected and treated at a new regional WRF plant to be constructed at or near the existing plant. This approach will promote centralized wastewater treatment and use of reclaimed water. Constructing the regional plant at or near the existing site will likely require modifying the treatment train from the existing extended aeration and aerobic digestion process trains to either a conventional secondary clarification and filtration train or membrane bioreactors.

In this plan it is assumed that all reclaimed water will be produced at the current plant location for distribution to water users. The design of the Phase III Plant expansion is 95 percent complete. This expansion, scheduled to be in service by late 2009, will bring the plant capacity to 12 MGD and increase the level of treatment to A+ quality water. (Reference: City of Casa Grande Wastewater Feasibility Study – Summary Report; Carollo Engineers, Sept. 2006)

3.4.2 Current Casa Grande Effluent Uses and Contracts

Currently, the City of Casa Grande provides effluent to two major users of effluent: the municipal golf course and the Reliant Energy Desert Basin Power Plant. A third customer, Frito-Lay Inc., is expected to begin using water in the summer of 2008.

3.4.2.1 SRP - Reliant Energy Desert Basin, LLC Effluent Sales Agreement and Current Use and Operation of Effluent Delivery Facilities

This agreement, executed in 2001, covers the terms and conditions of effluent sales by the City to the SRP power plant located on Burris Road approximately ½ mile from the

Kortsen Road Plant. The effluent delivery facilities consist of a pump station located on west end of the WRP's effluent storage pond. The station has two 2,250 gpm pumps. A 20" HDP pipe delivers water from the pump station to the Reliant Energy Plant where the water is mixed with CAP water deliveries. The annual percentage mix of CAP water and effluent is currently about 60/40. The effluent pump station is automatically controlled by float level controllers in the storage pond located at the Reliant Plant. As the plant needs more cooling water, the pumps start.

The daily use of effluent by the plant in 2007 varied from 0 MGD to 1.8 MGD with wide day-to-day variances possible depending on SRP power generation needs (based on 2007 daily water use data). SRP recently purchased additional land adjacent to the existing power plant for possible construction of additional power generation facilities. There are no immediate plans for power plant expansion, but it is likely this site will be expanded within 5-15 years as Pinal County power needs increase. Therefore, there is a high likelihood of increasing long-term demand for additional cooling water demand at the Reliant plant. (Personal Communication: Shawn Grant, Senior Engineer, SRP Desert Basin Generating Station).

The key provisions of the agreement are as follows:

- Term of Contract – 40 years with SRP able to execute up to 4, 5-year extensions upon written notice to the City.
- The maximum daily amount of effluent that may be delivered is 3.2 MGD.
- The initial "Average Daily Amount" of delivery set in the contract was 1.4 MGD. This was to be the basis of take-or-pay billing provisions of the contract.
- The initial price of the water was $0.50/1000 gallons. This price may be adjusted annually by the City based on the Consumer Price Index (CPI) for the preceding year.
- The City may reopen the negotiation of the price of the effluent to "market rates" if the City has received a bona fide offer from a third party for the purchase of effluent at a price in excess of the effluent payment. If a renegotiated price cannot be agreed to, the City may terminate the agreement with ten years notice to SRP.
- The City may give written notice to SRP that the Annual Average Daily Amount will increase first to 2.1 MGD, then to 2.8 MGD. Within two weeks of receiving written notice, SRP shall order the equipment needed to enable it to take the additional water. (The existing pump station and 20" effluent pipeline already have the capacity to take these potential amounts).
- SRP has the right to reduce the Annual Average Daily Amount (AADA) if its use of water is less than 85 percent of the then current AADA. Six months after such notice, the AADA shall be reduced to equal the actual SRP plant use. The plant has been using only about 0.6 MGD since 2005, therefore the AADA in effect has been reduced.
- The delivery point is the SRP Plant.
- The City owns the pump station and the 20" HDP pipeline. SRP is responsible for operation and maintenance of the pump station and pipeline.

- Daily variances in effluent deliveries from the AADA may not exceed 100 percent of the AADA (but may not exceed the Maximum daily amount of 3.2 MGD).

3.4.2.2 Summary of Frito-Lay Effluent Sales Agreement

This agreement, executed May 17, 2005, covers the terms and conditions of the City's sale of effluent for agricultural irrigation uses to Frito-Lay. The water will be used during the summer months as supplemental irrigation of alfalfa on a parcel of land adjacent to the treatment plant. The Frito-Lay pump station and pipeline are currently under construction and are scheduled to be in-service by April, 2008 for the start of the irrigation season. The pump station will have two variable speed drive pumps capable of a maximum output of 1,800 gpm (2.6 MGD). The station will be capable of remote operation from the Frito-Lay plant. The effluent will be used as a supplemental source in addition to Frito-Lay plant process reject water and SCIDD water. Effluent use will peak in June and July as irrigation needs peak. The company has no plans to deed the pump station and pipeline to the City within the foreseeable future. Within the next 2-3 years, Frito-Lay plans to increase its ability to recycle plant water by adding additional water treatment facilities at the plant. When this project is complete, the plant will reduce the acreage of alfalfa irrigated for the purpose of water disposal. When this happens, it is likely that Frito-Lay's demand for effluent will decrease to less than the 500 acre-feet per year now anticipated. (Reference: Personal communication, Tyler Mummert, Frito-Lay). The key provisions of the agreement are as follows:

- The term of the agreement is 10-years, with automatic renewal for 3 consecutive option terms of 10-years, unless either party notifies the other that it does not wish to renew the agreement or the parties are unable to agree on a renegotiated effluent unit price. (Total possible term – 40 years).
- The base price of effluent shall remain $0.40/1000 gallons for the initial 10-year term (beginning in 2005 with execution of the agreement).
- The effluent unit price may be opened and renegotiated by the City upon providing notice to Frito-Lay at least 18-months prior to the end of the initial contract period.
- Frito-Lay is responsible for construction of the pump station (located on City property) and pipeline needed to deliver effluent from the delivery point to its property. Frito-Lay will operate and maintain the facilities. They have the option of deeding the facilities to the City, subject to acceptance by the City.
- Frito-Lay may take water and the City is obligated to provide effluent only during the summer months, defined as April 15th through October 15 of each calendar year.
- Frito-Lay must submit a Purchase Notice to the City for the "receiving period" (not more than 12-months duration) 30 days prior to the start of the first receiving period. After the first period, Purchase Notices must be submitted to the City at least 6 months prior to the commencement of the receiving period.

- The City will make available up to 500 acre-feet per of effluent through the year 2015. After that, 600 acre-feet per year must be made available if Frito-Lay requests the water.
- Once the Purchase Notice is given, Frito-Lay must pay for the effluent whether it uses it or not (take-or-pay). Charges for effluent ordered but not taken are due at the end of the receiving period.
- Frito-Lay may submit requests for additional request for more effluent for the receiving period, but the City is not obligated to provide the increased amount, but may provided it if available.
- The contract does not discuss monthly, or daily delivery limits.

3.4.3 Projected Casa Grande Effluent Production

The projected average annual daily flows generated by Carollo Engineers served as the starting point for projecting the amount of reclaimed water that would be available from the Kortsen Road WRF in the future. The Carollo AAD flows shown in Table 3.2 were used to project average annual and monthly average daily wastewater flows and effluent available for existing and new uses for each projection year. The monthly effluent budgets are based on monthly peaking factors derived from the 2005-2007 reclaimed water deliveries to existing uses shown in Table 3.3. The projected monthly average daily flows for each year were used to create monthly budgets for use in determining the amount of effluent projected to be available in the future to existing users and that which could be made available to new direct uses and to groundwater recharge facilities under different scenarios. Existing uses include deliveries to the Casa Grande Municipal Golf Course for irrigation, the Salt River Project's Desert Basin Power Plant for cooling water, and discharges to the North Branch of the Santa Cruz Wash.

Frito-Lay's anticipated use was projected based on discussions with Frito-Lay staff. In 2001, Casa Grande signed a contract with Frito-Lay, Inc. to sell effluent for agricultural irrigation. These deliveries are expected to begin in the spring of 2008 and are considered part of current effluent commitments in the effluent budgets. Also included as a current use are in-plant uses and evaporation losses from the three effluent storage basins totaling 120-acres.

Table 3.2
Projected Average Annual Daily Wastewater Flows
(MGD)

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2020	Buildout
Projected Annual AAD	4.3	4.9	5.5	6.2	7.0	8.1	9.6	11.0	12.6	19.6	50.0

Source: City of Casa Grande Wastewater Feasibility Study – Summary Report; Carollo Engineers, Sept. 2006

Table 3.3
Historical Reclaimed Water Deliveries by Month
(MG)

	Jan-05	Feb-05	Mar-05	Apr-05	May-05	Jun-05	Jul-05	Aug-05	Sep-05	Oct-05	Nov-05	Dec-05	Total Mg
Wash	77.5	56	52.7	60	37.5	15	6	38.75	6.5	6.82	60	85.25	502.02
Golf	1.89	0	10.32	20.7	19.86	25.64	39.46	22.94	26.47	24.64	18.15	6.49	216.56
SRP	40.25	40.4	38.72	1.9	31.43	26.44	23.31	28.41	9.37	25.46	20.74	12.16	298.59
Total	119.64	96.4	101.74	82.6	88.79	67.08	68.77	90.1	42.34	56.92	98.89	103.9	1017.17
%	0.118	0.095	0.100	0.081	0.087	0.066	0.068	0.089	0.042	0.056	0.097	0.102	1.000
	Jan-06	**Feb-06**	**Mar-06**	**Apr-06**	**May-06**	**Jun-06**	**Jul-06**	**Aug-06**	**Sep-06**	**Oct-06**	**Nov-06**	**Dec-06**	**Total Mg**
Wash	83.7	77	108	62.5	62	51	55.2	62	90	93	97.5	108.5	950.4
Golf	9	11.04	9.07	21.63	26.38	32.59	29.24	21.15	10.66	24.35	15.65	9.62	220.38
SRP	17.6	12.44	0.61	4.15	8.39	16.98	21.36	19.63	15.14	4.15	9.45	12.09	141.99
Total	110.3	100.48	117.68	88.28	96.77	100.57	105.8	102.78	115.8	121.5	122.6	130.21	1312.77
%	0.084	0.077	0.090	0.067	0.074	0.077	0.081	0.078	0.088	0.093	0.093	0.099	1.000
	Jan-07	**Feb-07**	**Mar-07**	**Apr-07**	**May-07**	**Jun-07**	**Jul-07**	**Aug-07**	**Sep-07**	**Oct-07**	**Nov-07**	**Dec-07**	**Total Mg**
Wash	124	105	124	105	62	45	77.5	77.5	75	62	105	113.78	1075.78
Golf	5.93	5.96	15.94	16.01	32.8	33.57	29.47	21.93	22.8	25.22	15.38	10.09	235.10
SRP	8.14	9.37	4.9	6.23	22.15	22.18	20.39	27.01	29.29	34.03	5.98	12.68	202.35

3.4.4 Conclusions - Future Effluent Availability for Current and New Uses

Annual and monthly effluent budgets were produced for the following projections years: 2008 to 2015, 2020, and buildout of the service area. Effluent budgets for average annual day (AAD), and budgets for January average day and June average day of each projection year are shown in Tables 3.4, 3.5, and 3.6. Projected effluent available for new uses in years 2008, 2010, 2015, and 2020 is also shown graphically in Figures 3.2, 3.3, 3.4, and 3.5. The following conclusions can be drawn from the data regarding the availability of effluent for new uses after existing contract obligations and losses are met:

1. During the peak summer demand period in 2008, there is currently little or no effluent available for new uses or recharge. By 2010, there is projected to be 1.03 MGD available in June, growing to over 6 MGD by and by 2015.

2. During the winter low-demand period (January), there is currently over 3 MGD of effluent available for recharge or new direct uses. By 2010, there is projected to be over 5 MGD available.

3. On an annual basis, if all effluent projected to be available could be used directly or recharged, the following amounts of additional water resources could be generated for the planning area: 2008 – 2,600 AF; 2010 – 4,100 AF; 2015 AF – 11,300 AF; 2020 – 19,100 AF; Buildout – 53,100 AF.

4. Wastewater flows and effluent production is lowest in the summer months when irrigation and power plant demands are the highest. During the winter months, effluent production peaks when irrigation water needs are lowest. This pattern emphasizes the need to have groundwater recharge facilities in place to beneficially use effluent produced in the winter months. It is not viable to create enough turf facility irrigation demand to use all effluent available during the winter without creating extremely high summer irrigation demands that cannot be met with effluent and must be heavily supplemented with potable water.

5. A groundwater recharge facility having 10 MGD capacity could be fully utilized during the winter months by 2015.

6. At buildout, the average annual daily amount of effluent available for direct use or recharge is projected to be 47.46 MGD. During January, approximately 53 MGD is projected to be available. In June at buildout, approximately 36 MGD is projected to be available.

Chapter 4 discusses and evaluates various alternatives that could be implemented to utilize the effluent projected to be available.

Table 3.4

Projected Annual Average Daily Effluent Water Balance and Availability for Reuse (MGD)											
Year	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2020**	**Buildout**
Projected AAD Flow	4.3	4.9	5.5	6.2	7.0	8.1	9.6	11.0	12.6	19.6	50.0
Existing User/Contracts											
In-Plant Uses/Loss	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
SRP Power Plant	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Frito Lay	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Municipal Golf Course	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64
Remaining for New Uses	**1.76**	**2.36**	**2.96**	**3.66**	**4.46**	**5.56**	**7.06**	**8.46**	**10.06**	**17.06**	**47.46**
Acre-feet Available	**1,969**	**2,644**	**3,316**	**4,100**	**4,996**	**6,228**	**7,908**	**9,476**	**11,269**	**19,110**	**53,162**

Table 3.5

Projected Effluent Water Balance and Availability for Reuse – January Avg. Day (MGD)											
Year	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2020**	**Buildout**
Projected Annual AAD	4.3	4.9	5.5	6.2	7.0	8.1	9.6	11.0	12.6	19.6	50.0
Projected Jan. AD Flow	4.7	5.3	6.0	6.8	7.6	8.8	10.5	12.0	13.7	21.4	54.5
Existing User/Contracts											
In-Plant Uses/Loss	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
SRP Power Plant	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Frito Lay	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Municipal Golf Course	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Remaining for New Uses	**3.38**	**4.03**	**4.69**	**5.45**	**6.32**	**7.52**	**9.15**	**10.68**	**12.42**	**20.05**	**53.19**

Table 3.6

Projected Effluent Water Balance and Availability for Reuse – June Avg. Day (MGD)											
Year	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2020**	**Buildout**
Projected Annual AAD	4.3	4.9	5.5	6.2	7.0	8.1	9.6	11.0	12.6	19.6	50.0
Projected June AD Flow	3.46	3.94	4.42	4.98	5.63	6.51	7.72	8.84	10.13	15.76	40.20
Existing User/Contracts											
In-Plant Uses/Loss	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
SRP Power Plant	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frito Lay	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Municipal Golf Course	1.06	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Remaining for New Uses	**0.50**	**0.01**	**0.47**	**1.03**	**1.67**	**2.56**	**3.77**	**4.89**	**6.18**	**11.81**	**36.25**

Figure 3.2

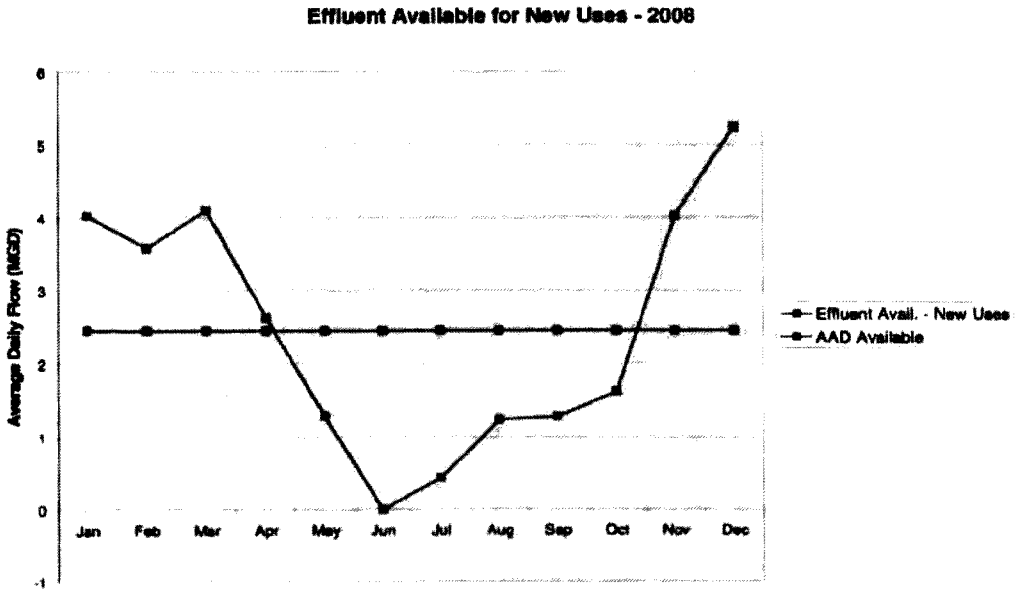


Figure 3.3

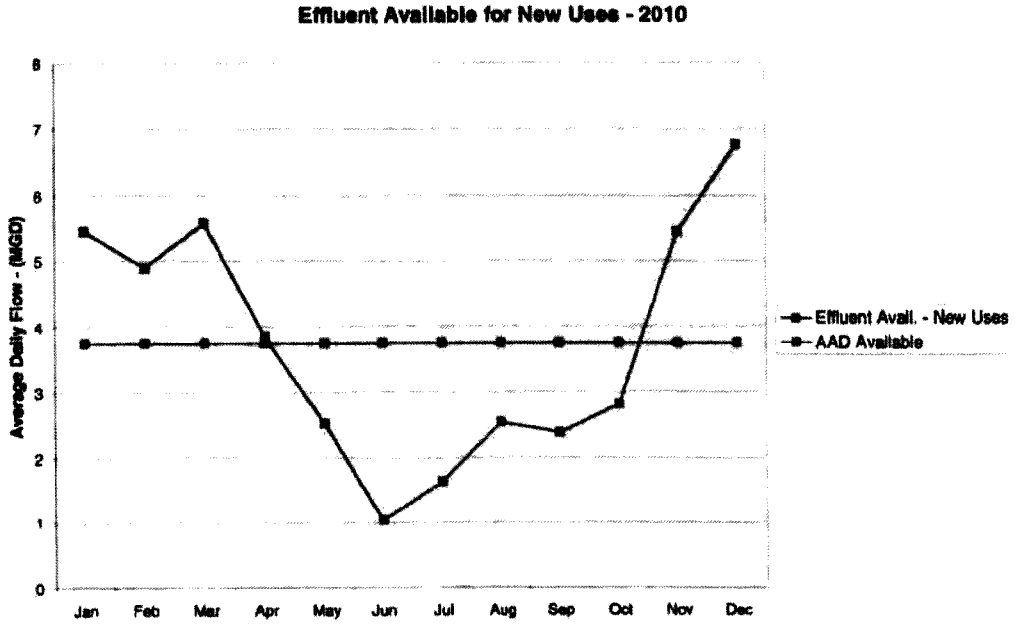


Figure 3.4

Effluent Available for New Uses - 2015

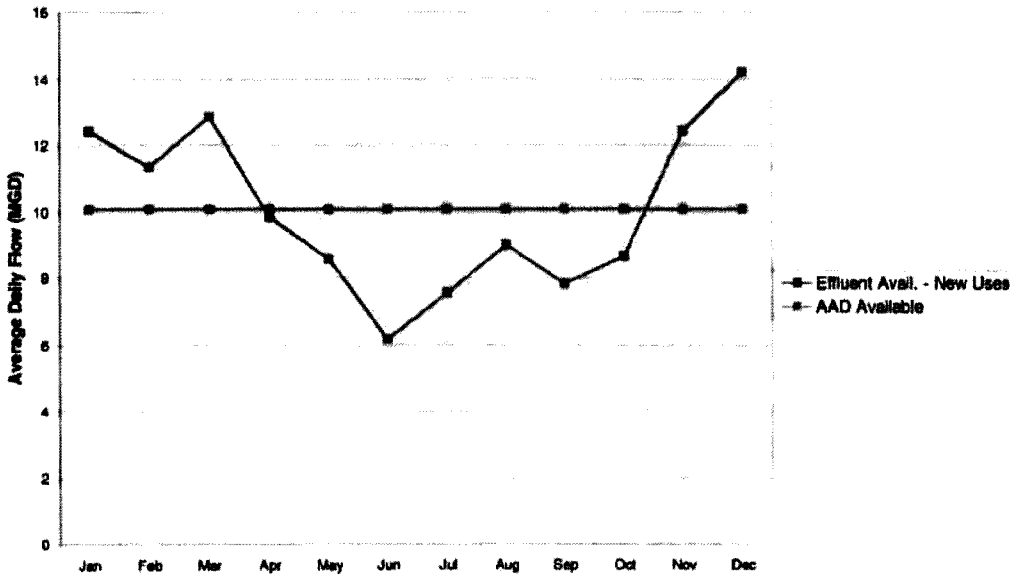
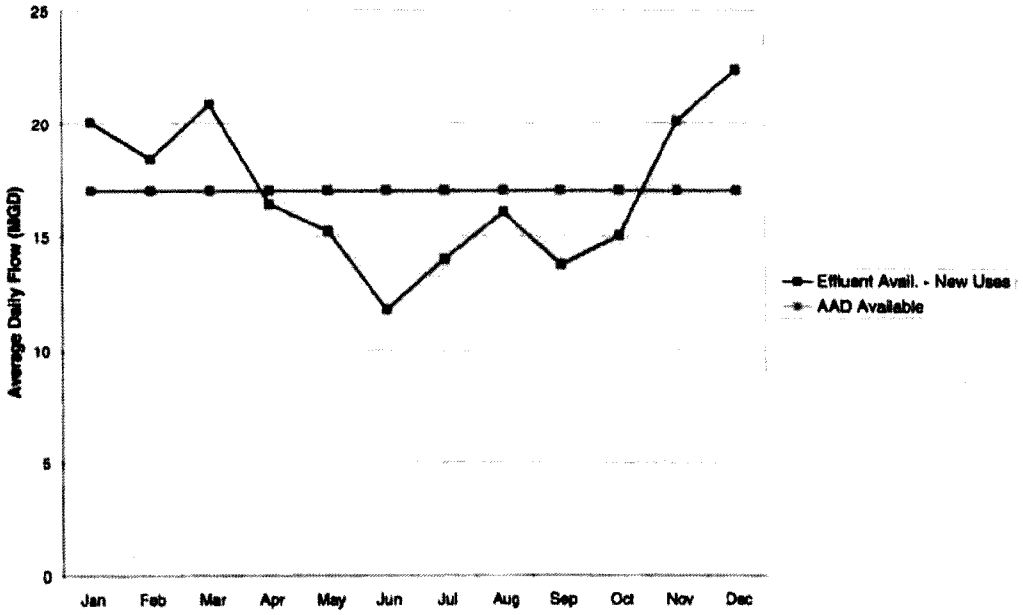


Figure 3.5

Effluent Available for New Uses - 2020



Chapter 4 – Analysis of Casa Grande Effluent Use Alternatives

4.0 Chapter Overview

The effluent budgets presented in Chapter 3 indicate that a significant volume of effluent will be available at the Kortsen Road WRP for beneficial uses as the City grows. The overall water reclamation program objective is to maximize beneficial use of effluent and minimize future effluent discharges to the North Branch of the Santa Cruz Wash. Chapter 4 summarizes conceptual level analyses of the advantages and disadvantages, costs, potential benefits, and institutional and regulatory constraints associated with various effluent use alternatives. Conceptual level project cost estimates are based on the facility and unit costs provided in Appendix 1. Any projects considered further for implementation will require more detailed planning and engineering studies to assess project feasibility and cost.

To place recharge projects and water exchange projects on an equal footing for cost comparisons, cost estimates for all alternatives except where noted, are based on constructing pump stations, pipelines, and recharge facilities of 10 MGD capacity. The 10 MGD capacity was selected because it would enable reuse of the projected average annual day flow available for reuse in 2015 and nearly all winter time flows available for reuse in 2015. However, any of the projects could be implemented at either larger or smaller capacities or facilities could be phased to reduce up-front capital costs. Aquifer testing, modeling, permitting and agreement negotiation costs are not included in the analysis but would apply to all alternatives. A summary of the comparison of the alternatives is shown in table 4.4.

The water reuse alternatives listed below were selected for analysis based on existing contractual agreements, the results of the Clear Creek Inc. recharge study (summarized in this chapter), and discussions with Casa Grande staff. Projects 1-5 are groundwater recharge projects and projects 6-12 are projects involving water deliveries for direct irrigation uses or exchanges for surface water supplies. Projects are not listed in order of preference.

1) Pipeline to Santa Rosa Canal for delivery to Maricopa Stanfield Irrigation and Drainage District Groundwater Savings Facility (GSF).

1b) 16-inch pipeline to Casa Grande Canal for delivery to SCIDD Groundwater Savings Facility.

2) Pipeline to Casa Grande Airport and construct Vadose Zone wells.

3) Pipeline to Casa Grande Airport and construct injection or aquifer storage and recovery wells.

4) Pipeline west from WRP to Montgomery Road and construct spreading basin recharge facility.

5) A "Managed" underground storage recharge facility in the North Branch of the Santa Cruz Wash downstream of Kortsen Road WRP.

6) New reclaimed water distribution system for direct use at existing park, schools in central Casa Grande (11 users).

6b) New reclaimed water distribution system for direct use at existing park, schools, and golf course in central Casa Grande (12 users).

7) Developer-constructed direct delivery to system to large turf facilities in new developments (e.g. Desert Color)

8) Construct pipeline north to Gila River Indian Community (GRIC) Southside Canal for agricultural uses and exchange with GRIC for CAP water.

9) A dual distribution system (purple pipe system) in new developments for outdoor irrigation uses at individual residences and large turf facilities.

10) Interim Direct Delivery of Effluent to Individual Farms (no costs developed).

11) Provide Effluent to Contractors for Use as Construction Water and for Dust Control (no costs developed).

12) Provide Effluent for Irrigation Needs of Planned Linear Parks and Trail Corridors (no costs developed).

Direct potable reuse of effluent was not evaluated as part of this report. While the water treatment technology exists to treat wastewater to potable standards, state regulations currently prohibit direct potable reuse. In addition, public acceptance of direct potable reuse is currently lacking. However, it is generally recognized that at some point in the future, direct potable reuse may become a viable alternative for use of Casa Grande's reclaimed water supplies.

4.0.1 Clear Creek Associates Recharge Siting and Prioritization Study - Summary

The locations of the recharge project alternatives presented for analysis here are based on the recommendations of the 2007 study by Clear Creek Associates. This reconnaissance level study of the Casa Grande planning area prioritized the most favorable areas for future groundwater recharge activities. The study area encompassed 368 square miles. A matrix approach was used based on the evaluation of seven criteria influencing recharge potential. These criteria were:

- Proximity to mines and environmentally sensitive areas
- Well impacts (proximity to existing wells)
- Thickness of the Lower Conglomerate Unit
- Distance from the WRP
- Depth to top of the Lower Unit
- Mapped extent of the perched aquifer
- Aquifer hydraulic conductivity.

The study determined that siting of a recharge facility at or in close proximity to the WRP is not practical due to poor surface percolation rates, an extensive subsurface clay unit that creates a perched aquifer in the area, and relatively shallow bedrock (less than 1000 feet below land surface) below the perched aquifer. These factors result in a high probability of future water mounding problems associated with recharge activities. The study report included a map illustrating the most favorable locations for recharge within the planning area (see Appendix 2). The most favorable areas for recharge closest to the WRP include:

- Most locations west of Montgomery Road
- Most locations northwest of the WRP, including the Airport property
- Some locations east of I-10, between Rodeo Road and Peters Road

The study recommended that the City identify specific parcels of land within these areas for performing site specific investigations to further determine suitability for recharge facility construction. These investigations would include surface percolation tests to determine suitability for surface spreading facilities, and borings to 200 to 300 feet to determine groundwater depth and aquifer geologic characteristics. If necessary, the analysis should include deep borings to characterize the deeper geologic units. Well injection and recovery tests may also be required to determine the feasibility of recharge and recovery using injections wells or aquifer storage and recovery wells (ASR well).

This study provides the city with a good tool with which to prioritize areas for more detailed hydrogeologic study. It should be noted that areas that are rated somewhat lower than "most favorable" may also be suitable for recharge. It is recommended that consideration of an area for further site specific analysis and potential recharge operations should not be ruled out if other attributes of the area are favorable, for example, along the corridor of an existing or planned reclaimed water distribution line.

4.1 Alternative 1: Pipeline to Santa Rosa Canal for Delivery to Maricopa Stanfield Irrigation and Drainage District (MSIDD) Groundwater Savings Facility

This alternative involves delivery of effluent to the Santa Rosa Canal, operated by the Central Arizona Irrigation and Drainage District (CAIDD) and the MSIDD. Effluent would be delivered as "in-lieu" water to the Groundwater Savings Facilities (GSFs) operated by either of the districts. Long-term storage credits would be generated through

these deliveries and credits could be sold to: 1) water providers for use in maintaining Assured Water Supply Designations, 2) developers for use in obtaining Assured Water Supply Certificates, or 3) the Central Arizona Groundwater Replenishment District (CAGRD) for meeting its groundwater replenishment obligations.

The Santa Rosa Canal is now used to deliver a combination of CAP water and groundwater for agricultural uses in the district. Currently, no potable water treatment plants receive water from the canal. However, there may be interest in the future by Arizona Water Company or other water providers in constructing water treatment plants on or near the canal. Future potable water plant deliveries using the canal are a potential constraint on deliveries of effluent to these districts due to regulatory and public perception concerns.

4.1.1 Cost Estimate

This project would involve constructing a 10 MGD capacity pump station and 8.5 miles of 24-inch pipeline south from the WRP to the Santa Rosa Canal. Estimated capital and operation and maintenance costs are as follows:

Pipeline	$11.1 million
Pump Station	2.2
Total Capital Cost	$13.3 million

Operation and Maintenance Cost - $40/AF
Revenue from sale of in-lieu water - $20/AF

4.1.2 Advantages (Pros) and Disadvantages (Cons) of Alternative

Pros

- GSF facility is already permitted
- No technical uncertainties with ability to recharge water, minimal permitting costs
- Market exists for sale of storage credits

Cons

- Curtailed groundwater pumping is not in close proximity to the central Casa Grande planning area and AWC well fields.
- Winter demand for agricultural water may be low when available effluent is at a peak.
- GSF capacity to accept effluent will be reduced in the future as lands are urbanized.
- A long-term contract with the District may not be possible due to potential for potable water treatment plant.

4.1.3 Alternative 1b: Construct a 16-inch Pipeline to Casa Grande Canal for delivery to San Carlos Irrigation and Drainage District Groundwater Savings Facility (GSF) or for Exchange of Gila River Water

This alternative involves construction of a 16-inch effluent main in the Burris Road alignment to deliver water to the Casa Grande canal at Peters Road. Other delivery points on the SCIDD canal and lateral system and direct deliveries to individual farms are also possible along this route. A 5 MGD capacity 16-inch main is evaluated here because the capacity of the SCIDD system at the tail end of delivery system to use the full 10 MGD capacity is unknown. A pipeline in the Thornton Road alignment could also be used to accomplish this connection.

Delivery of effluent to SCIDD could be done as in-lieu water deliveries to the GSF or as part of an exchange for Gila River Water for sale and delivery to Arizona Water Company's planned Pinal Valley surface water treatment plant. However, the first phase of AWC's plant is being designed to treat CAP water and will have limited ability to treat a blend of Gila River water (poorer quality water) and CAP water. Any delivery of water to SCIDD would likely provide only a short-term effluent reuse option (10-20 years) because there are only approximately 6-8 sections of SCIDD agricultural lands downstream of the delivery point. Much of this land is likely to urbanize in the next 20 years.

At this conceptual level of analysis, the Burris Road alignment is likely the preferred alignment over the Thornton Road alignment for a pipeline to the south. The Burris Road alignment would place the pipeline closer to the Francisco Grande resort and closer to the most favorable recharge areas west of Montgomery Road. Additional study of potential pipeline alignments is needed to determine the best alignment if these reuse options are to be considered further.

4.1.4 Cost Estimate – SCIDD GSF Delivery

This project would involve constructing a 5 MGD capacity pump station and 3.5 miles of 16-inch pipeline south from the WRP in the Burris Road alignment to the Casa Grande canal at Peters Road. Estimated capital and operation and maintenance costs are as follows:

Pipeline	$3.20 million
Pump Station	1.75
Total Capital Cost	$4.95 million

Operation and Maintenance Cost - $40/AF
Revenue from sale of in-lieu water - $20/AF

4.1.5 Advantages (Pros) and Disadvantages (Cons) of Alternative

Pros

- GSF facility is already permitted
- No technical uncertainties with ability to recharge water, minimal permitting costs
- Market exists for sale of storage credits

Cons

- Winter demand for effluent may be low when available effluent is at a peak.
- Limited GSF capacity at end of SCIDD system to accept effluent will be reduced further over next 10-15 years as lands are urbanized.
- Ability of SCIDD to accept water at end of system must be evaluated further to determine viability of this alternative.

4.2 Alternative 2: Pipeline to Casa Grande Airport and Construct Vadose Zone Wells

This alternative involves constructing a pump station and 3.8 miles of 24-inch pipeline from the SRP to the airport in the Thornton road alignment (including 0.5 miles within the airport property), and constructing 23 vadose zone recharge wells. This alternative would require additional hydrogeologic study of the airport area to determine aquifer characteristics and suitability for recharge at this location. Vadose zone wells are typically 48-inch diameter wells to a maximum depth of 180 feet. Depth is limited by the augur technology used to drill the large diameter wells. The advantages of vadose zone wells are that if fine materials that would impede percolation rates of spreading basin recharge facilities are present, they can be avoided. Underground Storage Facilities using vadose zone wells are easier to permit than injection or ASR wells and should not require advanced treatment to remove organics. Of the 38 constructed Underground Storage Facilities in the Phoenix Active Management Area, 15 of the facilities utilize vadose zone wells.

4.2.1 Cost Estimate

Vadose zone wells in central Arizona typically are able to recharge from 250 to 350 gpm. It is assumed for this analysis that the average recharge capacity for each well is 300 gpm. The cost of each well, including engineering and administration, is assumed to be $230,000 per well. Well spacing is assumed to be a minimum of 100 feet. Vadose zone wells are subject to clogging and reduced capacity over time. For the purpose of this analysis, the average life expected for each well is assumed to be 10 years, though some reduction in well capacity can be seen much sooner. Therefore, it is assumed that wells will need to be replaced once during the 20-year capital cost amortization period.

Implementing this project would involve the following estimated capital and O&M costs:

Pipeline	$ 5.0 million
Pump Station	2.2
Vadose Zone Wells	10.6
Total Capital Cost	$17.8 million

Pumping Operation and Maintenance Cost	$40/AF
Vadose Zone Well Maintenance Cost	$9/AF

4.2.2 Advantages (Pros) and Disadvantages (Cons) of Alternative

Pros

- Initially, lowest capital and O&M cost of constructed recharge alternatives.
- Small land requirements, City already owns land.
- Simple technology, easier permitting than injection wells.
- Does not require advanced treatment of effluent to remove organic contaminants.
- Low community impact compared to spreading basins.
- Pipeline could be extended north to deliver water to GRIC exchange.
- Desert Color effluent pipeline could be oversized by the City to accommodate deliveries to recharge facilities, thereby reducing costs.

Cons

- Limited life of wells due to clogging will likely require replacement after 7-10 years.
- Clay lenses below 180 feet could limit use of vadose zone wells.

4.3 Alternative 3: Pipeline to Airport – Construct Injection or Aquifer Storage and Recovery (ASR) Recharge Wells

This alternative is similar to Alternative 4.2 except that injection wells or ASR wells would be constructed. Injection wells are constructed similar to a high capacity water production well drilled to a similar depth (usually greater than 1000 feet). Water is introduced into the well under pressure and the water is "injected" directly into the water table within the aquifer. This method of recharge is generally used where subsurface geology will not allow the use of surface spreading basins or vadose zone wells due to the occurrence of impermeable strata in the subsurface that impede the flow of water downward resulting in water mounding problems that limit recharge capacity. ASR wells have the added capability of being operated in injection mode or as a production well to recover the injected water on either a seasonal basis or during drought years. ASR wells could be operated conjunctively with a reclaimed water distribution system delivering water to direct irrigation customers. Water could be stored underground during the winter months when irrigation demands are low and recovered and delivered to irrigation customers during the peak summer demand period.

One disadvantage of using direct injection wells or ASR wells is that the A+ effluent produced at the Kortsen Road WRP will likely require the addition of advanced treatment facilities to reduce the concentrations of organic compounds such as Total Organic Carbon (TOC) and Trihalomethanes (TTHMs) created as disinfection by-products during the wastewater treatment process. One commonly used method of treatment to break down these compounds is the use of an Ultra-Violet-Peroxide system. Planning level costs for UV-Peroxide treatment of $500,000 per MGD of capacity are therefore included in the cost estimate provided for this alternative. Due to the high cost of additional treatment, this alternative may be better suited to future implementation in the event that aquifer water quality standards become more stringent and advanced treatment of effluent is also required for surface spreading and vadose zone wells.

4.3.1 Cost Estimate

Estimated capital and operation and maintenance costs for this alternative are as follows:

Pipeline	$5.0 million
Pump Station	2.2
UV- Peroxide System	5.0
Injection Wells	9.1
Total Capital Cost	$21.3 million
UV Peroxide O&M Cost -	$200,000/Yr/MGD of capacity, $182/AF
Pumping O&M Cost	$40/AF

4.3.2 Advantages (Pros) and Disadvantages (Cons) of Alternative

Pros

- Small land requirements, City already owns land.
- Low community impact compared to spreading basins.
- Pipeline could be extended north to deliver water to GRIC exchange.
- Wells not subject to clogging like vadose zone wells.

Cons

- Requires expensive advanced treatment to remove organics.
- More difficult permitting process than other recharge alternatives.
- High initial cost.

4.4 Alternative 4: Pipeline West to Montgomery Road – Construct Spreading Basin Recharge Facility

This alternative would involve constructing 5.0 miles of 24-inch pipeline west from the WRP in the Kortsen Road alignment to at least Montgomery Road. Several areas west

of Montgomery Road were rated as "most favorable" for recharge in the Clear Creek study. These areas are also located far enough from the Casa Grande Municipal Airport that potential constraints related to Federal Aviation Administration bird strike regulations should not be a factor. Thus a spreading basin recharge facility may be feasible in this area, pending detailed hydrogeologic testing. Land would need to be acquired for construction of a spreading basin facility and is included in the cost estimates below.

A variation on this alternative is to locate a spreading basin facility (or vadose zone well complex) west of the Francisco Grande Resort in conjunction with building a pipeline to deliver water for irrigation of the Francisco Grande golf course and park.

4.4.1 Cost Estimates

The cost assumptions used in this analysis for spreading basins are based on the actual costs of four recharge facilities constructed by the Central Arizona Project from 2001 through 2006. Costs were inflated to 2008 dollars and expressed on the basis of a cost of $171,500 per acre of recharge basin. In sizing the facility for 10 MGD capacity it was assumed that the average infiltration rate is 1.2 ft/day. Also, it was assumed that only half of the basins would be wetted at any one time and that 1.5 times the basin acreage needed would be acquired to accommodate berms, roads, and buffers for the facility. Based on these assumptions, a total of 76.8 acres is assumed to be required for the construction of 51.2 acres of spreading basins. Land cost was assumed to be $75,000 per acre.

The estimated costs for this project are as follows:

Pipeline	$6.6 million
Pump station	2.2
Land	8.8
Spreading Basin Facilities	5.8
Total Capital Cost	$23.4 million

4.4.2 Advantages (Pros) and Disadvantages (Cons) of Alternative

Pros

- Recharge basins are based on simple technology if geology is suitable.
- Does not require advanced treatment of A+ effluent to gain APP approval.
- Maximum additional treatment in soil profile thus easiest to permit from an Aquifer Protection Permit perspective.
- Pipeline in Kortsen Road, if extended 2 miles to the south, could be used to deliver water to Francisco Grande golf course and park.
- Alternative project location west of Francisco Grande could be combined with pipeline in Burris Road that delivers effluent to SCIDD and/or MSIDD GSF.

Cons

- Most difficult type of recharge project to locate to avoid surface clay layers that impede water flow.
- Difficult to site near airports due to FAA bird strike concerns.
- Large land requirements and associated costs.
- Potential vector control issues require careful water management and may be a concern to nearby residents.

4.5 Alternative 5: Managed Underground Storage Facility in North Branch of Santa Cruz Wash Downstream of WRP

Managed underground storage facilities permitted by the Arizona Department of Water Resources do not utilize constructed recharge basins or wells. In managed facilities, recharge is carried out by discharging water to a natural waterway. Of the approximately 55 permitted USFs in central Arizona, only 5 are Managed USFs involving effluent (City of El Mirage, City of Tucson (2 facilities), City of Phoenix - Cave Creek, and Prescott Valley). A Managed USF can also be used to convey water to the location of a constructed USF facility, thus combining the two concepts. For example, a Managed USF in the Santa Cruz Wash could be used to convey water downstream to a facility west of Montgomery Road.

By statute, Managed USFs may generate a maximum long-term storage credit volume of 50 percent of the water calculated as reaching the aquifer, after evaporation, transpiration losses from riparian vegetation, and any downstream diversions are subtracted. In addition, during periods when rainfall events cause significant natural stream discharges to the managed USF stream reach, ADWR does not allow credits to be generated. Permits include requirements for monitoring these types of flows and reporting the data in required quarterly and annual reports. Permits also include groundwater level alert levels that trigger a condition where no storage credits will be generated. For example, the City of El Mirage USF permit states that when groundwater levels rise to 30 feet below land surface or less, the USF permit is in "Prohibition Status" and no recharge credits shall accrue until water levels subside to below the limit.

In the case of the Santa Cruz wash, natural flows are relatively infrequent, generally less than 20 days per year. When all water loss factors are considered, the amount of storage credits that are likely to be generated can be considerably less than 50 percent of the flow discharged to the stream. For the purposes of this cost analysis, it is assumed that 35 percent of the effluent discharged to the stream channel would generate long-term storage credits (based on 50 percent eligibility for 70 percent of the total effluent discharged).

Managed USF facility permits often require one or more monitoring wells to record groundwater level changes at intervals along the stretch of stream channel over which the water infiltrates. Production wells in the area may also be used if the entity has regular access to the well. Currently, Casa Grande discharges to the wash flow approximately 7 miles downstream (2 miles past Montgomery Road) before fully infiltrating. Another unknown that could affect the ADWR permitting of a managed USF is the presence of

the perched aquifer conditions at the WRP plant site and downstream for approximately 4-5 miles along the Santa Cruz wash channel. The presence of a high water table in the area could preclude the permitting of a managed USF.

4.5.1 Cost Estimates

For the purposes of this analysis it is assumed that a maximum of 7 monitor wells would be required to be constructed along the 7-mile course of the stream channel at a cost of $20,000 per well. This cost could be reduced if existing production wells can be used as monitor points. Other improvements that may be required include lining the discharge channel to the outfall at the wash and construction of a new outfall and flow measurement station at an estimated cost of $150,000.

The estimated costs of this project are as follows:

Monitor Wells	$140,000
Channel lining	75,000
Outfall facility	75,000
Total Capital Cost	$290,000

Monitoring and Reporting Operation and Maintenance Cost $100,000/yr

4.5.2 Advantages (Pros) and Disadvantages (Cons) of Alternative

Pros

- Minimal capital cost.
- Would maintain existing riparian habitat.
- Ease and quickness of permitting unless high water table present.
- Good short-term inexpensive way to get started on recharge.

Cons

- May not meet CAAG policy goal of no discharge for future discharges resulting from population growth.
- Maximum of 50 percent long-term storage credits allowed after evapo-transpiration losses.

4.6 Alternative 6: Direct Delivery to Existing Parks, Schools in Central Casa Grande for Turf Irrigation

There are a number of existing parks and schools in central Casa Grande having significant turf irrigation demands. These facilities could potentially be served with reclaimed water instead of potable water now provided by Arizona Water Company or private wells. To determine the feasibility of constructing a distribution system to deliver effluent from the Kortsen Road WRP to these facilities, a conceptual level analysis was

conducted. This analysis identified potential users, the approximate number of acres of turf irrigated, and estimated annual and peak-daily turf water demand at each facility. Two cost estimates were developed for two different distribution system configurations to deliver effluent to the facilities. The parks and schools identified and approximate annual and peak daily water demands of each facility are shown in Table 4.1. Table 4.1 also includes the existing private golf courses of Francisco Grande (and related park), and the Palm Creek Golf/RV Resort. The locations of the potential users and effluent distribution system are shown on Figure 4.1. Approximately 2,481 acre-feet per year of potable water could be conserved if effluent could be delivered to all of these facilities. It should be noted the level of accuracy of these conceptual level demand calculations is plus or minus 25 percent.

4.6.1 Cost Estimates

Conceptual level capital and operation and maintenance cost estimates were developed for two alternative distribution systems to deliver effluent to central Casa Grande facilities. In Alternative 6, eleven (11) of the parks, schools and private facilities shown in Table 4.2, located within approximately 1300 feet of the proposed alignment of the effluent distribution main described below were identified, and the water demands totaled. The total peak-day and annual water demand for these facilities is 1.22 MGD and 528 AF/YR respectively. These facilities could be served by a 12" main constructed from the WRP along Kortsen Road to Pinal Avenue, an 8" main in Kortsen Road from Pinal Avenue to Casa Grande Road, then continuing south to Florence Boulevard.

The conceptual level capital cost estimate for this system, including turf facility on-site metering and connection costs is $3.2 million, with annual operation and maintenance costs of approximately $50,000. The 20-year annualized capital and operation and maintenance costs for such a system would be approximately $371,000 per year. This cost represents the amount of revenue each year the sales of reclaimed water would need to collect annually to pay off the cost of the system in 20 years (assumes the system capital cost is financed over 20 years at approximately 6 percent). To collect this much revenue annually, assuming 528 AF/YR of water sold, the effluent would need to be priced at $2.16/1000 gallons ($702/AF). This cost is almost 1.5 times higher than the 2007 Arizona Water Company potable water rate of $1.49/1000 gallons.

In Alternative 6b, the Palm Creek Resort golf course demand was added to the Alternative 6 system in an effort to increase annual effluent sales and revenue, and make the system more cost-effective. An 8" main would be extended 2.5 miles in Cottonwood Avenue from Casa Grande Avenue to the Palm Creek Resort.

Table 4.1
Existing Parks and Schools in Central Casa Grande

	Type (Turf/Ind)	Acres of Turf	Peak Use MGD	Annual Use (AF)	Map Ref. #
Potential Users					
Casa Grande Union H.S.	T	14	0.16	67.2	1
Coyote Ranch Park	T	5	0.06	24	3
Rancho Grande Park	T	3	0.03	14.4	4
Paul Mason Sports Complex	T	14	0.16	67.2	2
Francisco Grande Golf Course	T	120	1.33	576	30
Francisco Grande Park	T	20	0.22	96	30
Casa Grande Lakes Dev.	T	30	0.33	144	6
College Park	T	10	0.11	48	9
O'Neil Park	T	10	0.11	48	13
Burrus Park	T	5	0.06	24	11
Carr McNatt Park	T	25	0.28	120	18
Ward Park	T	2	0.02	9.6	20
West Park	T	3	0.03	14.4	19
Cruz Park	T	5	0.06	24	14
Frank Gilbert Park	T	5	0.06	24	22
Pearl Park	T	8	0.09	38.4	23
Eastland Park	T	3	0.03	14.4	27
Mosely Park	T	8	0.09	38.4	24
Palm Creek Golf/RV Resort	T	90	1.00	432	28
Mission Royal Golf Club	T	90	1.00	432	29
Ironwood Elementary School	T	4	0.04	19.2	21
Cactus Wind/Casa Verde H.S.	T	5	0.06	24	17
Cactus Middle School	T	7	0.08	33.6	8
Cholla Elementary School	T	4	0.04	19.2	7
Mesquite Elementary School	T	4	0.04	19.2	26
Palo Verde Elementary School	T	4	0.04	19.2	25
Cottonwood Elementary School	T	4	0.04	19.2	12
Casa Grande Middle School	T	7	0.08	33.6	16
St. Anthony School	T	4	0.04	19.2	31
Saguaro Elementary School	T	4	0.04	19.2	15
Total Potential Use		517.00	5.74	2481.60	

Table 4.2
Turf Facilities within 1300 feet of Potential Effluent Distribution System

	Type (Turf/Ind)	Acres of Turf	Peak MGD	Annual Use (AF)	Map Ref. #
Turf Facilities Within 1300' of Mainline					
Casa Grande Lakes Dev.	T	30	0.33	144	6
College Park	T	10	0.11	48	9
O'Neil Park	T	10	0.11	48	13
Burrus Park	T	5	0.06	24	11
Carr McNatt Park	T	25	0.28	120	18
Cottonwood Elementary School	T	4	0.04	19.2	12
Pearl Park	T	8	0.09	38.4	23
Ward Park	T	2	0.02	9.6	20
Saguaro Elementary School	T	4	0.04	19.2	15
Cactus Wind/Casa Verde H.S.	T	5	0.06	24	17
Casa Grande Middle School	T	7	0.08	33.6	16
Total Potential Use			1.22	528.00	

POTENTIAL RECLAIMED WATER USER LIST

Map No.

1. Casa Grande Union H.S.
2. Paul Mason Sports Complex
3. Coyote Ranch Park
4. Rancho Grande Park
5. Dave White Golf / Park
6. Casa Grande Lakes Development
7. Cholla Elementary
8. Cactus Middle School
9. College Park
10. Casa Grande Golf & RV Resort
11. Burrus Park
12. Cottonwood Elementary
13. O'Neil Park
14. Cruz Park
15. Saguaro Elementary
16. Casa Grande Middle School
17. Cactus Wind - Casa Verde H.S.
18. Carr McNatt Park
19. West Park
20. Ward Park
21. Ironwood Elementary
22. Frank Gilbert Park
23. Pearl Park
24. Mosely Park
25. Palo Verde Elementary
26. Mesquite Elementary
27. Eastland Park
28. Palm Creek Golf/ RV Park
29. Mission Royale Golf Club
30. Francisco Grande Golf / Park
31. St. Anthony School
32. Desert Color

MAP LEGEND

○ Potential User - Turf or Industrial Facility

■ City of Casa Grande Water Reclamation Plant

▪▪▪▪ Potential Reclaimed Water Distribution Main

Potential Reclaimed Water Users and Distribution System

Figure 4.1

The results of this addition is that the estimated system capital cost increases to $4.8 million and the 20-years annual capital and O&M cost increases to $476,000. However, the total annual effluent sales would increase to just over 1000 AF/YR, reducing the price of the effluent to $1.60 per/1000 gallons ($522/AF). This price is just slightly higher than the current potable rate of $1.49/1000 gallons.

4.6.2 Advantages (Pros) and Disadvantages (Cons) of Alternative

Conclusions and recommendations arising from the results of this conceptual level cost analysis are:

Pros

- Direct use of effluent provides the greatest hydrologic benefit to the aquifer than recharge alternatives because it results in lower potable water demands from existing potable water wells, preserving groundwater levels in existing well fields.
- Least potential aquifer water quality impact.

Cons

- Constructing a new effluent distribution system to existing parks and schools is the most expensive reuse alternative on a per acre-foot basis compared to recharge alternatives, and compared to the current price of potable water if user fees were to pay for the cost of the system.
- The unit cost of reclaimed water would be considerably higher that the current $0.50 /1000 gallons charged by Casa Grande to existing effluent users.
- User fees could not support the annual capital and O&M cost of the system and costs would have to be offset by revenue from other sources, such as wastewater user fees or impact fees charged to new development.
- The cost of the reclaimed water delivery system approaches a break-even cost compared to current potable water rates if a large user, such as a new or existing golf course located within 1 to 2 miles (Palm Valley in this example) can be added to the system.
- The Palm Valley Golf Resort and other similar users that now pump groundwater pursuant to Type 1 or Type 2 rights will likely require a financial incentive to switch to reclaimed water. The ability of the City's current effluent sales price of $163/AF ($0.50/1000 gal.) to provide an incentive would need to be evaluated on a case-by-case basis.
- Most utilities in Arizona and other states price effluent water at a rate discounted from the local potable water costs. Effluent unit pricing typically varies from 40 percent to 80 percent of the potable water unit price to encourage the use of this lower quality water source.
- Other issues need to be carefully considered related to constructing an effluent distribution system to existing users. These issues include: 1) community disruption from construction of distribution mains, and 2) potential community perceptions and concerns related to the introduction of reclaimed water on

public parks and school grounds, 3) financial issues related to Arizona Water Company's lost revenue associated with decreased water sales when facilities convert to reclaimed water supplied by Casa Grande.

4.7 Alternative 7: Direct Delivery to Large Turf Facilities in New Developments

4.7.1 Desert Color Development Agreement and Future Effluent Use

The Desert Color conceptual master plan includes numerous turf facilities, including golf courses, regional parks, and numerous small neighborhood parks that could be irrigated with effluent. The total potential effluent water demand and the timing of the demand by development phase is not known by the developer at this time. The City of Casa Grande has executed a development agreement with the 8,000+ acre master planned community of Desert Color. This agreement includes provisions regarding the future provision by the City of effluent for turf irrigation at parks, common areas and schools, construction uses, lakes, and monument features. Specifically, the agreement includes the following provisions:

- The development is entitled to effluent in the amount of its wastewater flow contribution to the City's WRP, less "normal amounts of processing loss."
- The developer is responsible for constructing an effluent distribution system to convey the effluent from the WRP to the development and to users. The design of the facilities must be approved by the City.
- The facilities shall be eligible for public improvements of the Community Facilities District (CFD).

4.7.2 Potential for Effluent Use on New Large Turf Facilities in Casa Grande

Irrigation of large turf facilities (golf courses, parks, schools, decorative lakes) is a widely practiced and accepted form of effluent reuse in Arizona and other states. As discussed in Chapter 2, many cities in Arizona require large turf facilities in new developments to be irrigated with reclaimed water. Requirements vary, but generally developers are required to install all on-site and offsite reclaimed water delivery system infrastructure, connect to mainlines that have already been installed by the city, or provide on-site reclaimed water piping for later connection to the reuse system when the city constructs mains into the area.

To examine the feasibility of requiring new large turf facilities within Casa Grande to be irrigated with effluent, a projection of potential turf facility irrigation demand in new developments was developed for the Casa Grande planning area. This projection was then compared to the projected availability of effluent for new uses presented in the effluent budgets presented in Chapter 3. The assumptions used to develop the turf demand projection are based on the following Casa Grande Planning Department requirements and discussions with Casa Grande staff:

- The average open space area of new planned developments is 18% (minimum requirement is 15%).
- Though not a requirement, assume 25 % of the open space will be landscaped in turf for recreational uses (includes regional and neighborhood parks, and retention areas).
- Though not a requirement, assume each 640 acres of development will contain one school site that has an average of 7 acres of turf.
- Turf facility demand is 4.8 AF/AC/YR based on ADWR turf allotments.

Based on these assumptions, for every 640 acres of land developed, it is projected that 36 acres of turf will be developed that results in an annual water demand of 172.8 AF/YR (based on 4.8 AF/AC). This equals an AAD demand of 0.15 MGD and a June AAD demand of 0.25 MGD. Using a 10 percent annual residential growth rate, the projected number of new homes constructed annually is approximately 2,500 per year. Assuming an overall density of 2.8 homes/acre based on the Casa Grande General Plan, the number of new acres developed annually would be 893 acres. Using 893 acres of new development annually and the above assumptions, the projected annual demand increase for reclaimed water is 0.21 MGD (AAD) and a peak June day water demand increase of 0.35 MGD.

New development turf water demand projections were then compared to the projected availability of effluent derived from the water budgets. These comparisons are shown in Table 4.3 beginning in 2010 because it is assumed that it will take a minimum of two years for new developments (including Desert Color) to fully develop new turf uses on reclaimed water. The comparisons indicate sufficient effluent should be available on an average annual basis and a peak-day basis to supply large turf areas in new developments, should Casa Grande elect to implement such a requirement. However, there is very little surplus effluent projected during the summer high demand period until about 2015. Until that time, peak summer demands may need to be supplemented with potable water or other sources. The large difference between the AAD demand and peak-day demand emphasizes the importance of having recharge facilities in place to utilize effluent during the winter months when turf irrigation needs are low. The availability of effluent to meet new large turf demand also assumes that SRP does not expand its power plant and require additional effluent, and that no new private or municipal golf courses are irrigated with effluent over the next 5-7 years. If either of those new water demands develop there would likely be a shortage of available effluent during the summer months until after 2015.

Over the long-term through buildout of the service area, development of 2,500 additional homes per year is projected to produce 0.49 MGD of wastewater flow annually (2.8 persons per dwelling unit x 70 gal. per person). When associated commercial and industrial wastewater flows are added, there will be sufficient effluent generated through buildout to provide for peak summer demands in common areas, schools, and parks, with a significant surplus available for other direct uses, including golf course irrigation, industrial uses and groundwater recharge.

Table 4.3
Potential Large Turf Water Demand in New Developments versus Reclaimed Water Available after Current Uses (MGD)

Year	2010	2011	2012	2013	2014	2015	2020	Buildout
Effluent Available June	1.03	1.67	2.56	3.77	4.89	6.18	11.81	36.25
June AAD Turf Demand	0.34	0.69	1.03	1.36	1.72	2.04	3.74	12.3
Surplus/Def.	0.69	0.98	1.53	2.41	3.17	4.14	8.07	23.95
Effluent Available (AAD)	3.66	4.46	5.56	7.06	8.46	10.06	17.06	47.46
AAD Turf Demand	0.21	0.42	0.63	0.84	1.05	1.26	2.31	7.5
Surplus/(Def.)	3.45	4.04	4.93	6.22	7.41	8.8	14.75	39.96

4.7.3 Advantages (Pros) and Disadvantages (Cons) of Alternative

Pros

- Developers can be required to fund a substantial portion of the construction of the mainline and on-site water distribution system.
- Fewer community and public perception issues than requiring direct use at facilities now irrigated with potable water.
- Widely accepted practice, few regulatory issues and constraints with Class A+ water
- Greatest hydrologic benefit – use replaces potable groundwater use.
- Least impact to groundwater quality compared to recharge alternatives.
- Distribution system could also be used to deliver water to recharge facility west of Montgomery Road.

Cons

- Potentially high initial cost to City of building large diameter pipelines in advance of development unless facility construction is phased.

4.8 Alternative 8: Delivery to the Gila River Indian Community (GRIC) in Exchange for CAP Water

This alternative involves constructing a pump station and pipeline approximately 9.25 miles north from the WRP in the Burris Road alignment to deliver water to the Southside Canal, located on the GRIC reservation approximately. The GRIC would use the water for agricultural irrigation and in return, provide CAP water to the City by executing a water exchange contract and enrolling the exchange with the Arizona Department of Water Resources. The City would then sell the water to Arizona Water Company for treatment at AWC's planned Pinal Valley Water Treatment Plant or direct delivery of untreated CAP to industrial or irrigation users within Casa Grande. The GRIC currently has two such effluent CAP water exchanges in place. The City of Mesa contract allows Mesa to deliver a maximum of 29,400 AF/YR of effluent in exchange for 23,520 AF/YR of CAP water. The City of Chandler also exchanges effluent with the GRIC. In these exchanges, the cities receive 4 acre-feet of CAP water for every 5 acre-feet of effluent provided to GRIC.

4.8.1 Cost Estimates

The estimated cost of the facilities required to implement the exchange include:

Pipeline	$12.2 million
Pump Station	2.2
Total Capital Cost	$14.4 million

Pumping Operation and Maintenance Cost $40/AF

CAP water for the purposes of this analysis is valued in terms of the estimated cost to acquire main-stem Colorado River water rights at $2,000 per AF, plus the cost to wheel the water through the CAP system (CAP capital charges, OM&R, and pumping costs).

In addition, the annualized capital and O&M cost of treating the CAP exchange water at an expansion of AWC's planned Pinal Valley WTP must be included in the analysis, even though it is not a direct cost to the City. This cost is estimated at approximately $500/AF ($100 per AF operation and maintenance costs; and $400/AF annualized capital cost based on 50 percent of the per AF capital cost of Phase I of the Pinal Valley WTP of $75 million for 10 MGD capacity plant).

4.8.2 Advantages (Pros) and Disadvantages (Cons) of Alternative

Pros

- Providing additional surface water source to the service area will directly offset future groundwater pumping and results in greatest hydrologic benefit.
- No permitting issues/uncertainties associated with recharge alternatives.
- As the cost of Colorado River supplies increases, cost per acre-foot for this alternative becomes more competitive with other alternatives.

Cons

- Dependent on successful completion of surface water treatment plant to implement.
- May require lengthy negotiations to execute exchange and water sale to AWC.
- High per acre-foot cost when cost of potable water treatment considered.

4.9 Alternative 9: Dual Distribution System (Purple Pipe System) to Deliver Effluent to Individual Residences for Outdoor Irrigation Use

Effluent delivery to individual residences for outdoor irrigation uses is not a common practice in Arizona or other western states. Deliveries to large turf irrigation customers and groundwater recharge are generally the most cost-effective water reuse strategies. However, the costs and benefits of providing reclaimed water to all customers in new subdivisions was evaluated and presented here for comparison to other alternatives.

Post Ranch, a 640-acre development located at east of Overfield Road and south of Florence Boulevard, was selected as a fairly typical new subdivision for which to evaluate this alternative. Post Ranch was not selected because of its geographical location. Location of a subdivision had no bearing on this analysis because only the costs of reclaimed water mains within the development were included. Capital and annual operation and maintenance costs were developed for a complete dual distribution system designed to deliver effluent to large turf users, common area landscaping tracks and each of 1,655 individual residences within the development. It is estimated that a dual

distribution system for the development would enable direct use of a maximum of approximately 420 acre-feet of effluent annually if all homeowners used effluent exclusively for outdoor irrigation uses. This figure is based on ADWR Third Management Plan outdoor residential use target of 131 gallons per housing unit per day for new development and 4.8 AF/AC for common area landscaping and parks and schools. The annual projected effluent demands break out as follows:

Park	30 AF
School	30 AF
Open Space	122 AF
Residences	238 AF
Total	420 AF

This level of use is considered optimistic, as some homeowners can be expected to prefer using potable water due to its higher quality and due to perception issues related to reclaimed water. Maps showing the potential reclaimed water system for Post Ranch are found in Appendix 3.

4.9.1 Cost Estimates

The costs for a complete dual reclaimed water distribution system for the Post Ranch development would require the following estimated capital expenditures, in addition to the costs of the potable water system for the development.

Reclaimed Water Mains (93,000 ft of 8,6,and 4-inch)	$4.8 million
Reclaimed Water Pump Station	1.5
Reclaimed Water Services and backflow preventers	1.8
Total Estimated Capital Cost	$8.1 million

In addition to relatively high capital costs for only 420 AF/YR of effluent use, significant annual operation and maintenance costs for the effluent distribution system within the development must also be considered. These cost estimates include:

Annual RP Backflow test ($50 per test)	$ 83,000
Service replacements (12 @ $2,500)	270,000
Valve maintenance	154,000
Meter reading (monthly)	23,000
Blue Stake	12,000
Meter Change outs	5,000
Annual pumping cost/pump maintenance	50,000
Total Estimated Annual O&M Cost	$597,000

Note: (Cost estimates provided by Arizona Water Company)

4.9.2 Advantages (Pros) and Disadvantages (Cons) of Alternative

Pros

- Maximizes direct use of effluent

Cons

- Very high capital and annual operation and maintenance cost per AF compared to other alternatives
- Potential health concerns with unregulated misuse of reclaimed water at individual residences.
- Difficulties in enforcing backflow prevention practices at residences and potential for cross-connection and contamination of potable water system.
- Availability of effluent throughout development at a lower unit cost than potable water could promote the establishment of high landscape water demands.
- Potable water unit rates for consumers may increase significantly because annual potable water sales would decrease significantly but overall cost to potable system capital and maintenance costs would not decrease significantly.

4.10 Alternative 10: Interim Direct Delivery of Effluent to Individual Farms

Effluent could be delivered to individual farms located along pipelines that would be constructed to deliver water to either constructed recharge facilities, groundwater savings facilities, or to supply other direct users. This alternative is considered to be an incidental interim use because the farms located closest to the Kortsen Road WRP will likely be urbanized within the next 10-15 years. No cost estimate is provided for this alternative due to the individual nature of each agricultural grower's situation. However, costs should be minimal when the farmland is located adjacent or near planned effluent pipelines. The additional infrastructure needs would consist of installing valve and metering stations, and a pressure reduction valve to enable discharge to the farm's irrigation ditch network. It is recommended that the potential for agricultural deliveries of this type be evaluated during detailed project engineering for selected reuse project alternatives.

4.11 Alternative 11: Provide Effluent to Contractors for Use as Construction Water and for Dust Control

Class A+ effluent is suitable for use in construction for ground settling, dust control and other activities. The City could construct stations for filling of water trucks. The City of Flagstaff currently maintains four such water stations. Stations could be established at the WRP plant site and at strategic locations along the alignment of any effluent distribution system constructed to deliver water to either recharge facilities or to supply direct irrigation users. One potential constraint for general contractors using reclaimed water for dust control is that water trucks may not be used for potable water use unless disinfected using approved methods. While construction water and dust control water

use are not a large use currently (approximately 50 AF/YR), dust control issues in Pinal County are increasing, and water for dust control is likely to be a growing need. One additional benefit of providing effluent for dust control is encouraging community attitudes regarding the importance of water conservation.

4.12 Alternative 12: Provide Effluent for Irrigation of Planned Linear Parks and Trail Corridors

The City's Trail System Master Plan was reviewed and evaluated for opportunities for reclaimed water use. The plan calls for the construction of a system of regional multi-use trails that will have landscape elements requiring irrigation water for desert-type trees and shrubs and perhaps turf.

"Linear Parks" are defined as 100' wide open-space corridors that include paved pathways, trails, native and constructed landscapes, rest areas, and other amenities. In some areas the parks may be as wide as ¼ mile. The Casa Grande Linear Park will run along the North Branch of the Santa Cruz Wash north of the Kortsen Road WRP, then south along Burris Road for several miles. This park could be served by potential effluent distribution mains along Burris Road or Thornton Road that deliver effluent to a future recharge facility at the Municipal Airport, and/or the main that delivers water to the turf users within the Desert Color development. In addition, a "Resource and Trail Park" that may have significant irrigation demands is planned along Burris Road at Camino Grande Road north of the WRP. There is also a major "Community Trail" corridor planned for almost the entire length of the Montgomery Road alignment within the municipal planning area. This trail could be provided effluent from mains constructed west to a future recharge facility and/or to deliver effluent to the Francisco Grande Resort.

It is recommended that the City's Planning and Parks and Recreation Departments be consulted during future reclaimed water main planning activities to determine the timing of construction of trails and near-term and longer-term opportunities for reclaimed water use at these facilities.

4.13 Alternative 13: Multi-Use Groundwater Recharge Facility

Several cities in central Arizona have constructed multi-use groundwater recharge facilities that include spreading basin recharge facilities combined with features such as constructed wildlife habitat and recreational amenities like hiking trails, wildlife viewing platforms, picnic areas, fishing lakes, and educational kiosks and centers. The Town of Gilbert's Riparian Reserve is a prime example of a popular facility that is visited and enjoyed by tens of thousands of people each year. However, a spreading basin recharge facility that provides other benefits to the community in association with effluent recharge can go a long way to facilitate acceptance by the local community. No cost/benefit analysis is provided for this type of facility because projects of this nature can include any combination of facilities and resulting costs. However, multi-use projects are typically very expensive. As an example, the total construction budget for

the City of Chandler – Chandler Heights Recharge Project on 103 acres, exceeds $22 million (Source: City of Chandler Utilities Department). However, other City Departments are contributing a significant amount of capital funding toward the project.

4.14 Comparison of Effluent Use Alternatives

There are numerous effluent use alternatives available to the City of Casa Grande, each with different estimated costs, benefits, water resources and hydrologic benefits, and potential regulatory and institutional constraints. Table 4.4 summarizes these factors for each alternative. The estimated capital costs, O&M costs, potential revenues from the sale of effluent or long-term storage credits, and the annual net cost per acre-foot of water sold or recharged are provided. The hydrologic benefits to the local aquifer from which Arizona Water Company provides water to the City of Casa Grande are rated for each alternative on a scale of 1 to 3 (1 being greatest benefit). Finally, the potential institutional and regulatory constraints to implementation are rated from 1 to 3 (1 being the fewest constraints). Figure 4.2 shows the location of the various effluent use projects and pipeline alternatives.

Recharge/Water Exchange Alternatives

Cost/Benefit: The estimated capital costs of recharge alternatives vary widely, from $23.4 million for a spreading basin facility located west of Montgomery Road (Alt. 4) to only $0.4 million for a managed recharge facility in the Santa Cruz Wash (Alt. 5). After accounting for potential revenue for sale of long-term storage credits at $200/AF, the annualized cost per acre-foot of water recharged varies from $418 per acre-foot for injection wells located at the airport (Alt. 3) to a negative $171 per acre-foot (net benefit) for a managed recharge facility in the Santa Cruz Wash (Alt. 5).

Providing effluent to the GRIC in exchange for CAP water is the most expensive of the recharge/exchange alternatives due to the added cost of treating the CAP water for potable use.

Hydrologic Benefit: Providing effluent to the GRIC in exchange for and direct use of CAP water by Arizona Water Company would provide the greatest hydrologic benefit of any alternative because it would directly offset groundwater pumping by AWC. From the perspective of hydrologic benefit to the aquifer, recharge at the airport should provide the greatest immediate benefit of the recharge alternatives because water would be recharged in an area closest to existing and planned potable water production well fields of Arizona Water Company and in an area where the perched aquifer conditions do not exist. Recharge carried out in facilities constructed west of Montgomery Road or in-lieu recharge done in the MSIDD or SCIDD GSF facilities would benefit the aquifer serving Casa Grande in a more indirect and long-term manner.

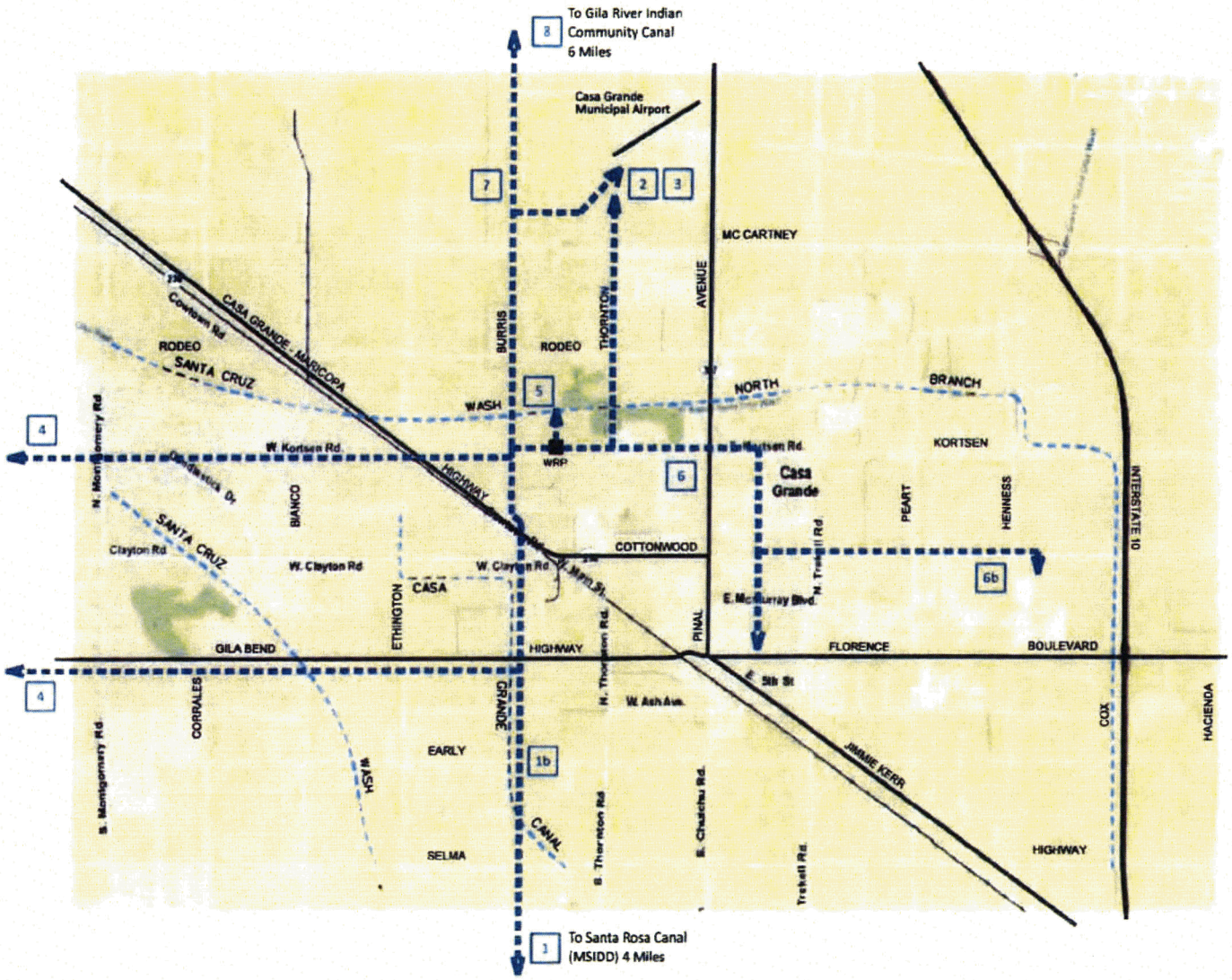
Institutional/Regulatory Issues: Alternative 2 - vadose zone wells located at the airport, has the fewest regulatory (permitting) and institutional constraints and uncertainties of the recharge alternatives. All other recharge or water exchange alternatives have more significant permitting, community issues, or institutional uncertainty associated with the projects.

Direct Use Alternatives

Cost/Benefits: Of the direct use alternatives studied, Alternative 9 – Dual Distribution System (Purple Pipe System) to deliver effluent to individual residences for outdoor irrigation use is by far the least favorable from a cost/benefit perspective. This alternative, with a net cost $3,068/AF, is approximately five to ten times more expensive than other direct use alternatives. Alternative 6 – Construction by the City of a distribution system to deliver effluent to 11 existing parks and schools, is the next least favorable from a cost/benefit perspective (net cost $538/AF). When a major golf course user is added to the system (Alternative 6b) the economics become more favorable, but the net cost is still $323/AF. Alternative 7 – Delivery to new users through a system constructed largely by developers and operated by the City would have a lower cost-benefit than Alternative 6b if a substantial part of the effluent delivery system is constructed by developers at their cost.

Institutional/Regulatory Issues:

Irrigation of large turf facilities using effluent is a common practice in Arizona and other states. However, constructing an effluent distribution system to existing parks and schools in central Casa Grande was rated as having the greatest potential for institutional constraints to implementation. These issues include: traffic disruption during construction, water pricing challenges to implementation, and relations issues in switching to reclaimed water. These issues are significantly less in relation to reclaimed water use on large turf facilities in new developments (golf courses, parks, and schools) at the inception of the development and should not deter implementation of direct use for large turf facility irrigation in new developments. Constructing a dual distribution system to deliver effluent to all homeowners was also rated a having the greatest potential for regulatory issues related to potential misuse of water by homeowners and cross-connection potential with the potable system.



RECLAIMED WATER USE ALTERNATIVES

1. Pipeline to Santa Rosa Canal for Delivery to MSIDD GSF

1b. 16" Pipeline to Casa Grande Canal for Delivery to SCIDD GSF

2. Pipeline to Airport - Construct Vadose Zone Wells

3. Pipeline to Airport - Construct Injection Wells

4. Pipeline West to Montgomery Road - Construct Spreading Basins

5. Managed Recharge Facility in Santa Cruz Wash

6. Direct Delivery to Existing Parks and Schools (11 Users)

6b Direct Delivery to Existing Parks, Schools, and Golf Courses (12 Users)

7. Direct Delivery to new Users (I.E. Desert Color)

8. Delivery to Gila River Indian Community in Exchange for CAP Water

MAP LEGEND

- Reclaimed Water Use Alternatives
- City of Casa Grande Water Reclamation Plant
- Potential Reclaimed Water Distribution Main

Reclaimed Water Use Alternatives

Figure 4.2

Table 4.4
Comparison of Effluent Use Alternatives

Effluent Use Strategy	Total Capital Cost ($mil)	Pipe Cost ($mil)	Pump Station Cost ($mil)	Other Cost ($mil)	Rech. Facil. Cost ($mil)	Annual O&M Cost	GSF Water Sale Revenue	Total Annual Cost per AF (1)	Cost/AF after Sale or Exchange (4)	Hydro. Benefit (2)	Instit. Regul. Issues (3)
(1) Pipeline to Santa Rosa Canal for Delivery to MSIDD GSF	$13.3	$11.1	$2.2	$0.0	$0.0	$440,000	$220,000	$141	-$59	3	3
(1b) 16" Pipeline to Casa Grande Canal for Delivery to SCIDD GSF	$5.0	$3.2	$1.8	$0.0	$0.0	$220,000	$110,000	$110	-$90	3	3
(2) Pipeline to Airport - Construct Vadose Zone Wells	$17.8	$5.0	$2.2	$0.0	$10.6	$540,000	$0	$211	$11	1	1
(3) Pipeline to Airport - Construct Injection Wells	$21.3	$5.0	$2.2	$5.0	$9.1	$2,485,000	$0	$418	$218	1	2
(4) Pipeline West to Montgomery Rd. - Construct Spreading Basins	$23.4	$6.6	$2.2	$5.8	$8.8	$540,000	$0	$262	$62	2	1
(5) Managed Recharge Facility in Santa Cruz Wash	$0.3	$0.0	$0.0	$0.3	$0.0	$100,000	$0	$29	-$171	2	2
(6) Direct Delivery to Existing Parks, Schools (11 users)	$3.2	$1.7	$1.0	$0.5	$0.0	$50,000	$0	$701	$538	1	3
(6b) Direct Delivery to Existing Parks , Schools, Golf C.(12 User)	$4.8	$2.6	$1.5	$0.7	$0.0	$60,000	$0	$486	$323	1	3
(7) Direct Delivery to New Users (e.g. Desert Color) (8)	NA	NA	NA	NA	$0.0	$60,000	$0	$486	$323	1	1
(8) Delivery to GRIC in Exchange for CAP Water (6)	$16.6	$14.4	$2.2	$0.0	$0.0	$440,000	$0	$191	$266	1	3
(9) Dual Distribution System for use at Individual Residences (7)	$8.1	$4.9	$1.5	$1.8	$0.0	$597,000	$0	$3,350	$3,187	1	3

Notes

(1) Cost less revenue derived from delivery to facility
(2) Hydrologic benefits based on location of recharge in relation to current and projected areas of groundwater declines - 1 = greatest benefit
(3) Institutional and regulatory constraints - 1 = fewest potential constraints to implementation
(4) Assumptions: Long-term Storage Credit value$200/AF, direct delivery price $0.50/1000 gal ($163/AF), CAP exchange water value $425/AF based on $2,000/AF cost to purchase Colorado R. rights and additional cost to wheel through CAP system
(5) Capital costs assumed amortized over 20 years at 6% interest.
(6) Includes annualized capital and O&M cost of water treatment plant expansion
(7) For delivery of 420 AF/YR effluent to 1624 homes and large turf areas in Post Ranch Development
(8) General capital costs based on those developed for alternative 6b

Chapter 5 – Recommended Reclaimed Water Use Action Plan

5.0 Overall Recommendations

As described in Chapter 2, most municipalities and many private wastewater providers in Arizona use a combination of direct and indirect effluent use strategies to achieve full or near-full beneficial reuse of effluent. Based on the analysis of alternatives for the City of Casa Grande presented in Chapter 4, several viable effluent use alternatives exist that, if implemented, could achieve full use of projected effluent volumes while providing long-term water management benefits to the area and financial benefits to the City.

This chapter provides recommendations regarding the alternatives that appear the most favorable for further evaluation, including a recommended action plan for implementation of selected alternatives. A combination of direct effluent use alternatives and recharge project implementation is recommended. Recommendations are divided into Near-term (2008-2010) and Long-term (2011-2015).

5.1 Near-Term Action Plan (2008-2010)

The following are actions recommended in the 2008-2010 period:

1) Pursue permitting in 2008-09 of a managed underground storage facility (USF) in the North Branch Santa Cruz Wash as an interim, low-cost recharge solution.

2) Begin discussion as soon as possible with the Central Arizona Groundwater Replenishment District (CAGRD) leading to a Memorandum of Understanding regarding a long-term agreement for sale of long-term storage credits to CAGRD.

3) Implement a policy/ordinance requiring new golf courses and large turf facilities in new developments (where cost-effective) to be irrigated with reclaimed water. Require developers to construct the necessary reclaimed water infrastructure, for ownership and operation by the City. As part of this policy, develop a standard effluent pricing structure for all future customers.

4) Consider contributing capital toward over-sizing of effluent transmission mains and pump stations constructed by developers. Over-sizing would facilitate development of a back-bone system capable of delivering effluent to new developments located north, west, and south of the Kortsen Road WRP.

5) Evaluate the Burris Road alignment south and Highway 84 west for sizing and construction of a back-bone effluent transmission main to deliver effluent potentially to: Francisco Grande Resort, a constructed recharge facility west of the resort, in-lieu water to SCIDD and MSIDD canals, and deliveries to other large turf users in new developments (e.g. the Legends golf course).

6) Pursue studies leading to the implementation of a 10 MGD capacity constructed underground storage facility located at either the Airport (using vadose zone wells) or west of Montgomery Road (either spreading basins or vadose zone wells). As a first step, conduct detailed hydrogeologic studies, to include conducting ring infiltrometer tests, and drilling shallow and deep test holes at the Airport and at selected areas west of Montgomery Road (west of Francisco Grande Resort) to evaluate recharge potential at selected locations.

7) Meet with representatives of the Maricopa Stanfield Irrigation District (MSIDD), the Central Arizona Irrigation and Drainage District (CAIDD), and the San Carlos Irrigation and Drainage District (SCIDD) to evaluate the potential quantity of effluent that could be delivered as in-lieu water to the Groundwater Savings Facilities operated by those entities.

8) Consider contributing capital to over-size the Burris Road effluent main to be constructed by the Desert Color development to enable effluent deliveries to a future airport recharge facility, other direct users, or to a potential effluent/CAP water exchange with the GRIC.

9) Initiate discussions with the Central Arizona Groundwater Replenishment District (CAGRD) leading to an agreement in 2008 involving effluent sales to CAGRD and some form of CAGRD financial, technical or operations involvement in a Managed and/or Constructed Underground Storage Facility.

10) Based on the results of the hydrogeologic studies and effluent pipeline studies, develop a 6-year water reclamation capital improvement program budget for the 2010-2015 period.

11) Based on the CIP budget, implement a Water Reclamation Development Impact Fee to new development to be used in funding the capital needs of the projects selected for implementation.

12) Negotiate a Memorandum of Understanding with Arizona Water Company (AWC) regarding: 1) AWC's future operation and maintenance of City-owned reclaimed water distribution and recharge facilities, and 2) Cooperation regarding future planning activities designed to maximize the beneficial use of reclaimed water.

13) Evaluate the potential to use El Paso Natural Gas Company's abandoned 12" steel gas pipeline in the Burris Road alignment as an interim conveyance method for effluent. This pipeline extends both north and south from Kortsen Road for several miles.

5.1.1 Studies Needed to Facilitate Implementation of 2008-2010 Action Plan Recommendations

1) Hydrogeologic modeling study and permitting assistance to implement a managed underground storage facility in the North Branch of the Santa Cruz Wash (Estimated Budget: $20,000 to $30,000).

2) Hydrogeologic testing program (including test drilling) to evaluate the viability of two recharge facility locations: the Municipal Airport and an area west of the Francisco Grande Resort (Estimated Budget: $175,000 to $200,000).

3) Reclaimed water distribution system planning study to develop a back-bone distribution system plan to serve turf facilities in new developments, planned linear parks and trail corridors, and deliver water to planned recharge facilities and selected irrigation and industrial users (Estimated Cost: $50,000 to $75,000).

4) Conduct a consultant or in-house study to develop a water reclamation impact fee component as part of the sewer develop impact fee (Estimated cost: $30,000 to $50,000).

5.2 Long-term Action Plan (2011-2015)

The following are actions recommended in the 2011-2020 period:

1) By 2014, construct a 10 MGD capacity recharge facility at either the Airport location or a location west of Montgomery Road. Depending on the growth rate of effluent production over the 2008-2014 period and the growth of direct use customers, construction of the recharge facility capacity could be phased.

2) Construct the first phase of a back-bone reclaimed water transmission system to deliver water to new large turf users, linear parks, industrial users, and recharge facilities.

3) Evaluate the feasibility, costs, and benefits of reducing the size of the existing 120-acre effluent holding pond to reduce evaporation losses and increase the availability of effluent for direct deliveries and underground storage. For example, downsizing the ponds to 20 acres would reduce annual evaporation losses by approximately 500 AF/YR. If sold at $200/AF, this would generate an additional $100,000 per year in revenue. Downsizing the ponds could also free up land for the construction of future treatment plant expansions beyond the Phase III expansion capacity of 12 MGD.

4) Develop additional direct and indirect reclaimed water use plans to enable beneficial use of all additional effluent flows projected through buildout.

Plans should be based on the assumption that additional discharges to the Santa Cruz Wash beyond current AZPDES permit limitations of 6 MGD may not be possible in the future, except under emergency conditions.

Chapter 6 – Water Reclamation System Funding Alternatives

6.0 Overview

Construction of a major reclaimed water distribution system and groundwater recharge facilities to achieve full use of available effluent will require significant capital resources over the next 5-6 years. The cost estimates for the reuse alternatives studied indicate potential costs in the range of $20 million to $30 million over the next 6 years. This Chapter summarizes alternative mechanisms for funding the planning, design, and construction of reclaimed water distribution facilities. The alternatives discussed here include:

- Development Impact Fees
- Wastewater Rate Increases
- Developer-Construction of Facilities
- Developer Contributions toward the City-constructed Facilities
- Central Arizona Groundwater Replenishment District (CAGRD) contributions to funding facilities in association with an effluent purchase contract

6.1 Development Impact Fees

The City currently collects a sewer development impact fee of $4,116 per unit for a ¾" water meter and $6,914 for a 1" water meter. The sewer fee levels were increased in September, 2007, primarily in the Collection category. Proportionally higher fees are charged for multi-family and commercial developments purchasing larger meter sizes. The total fee is partitioned into the following categories comprising the indicated percentage of the total fee: Treatment (37.2%), Collection (59.96 %), Equipment (2.7%), and Studies (0.04%). In calendar year 2007, approximately $3.85 million in sewer impact fees were collected. Of that total, $2.4 million (62.3%) was related to single family residential permits and $1.45 million (37.7%) was related to commercial impact fees. These totals reflect the lower sewer impact fees that were in effect for most of 2007 and are based on 1005 single family permits issued in 2007. Approximately 71 commercial permits and 1 public building permit were issued.

A potential means of funding the study, design, and construction of reclaimed water facilities would be to implement a "Water Reclamation" category to the existing sewer development fee. This section presents a high-level analysis to evaluate how much the sewer impact fee would potentially need to be increased to fund some of the alternative projects identified in this plan. The following assumptions provide the basis of the "what-if" analysis:

- Potential capital needs of $30 million over the 2010 to 2015 period. This figure might potentially include the cost of some or all of the following facilities: 1) one major 10 MGD recharge facility, 2) a managed recharge facility in the Santa Cruz Wash, 3) a 10 MGD reclaimed water pumping station and

transmission main, and 4) some participation in over-sizing of reclaimed water mains constructed by developers.

- A return to an average new single family home construction rate of 2,000 units per year that contribute impact fees.
- Additional commercial impact fees revenues at recent historical percentages of residential impact fees.

Based on the above distribution of single family unit versus commercial unit sewer impact fees collected in 2007, implementing a water reclamation impact fee at various levels would result in the estimated annual revenues shown in the Table 6.1 below.

Table 6.1
Potential Annual Water Reclamation Impact Fee Revenues

Potential SF Unit Recl. Fee	Potential Revenue SF Units	Potential Revenue Com. Units	Total Potential Revenue
$250	$500,000	$302,000	$802,000
$500	$1,000,000	$604,000	$1,604,000
$750	$1,500,000	$906,000	$2,406,000
$1,000	$2,000,000	$1,208,000	$3,208,000
$1,500	$3,000,000	$1,812,000	$4,812,000

For example, annual fee revenues of $2.4 million could, in theory, pay for the annual debt service on approximately $24 million in capital improvements related to a new water reclamation program, if projects are financed over 20 years at approximately a 6 percent interest rate.

6.2 Central Arizona Groundwater Replenishment District (CAGRD) Funding

The Central Arizona Groundwater Replenishment District (CAGRD) has expressed a desire to purchase effluent from the City and other operators of wastewater treatment plants to meet its Plan of Operation targets for acquiring long-term water supplies. The Plan of Operation currently identifies replenishment obligations of approximately 11,000 AF/YR by the year 2020 in the Pinal AMA. However, with recent changes to the state's Pinal AMA Assured Water Supply Rules, it is anticipated that more developments within the AMA will need to enroll in the CAGRD, thereby increasing the long-term replenishment obligations well beyond 11,000 AF/YR.

A meeting was held with Mr. Cliff Neal and Mr. Tom Harbour of the CAGRD on January 23, 2008 to discuss the CAGRD's interest in pursuing an agreement with the City of Casa Grande regarding purchase of effluent or purchase of long-term storage credits. Several topics and alternatives for cooperation between the City and CAGRD were discussed, including:

- CAGRD's long-term water needs in Casa Grande and Pinal County

- Projected effluent available for recharge from Korsten Road WRP (and current uses).
- Potential for CAGRD to provide up-front funding for design and construction of reclaimed water conveyance distribution and recharge facilities in return for a 100-year commitment by the City to provide a specific volume of credits annually.
- Interest and ability for CAGRD to provide staff expertise related to design and construction of facilities.
- Potential ownership and operation of recharge facilities by CAGRD.
- Potential joint ownership of recharge facilities.

6.2.1 Meeting Outcomes and Conclusions Regarding Most Feasible CAGRD-City of Casa Grande Partnering Opportunities

Based on the discussion at the meeting, the following are recommendations regarding the most feasible framework for an agreement with CAGRD.

- The CAGRD need for long-term water supplies exceeds the amount of effluent projected to be available for recharge through the year 2015. CAGRD would be interested in purchasing as much storage credit as could be produced at a 10 MGD Casa Grande recharge facility.
- CAGRD would prefer to enter into a long-term contract with the City for purchase of storage credits generated at City-owned and operated facilities. For meeting ADWR assured water supply criteria, CAGRD would prefer a contractual commitment of 100-years.
- In return for a long-term commitment, CAGRD is prepared to discuss providing a significant up-front capacity payment for each acre-foot of effluent storage credit provided. In addition, an annual charge for each acre-foot of water recharged would be paid by CAGRD to the City (i.e. an operation and maintenance charge).
- If an agreement can be reached, CAGRD may be willing to provide technical assistance to the City in the pre-design study, design and permitting phases of bringing a recharge facility on-line.
- It will take 4-5 years to design and construct a constructed recharge facility, when all pre-design studies, land acquisition, design, permitting, and construction are considered. It was discussed that a first step to take to begin recharging effluent as soon as possible (within the next 18 months) would be to implement a Managed facility in the North Branch of the Santa Cruz Wash. This could enable CAGRD to begin purchasing storage credits and make an initial capital contribution toward implementing the Managed facility and potentially toward the planned constructed recharge facility.
- Though not discussed with CAGRD at the meeting, it is recommended the City require that any storage credits sold be reserved by CAGRD to meet groundwater replenishment obligations of developments within the City of Casa Grande.

<u>Potential Revenue Generation</u>

If a contract for 1,000 acre-feet/year of effluent storage credits were made to the CAGRD at a cost of $2,000 per acre-foot, this would generate $2 million in up-front funding to the City for design, permitting and construction of groundwater recharge facilities. This value was selected for this example because it approximates the current value per acre-foot of the 100-year CAP water leases secured by cities from the Gila River Indian Community (GRIC) as part of the GRIC Water Rights Settlement in 2006. Table 3.4 indicates that in 2008, approximately 2,644 AF of effluent will be available to deliver to an underground storage facility on an average annual basis. If this volume of effluent was delivered to a "Managed" USF in Santa Cruz Wash, approximately 925 AF of long-term effluent storage credits could be generated if 35 percent of the water discharged to the wash were counted as credits by ADWR.

In addition to paying a capital charge, CAGRD would pay an annual operation and maintenance fee for each acre-foot of water that generated a storage credit. This fee would be based on the annual cost to operate and maintain the effluent distribution system from the plant to the recharge site, plus the cost to operate and maintain the recharge facility (including permit maintenance, testing and regulatory reporting).

6.3 Wastewater Rate Increases

The potential impact on wastewater rates (or user fees) of funding the capital and operation and maintenance costs of an effluent distribution system and recharge facility was investigated. The following data for 2007 was used in this analysis, provided by the City of Casa Grande Finance Department:

- Total residential sewer connections – 12,209
- Total commercial sewer connections – 616
- Average residential monthly sewer bill - $11.68, which generates approximately $1.71 million per year in revenue.
- Assume annual inflation adjustment increases in sewer rates pay for other Departmental capital costs and operation cost increases.
- Assume average commercial sewer connection pays $50/month in user fees and generates $0.37 million per year in revenue.
- Total revenue collected in 2007 approximately $2.08 million

<u>Conclusions</u>

In order to potentially fund a $30 million water reclamation capital program ($3.0 million in potential debt service) solely with increases in user fees would require approximately a 150 percent increase in sewer fees. It is therefore doubtful that sewer rate increases are a feasible alternative to generate anywhere near the full capital revenue needs of the projects discussed in this plan. However, rate increases in the range of 10 to 15 percent could generate additional revenues in the range of $200,000 to $300,000 to pay for annual operation and maintenance costs of new reclaimed water distribution and recharge

facilities. In addition, the annual sale of long-term storage credits to the CAGRD, developers, or water providers should generate enough revenue to cover operation and maintenance costs and could be priced to generate a net positive cash flow for the City.

Sale of effluent for direct irrigation uses to large turf areas could also generate significant additional annual revenues for the City. For example, at the current price of $163/AF charged to the SRP's Desert Basin power plant, sale of each additional 1,000 AF/YR of effluent would generate $163,000 per year and pay for a significant portion of the projected annual O&M cost of a reclaimed water distribution system. It may be possible in the future to increase the rate charged for direct sale of effluent. While each city's situation is unique, several cities in central Arizona currently sell effluent at rates that are significantly higher than $163/AF, some as high as $500/AF to $600/AF.

6.4 Developer-Constructed Facilities and Developer Contributions to City Constructed Effluent Transmission Facilities

6.4.1 Developer-Constructed Facilities

Several cities having extensive effluent distribution networks require new developments containing golf courses, parks, schools, or common areas exceeding a certain acreage of turf to install the effluent distribution mains to the turf areas at the developer's cost (usually 12" and smaller mains) from the city's backbone effluent distribution system. This policy allows the reclaimed mains to be installed at the time the development installs streets, potable water, and sewer mains and avoids later disruptions. The city's capital improvement program is then responsible for paying only for the pumping, storage, and larger transmission mains.

Some developers of large master planned communities having extensive reclaimed water demands may wish to develop in advance of the City of Casa Grande's CIP program schedule for constructing large effluent transmission mains into the area. In such a case, the City may wish to contribute funding through a development agreement toward the developer's construction of the main to "over-size" the pipe above the developer's needs to provide for planned future regional needs. This can be a cost-effective way of building a system over time. Another variation of this approach is to have the developer pay up-front for the full cost of the larger pipe and receive payback through credits on the water reclamation impact fee (assuming there is a fee in place).

6.4.2 Developer Contributions Toward City-Constructed Facilities

This approach has been used in Scottsdale, where 22 golf courses receiving effluent from the city's system were required to contribute an up-front proportional share of the capital cost of the system (per MGD of delivery capacity). In addition, developers were required to build their own connecting main. This approach is well-suited where a few large users are the primary customers of the system.

6.5 Funding Options – Conclusions and Recommendations

There are several feasible alternatives available to the City of Casa Grande to fund the construction and operation of new reclaimed water use projects. Use of a combination of the approaches discussed in this chapter is recommended. It is recommended that the City consider implementing some combination of the following funding approaches:

- After developing a 6-year water reclamation capital improvement program budget, implement a water reclamation impact fee component to the existing sewer impact fee to fund reclamation program capital needs.
- Enter into discussions with the Central Arizona Groundwater Replenishment District toward a Memorandum of Understanding involving an up-front capital contribution from CAGRD in return for a long-term commitment for sale of long-term storage credits.
- Consider future sewer rate increases to pay for annual water reclamation operation and maintenance costs that cannot be covered by annual revenues from sale of effluent and long-term storage credits to users.
- Consider increasing the rates charged for direct effluent sales in the future, within the constraints of current contracts.
- In the future, when the City's backbone effluent transmission system has been planned, implement an ordinance requiring developers of large turf facilities to construct and dedicate smaller diameter mains to connect to the City' system.
- Consider City financial participation in developer-constructed pipelines.

Chapter 7 - Framework for City of Casa Grande-Arizona Water Company Memorandum of Understanding (MOU)

7.1 Overview

The City of Casa Grande (the "City") currently does not operate pressurized water delivery systems within the City. That responsibility has been carried out for many years by Arizona Water Company ("AWC"). In addition to operating its Casa Grande water system, AWC operates the Coolidge, Arizona City, Apache Junction, Superior, Oracle, San Manuel, Stanfield and Tierra Grande water systems in Pinal County, as well as other systems in 7 other counties in Arizona. Both entities recognize the importance of maximizing the beneficial use of effluent as a component of meeting projected long-term water resources needs within the Pinal Active Management Area. Toward that goal, the City staff and AWC have agreed to explore feasible alternatives for a formal Memorandum of Understanding with the overall objective of maximizing the cost-effective, beneficial use of effluent produced at the Kortsen Road WRP. This chapter describes several alternatives regarding how the entities might work together to share responsibilities and create synergies that serve to promote cost-effective effluent use opportunities. Discussion is provided regarding a potential framework for the MOU that would lay out the responsibilities of the two entities with respect to:

- Planning of reclaimed water use facilities
- Design and permitting of facilities
- Construction Management
- Operation and maintenance of facilities
- System funding and ownership
- Effluent pricing strategies
- Establishing service to new effluent customers

7.2 Planning Activities for Reclaimed Water Use Programs

Both entities have a vested interest in developing programs and policies that maximize effluent use within the City of Casa Grande and the Pinal AMA. AWC recently conducted a water resources planning study for its Pinal Valley water service areas that identifies that even with total reuse of available effluent, additional renewable water resources will need to be secured to meet the build-out water needs of the area. This study underscores the importance of achieving full use of effluent. AWC's involvement in reclaimed water management planning is important to ensure that effluent groundwater recharge and recovery activities are carried out in locations that do the most to maintain water levels within the well fields from which AWC pumps groundwater to serve Casa Grande. In addition, recharge should be carried out in locations that do not negatively impact the water quality of AWC's groundwater wells.

For these reasons, it is appropriate that the MOU include a commitment from both entities for staff participation and cooperation in future reclaimed water use planning studies conducted by either entity.

7.3 Design and Permitting of Facilities

Cooperation by both entities in the design and permitting of reclaimed water distribution and recharge facilities is advantageous for the following reasons:

- Should AWC be the entity that operates and maintains facilities (discussed in section 7.5), effluent pumping stations and transmission facilities are designed in a manner consistent with AWC's current water distribution facilities. AWC participation in the design process will help ensure facilities can be operated and maintained without significant additional training of staff.
- Health regulations require that reclaimed water mains maintain a minimum of 6 feet of separation from potable water mains. AWC involvement in project design and construction management will ensure this is carried out.
- AWC has an Engineering Department experienced in the design and design review process for pump stations and pressurized water transmission systems.
- AWC is experienced in filing annual water use reports with the Arizona Department of Water Resources (ADWR). It therefore would be advantageous for AWC to be responsible for filing quarterly and annual ADWR reports on future recharge facilities, especially if AWC operates and maintains the facility.
- If AWC operates and maintains recharge facilities, AWC involvement in design of the facilities is appropriate to ensure seamless operations.

Therefore, the MOU could include requirements and commitments that the City and Arizona Water Company cooperate on reclaimed water facility design and permitting. A project design review committee could be established consisting of engineering staff of both entities. Both entities would commit to devote adequate staff to the design and permitting process.

7.4 Construction Management of Facilities

As in the case of engineering design and permitting, cooperation by both entities in construction management will be advantageous in constructing facilities capable of being operated and maintained in the most cost-effective way possible. For example, construction management of reclaimed water main projects bid by the City could be managed by Arizona Water Company under a contract with the City. Projects could also be jointly managed by the City and AWC. For major pipeline, pump stations, or recharge facilities, a third party construction management firm could be contracted with by either the City or AWC. Since each project is likely to have different construction management needs, it is recommended the MOU discuss several possible approaches and provide flexibility to respond to varying project needs.

7.5 Operation and Maintenance of Facilities – Meter Reading and Customer Billing

The City does not currently have staff experienced with the operation and maintenance of pressurized water delivery systems. If the City was to operate and maintain new

reclaimed water delivery and recharge facilities, it would be necessary for the City to hire a significant number of additional staff. In contrast, AWC currently has a staff in excess of 75 employees serving the operations, maintenance, and meter reading needs of its Casa Grande, Coolidge, Arizona City, Stanfield and Tierra Grande system alone. In addition, staff in the AWC Corporate Office in Phoenix carries out regulatory reporting (ADEQ, ADWR, and Arizona Corporation Commission) and billing activities. AWC staff is therefore well-positioned to provide for the cost-effective operation, maintenance, permit compliance, and billing needs of a future reclaimed water system serving the City of Casa Grande. AWC staff is experienced in the day-to-day activities required to operate and maintain a pressurized water system, including:

- Pump repair and maintenance
- Electrical and SCADA system maintenance
- Water line and service leak repair
- Water line valve exercise, repair, and maintenance
- Service and meter installation
- Backflow device maintenance and annual testing
- Meter reading
- Customer billing
- Regulatory reporting

AWC's long-term experience and significant local staffing capability to carry out these functions should enable AWC to provide cost-effective operation and maintenance of future reclaimed water systems serving the City. It is therefore recommended that the MOU explore as one option, a contractual framework under which AWC would provide a full range of services to operate and maintain future reclaimed water systems and provide effluent service to customers. Under this framework, the City would maintain ownership of the effluent, reclaimed water system and effluent storage credits. Under this contractual framework, AWC would bill effluent customers under rates established to encourage and promote effluent use, and accomplish the City's and AWC's goals of maximizing the cost-effective, beneficial use of effluent produced at the Kortsen Road WRP. Another option to be considered, of course, is for the City to design, own, operate and maintain all effluent facilities and provide effluent service to customers. As indicated earlier in this section, however, the City would need to hire a significant number of additional staff under this option. Under either option, however, the City could be able to apply the benefits of effluent storage credits to those customers to which long-term storage credits are sold (e.g. the CAGRD).

7.6 Reclaimed Water System Ownership

An important question to be addressed in the MOU is ownership of reclaimed water infrastructure and how the construction of the infrastructure is funded. Ownership and funding sources are interrelated issues. Three options for ownership of planned reclaimed water distribution and recharge facilities are: 1) Ownership, operation and maintenance of all reclaimed water and recharge facilities by AWC and sale of effluent to AWC by the City at the plant for delivery and sale to AWC's customers, 2) Ownership, operation and

maintenance of all reclaimed water and recharge facilities by the City with the City selling effluent to its customers; and 3) Ownership of all reclaimed water and recharge facilities by the City, with operation and maintenance of the reclaimed water and recharge facilities by AWC with effluent sales by AWC to its customers. Each option has advantages and disadvantages, and present separate issues that impact the feasibility of implementing each such option. It is recommended that the City and AWC meet and confer to establish the appropriate option to pursue.

Considerations that impact the feasibility of the three alternatives include:

1) Under existing zoning authority, the City has the ability to pass ordinances requiring reclaimed water use on large turf facilities in new developments. AWC could not independently require such reclaimed water use by its customers and would need to seek approval from the Arizona Corporation Commission for the appropriate effluent tariffs, including rate tariffs.

2) The City currently charges a significant sewer development impact fee to pay for new facilities construction. It is a logical extension to increase this fee to pay for water reclamation facilities construction because beneficial reuse of effluent will provide additional water resources for new development within the City.

3) The City currently has contracts with two major effluent users (SRP and Frito-Lay) and must meet those contractual obligations. Keeping ownership of the system would allow the City to plan for and secure the funding necessary regarding deliveries to new users and recharge facilities.

4) Ownership of the system by AWC would require AWC to obtain approval from the ACC of tariffs for reclaimed water user rates and connection fees to pay for the capital costs of the system. This option may increase the cost of effluent service, and discourage its use.

5) Reclaimed water rates must be priced below potable water rates in order to encourage or promote the use of reclaimed water. It is critical, therefore, that the primary source of funding will need to be developer contributions either in the form of: 1) impact or connection fees for all new homes, or 2) large financial contributions from developments containing large turf facilities such as golf courses, parks, schools, and common areas that are reclaimed water customers.

7.7 Potential Framework for a Memorandum of Understanding

The discussion of issues in this chapter provides a potential framework to begin discussion between the City of Casa Grande and Arizona Water Company regarding the negotiation of a Memorandum of Understanding that would include but not be limited to consideration and resolution of the following items:

1) Ownership of and capital funding of future reclaimed water delivery and recharge facilities.

2) Water reclamation facility operation and maintenance permit maintenance, meter reading and billing responsibilities.

3) Establishment of the sources of capital funding for system construction, including consideration of: a) Casa Grande impact fees, b) developer contributions to either Casa Grande or AWC, or c) Arizona Water Company connection fees per a new tariff approved by the ACC.

4) Establishment of appropriate reclaimed water rates and rates for sales of effluent storage credits.

5) A potential commitment from both entities for staff participation in future reclaimed water use planning studies conducted by either entity.

6) Potential cooperation and joint participation regarding reclaimed water facility design and permitting. It is recommended that a project design review committee be established consisting of engineering staff of both entities. Both entities would commit to devote adequate staff to the design and permitting process.

7) Potential Arizona Water Company involvement in construction management activities.

Appendices

Appendix 1 – Conceptual Level Facility Unit Cost Assumptions

Pipelines ($/ft) DIP

8"	$60
12"	$90
16"	$175
24"	$250

Pump Stations

1.5 MGD to 2.0 MGD	$1,500,000
4.0 MGD	$1,750,000
8.0 MGD	$2,000,000
12.0 MGD	$2,200,000

Recharge Facility Costs

Spreading Basin Facility

Land - @ $75,000 per acre
Design/Construction Cost per basin acre - $171,500/acre
(Based on actual cost of 4 CAP facilities inflated to 2008 $, Tonapah, Hieroglyphics Mtn., Agua Fria, Lower Santa Cruz)

Assume 1.2 ft/day percolation rate (conservative), assume half of basins out of service for drying, assume 1.5 basin area = total land need (accounts for buffers, access roads, berms)

Recharge Wells

Vadose Zone Wells (48" diameter, PVC casing and screen) – Assume 250-350 gpm capacity per well, assume maximum depth of 180 ft. Assume life of 7 years due to clogging. Note: Scottsdale wells still operational after 14 years (RO water). Minimum spacing recommended is 100 ft. between wells. (Source; Personal communication, Sheila Ehlers, HydroSystems, Inc.)

Estimated Costs

Well Construction cost	$125,000
Above ground, Electrical/SCADA	75,000
Engineering/Project Management	30,000
Total	$230,000

Retrofit of existing production wells for injection use	$500,000
New injection/ASR well	$1,300,000

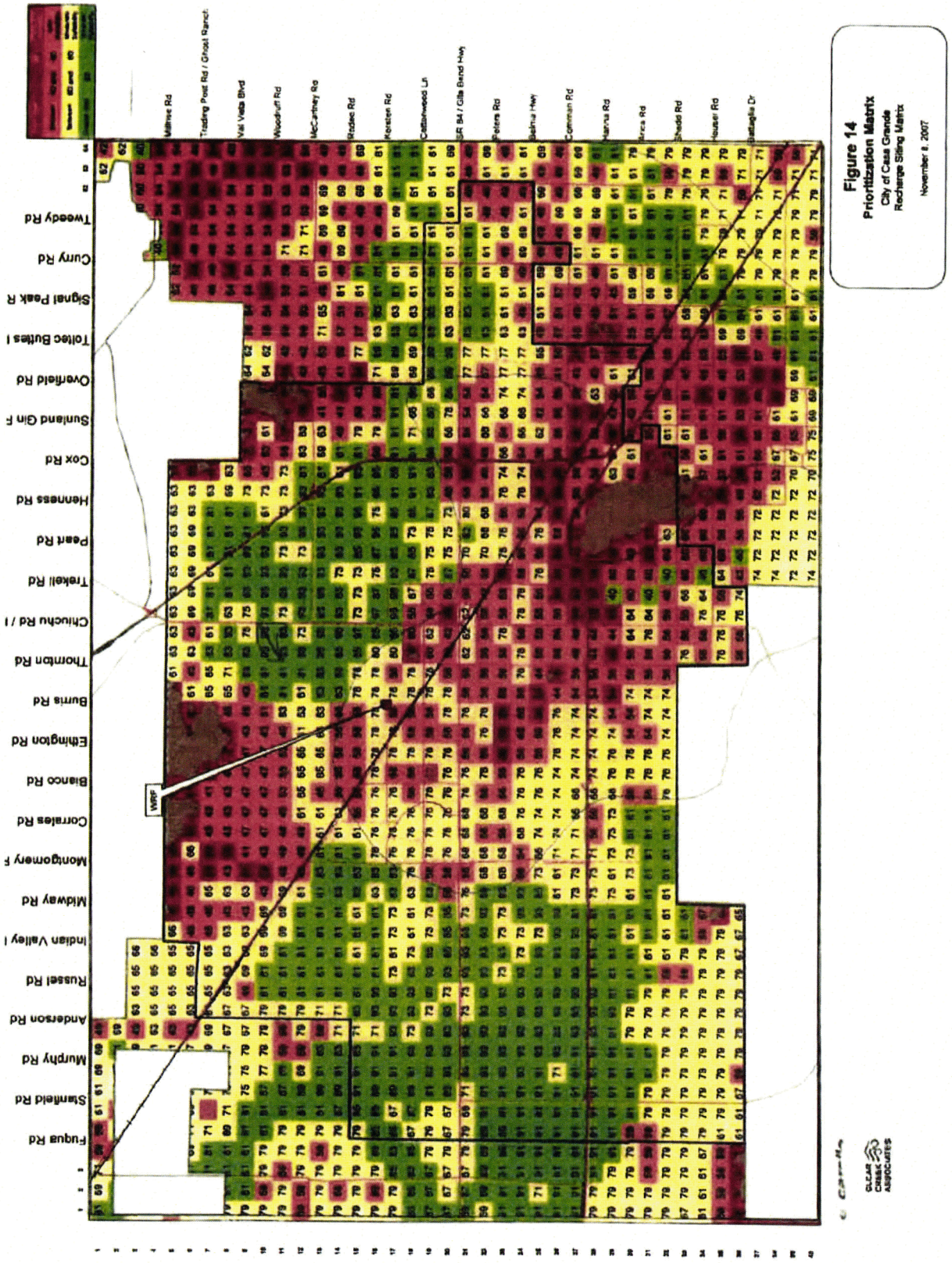
Assume 1000 gpm/well

Well sites – 0.25 acres @ $75,000/acre

Test Borings

200' to 300' using hollow-stemmed auger	$5,000 per boring
Deeper borings to 1000' using mud rotary drill rig	$50,000 per boring

Appendix 2
Map of Recharge Areas Prioritized



1"= 600'

EFFLUENT PIPE TO EVERY HOME

16,743 LF of 8" C-900 PVC Main

26,004 LF of 6" C-900 PVC Main

50,000 LF of 4" C-900 PVC Main

Appendix 3
Map of Dual Distribution System
Post Ranch Development

Effluent Pipe to Every Home

FKS

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EXHIBIT FKS-9

COPPER MOUNTAIN RANCH
RECLAIMED WATER MASTERPLAN

Prepared By: Arizona Water Company
3805 N. Black Canyon Highway
Phoenix, AZ 85015

Date: September 21, 2012

Registered Professional Engineer (Civil)
CERTIFICATE NO.
FREDRICK K.
SCHNEIDER
Date Signed 9-24-12
ARIZONA, U.S.A.

Exp 9-30-13

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Registered Professional Engineer (Civil)
CERTIFICATE NO.
29938
FREDRICK K.
SCHNEIDER
Date Signed 9-24-12
ARIZONA, U.S.A.

Exp 9-30-13

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1.0 Introduction and Purpose

Arizona Water Company (the "Company") is applying for Certificates of Convenience and Necessity ("CCN") extension to provide potable water service to the Copper Mountain Ranch development ("CMR"). As part of the application requirements the Arizona Corporation Commission (the "Commission") requires the Company to describe any plans for reclaimed water use within the CCN extension area. Currently, the use of reclaimed water is planned for irrigation of large turf areas, recreation centers and one 18-hole golf course within CMR.

The purpose of this report is to assess the reclaimed water needs and supply availability for CMR and to recommend infrastructure needed to provide reclaimed water to CMR.

2.0 Description of Copper Mountain Ranch

The CMR development is located within portions of Township 5 South, Ranges 5 and 6 East, between Highway 238 and Highway 387, northwest of downtown Casa Grande, Arizona (Figure 1).

The total area of CMR is approximately 3,500 acres and is predominantly developed as residential with some commercial and mixed use. At build out, the property will include approximately 13,000 residential units. In addition, a school site with fields and buildings, multiple recreational centers, community parks, and other large turf areas are planned for a total turf area of approximately 178 acres. Table 1 is a breakdown of the anticipated turf areas.

The CMR development will also include an 18-hole golf course; however, at the time of this analysis the developer has not determined the total area for the golf course. Section 3 further discusses identifies the plans for irrigation on the 18-hole golf course.

Table 1 – Turf Areas within CMR

Location	Area (Acres)
Commercial	20
Town Center	37.6
Community Parks	24
Recreational Facilities	16.8
School	58.4
Golf Clubhouse	20.8
TOTAL TURF AREA	177.6*

*Does not include Golf Course

3.0 Reclaimed Water Demand Requirements

In March, 2008 a report titled *Reclaimed Water Use Conceptual Master Plan for the City of Casa Grande and the Arizona Water Company Pinal Valley Planning Area*, ("Reclaimed Water Masterplan") was prepared by Larson and Associates Water Resources Consulting for the City of Casa Grande ("City") and the Company. One objective of the Reclaimed Water

Masterplan was to analyze turf demands. Table 4.1 in Section 4.6 of the Reclaimed Water Masterplan outlined existing turf areas and water demands.

The Reclaimed Water Masterplan shows the average demand per acre of turf is approximately 4.8 acre-feet per year ("AFY") with a per acre peak of 0.011 million gallons per day ("MGD"). Comparing the per acre demand to the proposed turf areas planned for CMR the average reclaimed water demand is approximately 852 AFY, which is equivalent to 0.76 MGD, and a peak of 2 MGD. Table 3 shows the reclaimed water demands for the turf areas planned in CMR based on the demand per acre calculation determined from Table 2.

Table 2 – Reclaimed Water Demands of Turf Areas Planned for CMR

		Reclaimed Water Demands	
Location	Area (Acres)	Average (AFY)	Peak (MGD)
Commercial	20	96	0.22
Town Center	37.6	180	0.41
Community Parks	24	115	0.26
Recreational Facilities	16.8	81	0.18
School	58.4	280	0.64
Golf Clubhouse	20.8	100	0.23
TOTAL	177.6*	852*	1.94*

*Does not include Golf Course

Proposed CMR Golf Course

The 18-hole golf course proposed for CMR is assumed to be designed similar to other desert, hillside golf courses in Pinal County and the State of Arizona. Three such golf courses and their associated demands were previously identified in the Reclaimed Water Masterplan and summarized in Table 3. Additionally, the Company also reviewed its 2011 annual report, prepared for the Arizona Department of Water Resources, summarizing deliveries to turf-related facilities for the Company's Apache Junction system. In this report there were three golf courses similar to the desert, hillside type golf course assumed for CMR. The annual demands for the three Apache Junction golf courses are also summarized in Table 3. Since this is an annual report of the total usage the peak demands were not presented; however, based on the Company's experience with desert and hillside type golf course, the peak demands for such golf courses are typically 1.0 to 1.3 MGD.

Table 3 – Summary of Desert-Type Golf Course Irrigation Demands

Golf Course Name	Reclaimed Water Demands	
	Annual (AFY)	Peak (MGD)
Francisco Grande Golf Course	576	1.33
Palm Creek Golf Course	432	1.00
Mission Royale Golf Club	432	1.00
Gold Canyon Golf Resort*	943	1.0-1.3
Mountainbrook Golf Club*	538	1.0-1.3
Apache Creek Golf Course*	545	1.0-1.3
AVERAGE	578	1.0-1.3

*From 2011 Annual Report for turf-related deliveries in Apache Junction System

As previously stated the assumed design of the 18-hole golf course for CMR is a desert, hillside golf course similar to those presented in Table 3; therefore the demands are similar. For the purpose of this analysis a demand of 580 AFY, equivalent to 0.5 MGD, with a peak of 1.3 MGD is assumed for the CMR golf course.

The total estimated reclaimed water demands for CMR are 1.26 MGD; 0.76 MGD for the various turf areas within the development and 0.5 MGD for the proposed 18-hole golf course, with a peak of 3.3 MGD.

4.0 Reclaimed Water Supply Source

The City owns and operates the Kortsen Road Water Reclamation Plant ("Kortsen WRP") located in the vicinity of Kortsen Road and Burris Avenue. The Kortsen WRP is the nearest water reclamation plant to the CMR development. The Kortsen WRP was recently expanded to an average treatment capacity of 12 MGD with a peak treatment capacity of 19.8 MGD. In addition to the expansion, the effluent water quality level was upgraded to A+. Having A+ quality effluent means the water is available for a wide variety of direct irrigation uses, including food crops and residential landscaping.

According to the Reclaimed Water Masterplan the Kortsen WRP currently supplies reclaimed water to three major users. The users and their demands are shown in Table 4.

Table 4 – Current Users of Kortsen WRP Effluent and Associated Demands

Reclaimed Water User	Demands (MGD)
Reliant Energy Desert Basin Power Plant (Salt River Project)	3.2
Frito-Lay Inc.	2.6
City's Municipal Golf Course	0.6
TOTAL	6.4

Based on the 12 MGD capacity of the Kortsen WRP there is a surplus of 5.6 MGD. Currently, this surplus is discharged into the North Branch of the Santa Cruz Wash for recharge purposes; however, there is not a minimum supply requirement for the wash. Therefore, this excess water is available for any new direct reclaimed water uses.

As determined in Chapter 4.0 above the total reclaimed water demand for CMR is estimated at 1.26 MGD, with a peak of 3.25 MGD, which is less than the surplus water available from the Kortsen WRP. Therefore, the Kortsen WRP is capable of supplying the average and peak CMR reclaimed water demands.

5.0 Infrastructure Requirements

The infrastructure required to supply effluent to CMR will consist of two booster pump stations, one booster pump station constructed at Kortsen WRP to supply the total reclaimed water demands and one smaller booster pump station providing supply for all turf areas, excluding the 18-hole golf course. Irrigation of the golf course will be provided by a private irrigation system which pumps water directly from the onsite lake(s).

The CMR is approximately 5 miles north of Kortsen WRP and an appropriately sized transmission main will discharge the majority of the effluent directly into a manmade lake for irrigation of the golf course. A distribution system, connected to the smaller booster pump station, will supply the remaining reclaimed water demands. This distribution system takes supply directly from the transmission main.

Similar to the potable water system described in the Reclaimed Water Masterplan the water mains are designed such that the velocities are a maximum of 5 feet per second ("fps") under peak conditions.

Using the continuity equation the diameter of the transmission mains and distribution mains are determined.

$$Q = VA$$

Where:
Q=Expected Reclaimed Water demands
V=Maximum velocity allowed (5 fps)
A=cross sectional area of a circular pipe $\left(\frac{\pi d^2}{4}\right)$

Using 3.3 MGD, equivalent to 5.10 cubic feet per second ("cfs"), for the transmission water mains the minimum diameter is 16-inches.

Using 2 MGD, or 3.09 cfs, for the distribution water mains the minimum diameter is 12-inches.

Figure 1 shows the Copper Mountain Ranch Reclaimed Water Plan.

6.0 Cost Estimates

Table 5 shows a preliminary construction cost estimate for the design and construction of a reclaimed water system for the CMR development.

Table 5 – Preliminary Construction Cost Estimate for Reclaimed Water System

Item	Description	Quantity	Units	Unit Cost	Total Cost
1	Large Booster Pump Station	2,000	gpm	[illegible]	[illegible]
2	Small Booster Pump Station	1,200	gpm	[illegible]	[illegible]
3	16" DIP Transmission Main	29,000	LF	$120	[illegible]
4	12" DIP Distribution Main	7,920	LF	$100	[illegible]
				SUB TOTAL	[illegible]
				20% Design	[illegible]
				20% Contingency	[illegible]
				TOTAL	[illegible]

7.0 Conclusion

The Company analyzed the reclaimed water demands, supply and infrastructure costs for the CMR development. The analysis shows there is sufficient supply at the City's Kortsen WRP to meet the reclaimed water demands of CMR. However, the infrastructure available to deliver reclaimed water to CMR does not currently exist. In order to provide reclaimed water to CMR construction of two booster pump stations and approximately 7 miles of transmission and distribution mains is required. The preliminary cost to construct this infrastructure is 7.8 million dollars. Based on this analysis the Company recommends constructing a reclaimed water system for irrigating the turf areas and golf course within CMR.

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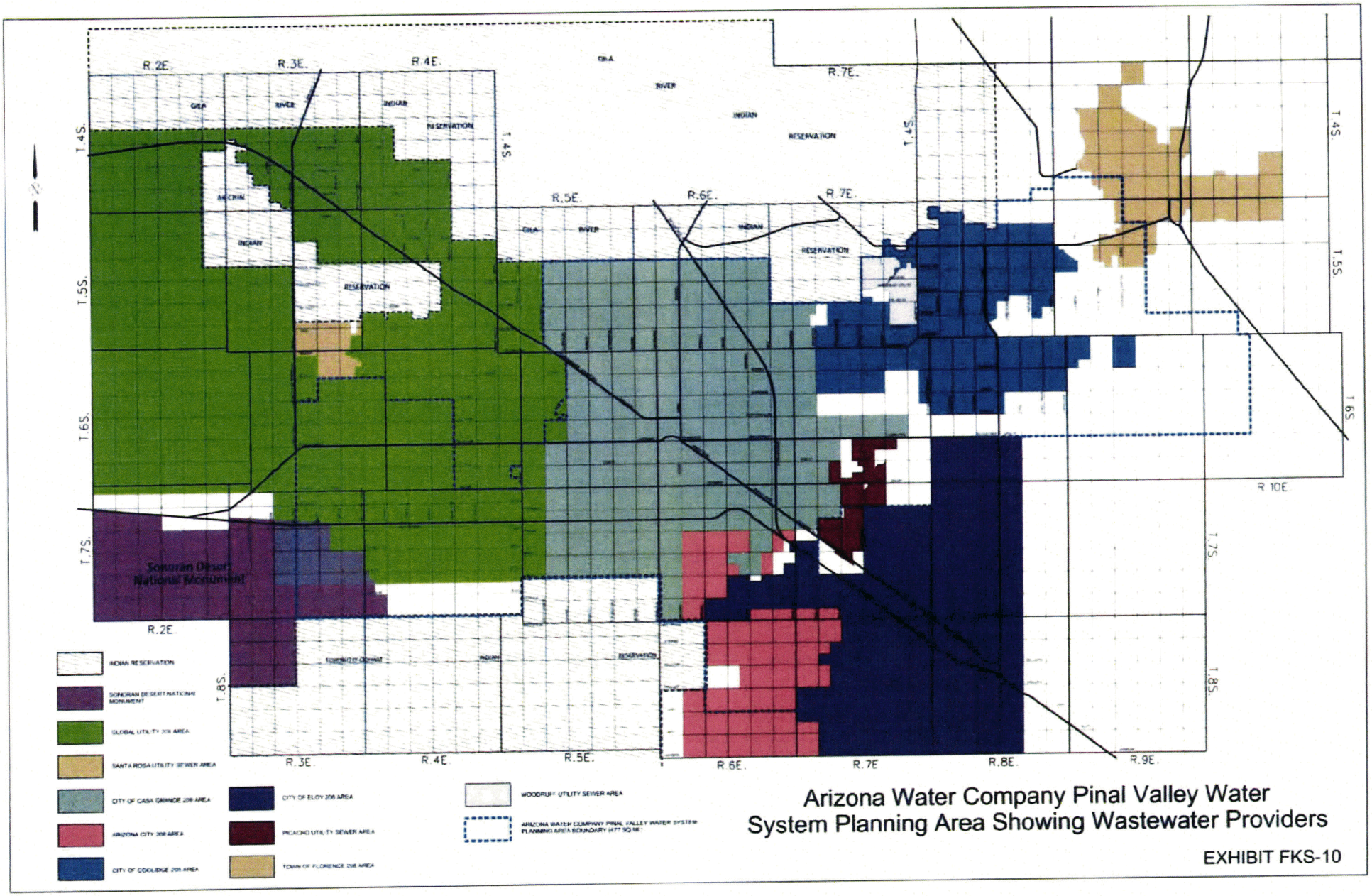
EXHIBIT FKS-10



Arizona Water Company Pinal Valley Water System Planning Area Showing Wastewater Providers

EXHIBIT FKS-10

EXHIBIT
AWC-4
ADMITTED

AWC -4

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
DOUG LITTLE - Interim Chairman
BOB BURNS
TOM FORESE
BOB STUMP

IN THE MATTER OF THE APPLICATION OF ARIZONA WATER COMPANY FOR AN EXTENSION OF ITS CERTIFICATE OF CONVENIENCE AND NECESSITY AT CASA GRANDE, PINAL COUNTY, ARIZONA	**DOCKET NO. W-01445A-03-0559**

Surrebuttal Testimony

of

Fredrick K. Schneider

(Hearing on Remand - Phase 2)

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ARIZONA WATER COMPANY

Surrebuttal Testimony of

Fredrick K. Schneider, P. E.

I. **Introduction and Background.**

Q. **PLEASE STATE YOUR NAME, EMPLOYER AND OCCUPATION.**

A. My name is Fredrick K. Schneider. I am employed by Arizona Water Company as Vice President - Engineering.

Q. **ARE YOU THE SAME FREDRICK K. SCHNEIDER WHO PREVIOUSLY PROVIDED TESTIMONY IN THIS DOCKET?**

A. Yes.

Q. **ARE YOU ADOPTING ALL OF YOUR EARLIER PRE-FILED TESTIMONY?**

A. Yes.

Q. **HAVE YOU REVIEWED THE REBUTTAL TESTIMONY OF CORNMAN TWEEDY WITNESS FRED E. GOLDMAN (HEARING ON REMAND - PHASE 2)?**

A. Yes.

Q. **WHAT IS THE PURPOSE OF YOUR PRE-FILED TESTIMONY?**

A. The purpose of my pre-filed testimony is to provide an update on progress made on the Pinal Valley Central Arizona Project ("CAP") Recharge and Recovery Facility, Memorandum of Understanding ("MOU") reached with PERC Water which I discussed in my direct testimony (Hearing on Remand - Phase 2) and provide testimony and evidence in response to the written testimony of Cornman Tweedy witness Fred E. Goldman.

II. **Consolidating the Casa Grande and Coolidge Water Systems into the Pinal Valley Water System.**

Q. **HAS ARIZONA WATER CONNECTED ITS CASA GRANDE AND COOLIDGE WATER SYSTEMS INTO A SINGLE WATER SYSTEM WHICH ARIZONA WATER REFERS TO AS ITS PINAL VALLEY WATER SYSTEM?**

A. Yes. Mr. Goldman's statements to the contrary are incorrect where on page 2, footnote 1 of his rebuttal testimony Mr. Goldman states "However, upon my review of the Master Plan attached as Exhibit FKS-2 and the enlarged portion of the Master Plan attached as Exhibit FKS-3, it does not appear that the interconnection has been completed." Mr. Goldman makes this incorrect statement even though the interconnection of these two water systems has been documented and accepted by the Arizona Corporation Commission ("Commission"), the Arizona Department of Environmental Quality ("ADEQ") and the Arizona Department of Water Resources ("ADWR"). ADEQ issued an approval of construction ("AOC") for the interconnect on January 7, 2008. On October 21, 2010 Arizona Water Company notified ADEQ that effective December 1, 2010, the Coolidge and Casa Grande water systems were consolidated into a single public water system designation, PWSID No. 11-009. The consolidation could occur only if the two water systems were now one single water system. Likewise, upon application by Arizona Water, coupled with evidence of service area consolidation, ADWR established a single service area designation number 56-001307.0001.

Much of Mr. Goldman's rebuttal testimony lacks supporting evidence or is in direct opposition to the facts of this case. Specifically, Mr. Goldman fails to recognize the facts that: (a) Arizona Water has consolidated the Casa Grande and Coolidge water systems in the Pinal Valley water system; (b) Arizona Water has invested over $1.0 million planning for the water needs of its Pinal Valley Water System; (c) Arizona Water has planned for the use of effluent or reclaimed water in its Pinal Valley water system; (d) recharging is not difficult

and is in fact a routine industry practice; and (e) this area is water challenged and reclaimed water resources should be preserved, not thought of as a pain to deal with. In addition, Arizona Water has reduced its groundwater pumping by over 5,000 acre-feet ("AF") over 2014 groundwater use. I provide additional evidence of these facts in my surrebuttal testimony below.

III. Arizona Water's willingness to provide wastewater service to areas where there is a need and no provider for such service.

Q. HAS ARIZONA WATER CHANGED OR WAIVERED ON ITS LONG STANDING POLICY REGARDING PROVIDING WASTEWATER SERVICE?

A. No, it has not. It is and continues to be Arizona Water's policy to provide wastewater service in those areas where it provides water service and where there is no existing wastewater provider already established or certificated and there is a need for such service.

Q. EXPLAIN WHY ARIZONA WATER HAS NOT PROVIDED WASTEWATER SERVICE TO CUSTOMERS IN PINAL VALLEY.

A. Like many parts of the state, there are several qualified wastewater providers already providing wastewater service within Arizona Water's Pinal Valley service area. Specifically, there are three municipal wastewater providers, three commission-regulated wastewater providers and one sanitary district currently providing or poised to provide wastewater service.

Q. HAS ARIZONA WATER EXECUTED AN AGREEMENT WITH PERC WATER CORPORATION TO PARTNER WITH ARIZONA WATER TO PERMIT, DESIGN AND CONSTRUCT WASTEWATER FACILITIES?

A. Yes. On July 25, 2014, Arizona Water Company and PERC Water Corporation ("PERC Water") executed an MOU. The MOU provides among other things, for PERC Water to join Arizona Water to provide sewer/wastewater service to developments where no other

sewer/wastewater provider exists. A copy of the fully executed MOU is attached as Exhibit FKS-11.

Q. DO ARIZONA WATER'S MANAGEMENT AND OPERATORS HAVE EXPERIENCE MANAGING AND OPERATING WASTEWATER FACILITIES?

A. Yes. I explained Arizona Water's qualification and certifications in my direct testimony (Hearing on Remand - Phase 2).

Q. WHAT ELSE HAS ARIZONA WATER DONE TO POSITION IT TO PROVIDE WASTEWATER SERVICE WHEN SUCH SERVICE IS REQUESTED OR NECESSARY?

A. Since 2014, Arizona Water has increased the number of certified wastewater operators it employs by more than 20%.

IV. Arizona Water's Progress in reducing reliance on groundwater in this water-challenged area.

Q. HAS ARIZONA WATER PREPARED A PLAN TO PUT THE UNUSED PORTION OF ITS PINAL VALLEY CENTRAL ARIZONA PROJECT ("CAP") ALLOCATION TO BENEFICIAL USE?

A. Yes. Arizona Water's plan is outlined in the Pinal Valley 2015 CAP Use Plan. A copy of the plan is attached as Exhibit FKS-12 (without appendices). The Pinal Valley 2015 CAP Use Plan was also filed on August 7, 2015 in Arizona Water's Western Group Rate Case Application, Docket No. W-01445A-15-0277.

Q. PLEASE DESCRIBE ARIZONA WATER'S PLANNED PINAL VALLEY RECHARGE AND RECOVERY FACILITY, AS OUTLINED IN THE PINAL VALLEY 2015 CAP USE PLAN.

A. That plan shows that Arizona Water's Pinal Valley recharge and recovery facility consists of recharge basins and the infrastructure necessary to deliver CAP water to these basins.

Arizona Water will eventually drill additional recovery wells on-site to deliver recovered CAP water to customers throughout the Pinal Valley service area. In the meantime, Arizona Water has obtained permits for its existing Pinal Valley wells so that it may recover stored water through them.

Q. WHERE DOES ARIZONA WATER PLAN TO CONSTRUCT THE PINAL VALLEY RECHARGE AND RECOVERY FACILITY?

A. A map showing the location of the Pinal Valley recharge and recovery facility is shown below in Figure 1. A conceptual plan showing the recharge basins and the facility's connection to the CAP canal is shown below in Figure 2.

Figure 1
Pinal Valley Recharge and Recovery Facility Location and Pinal Valley Service Area

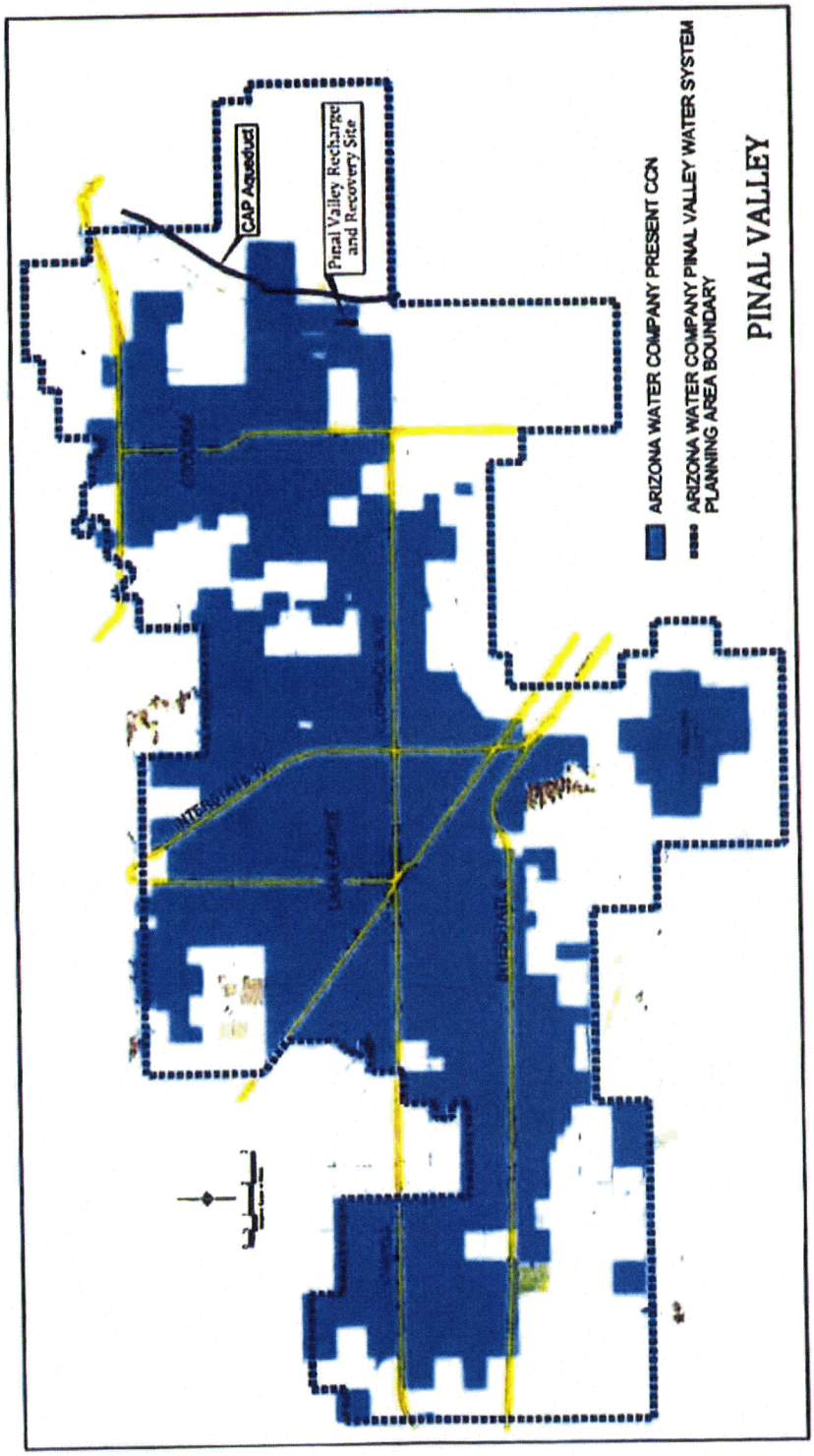

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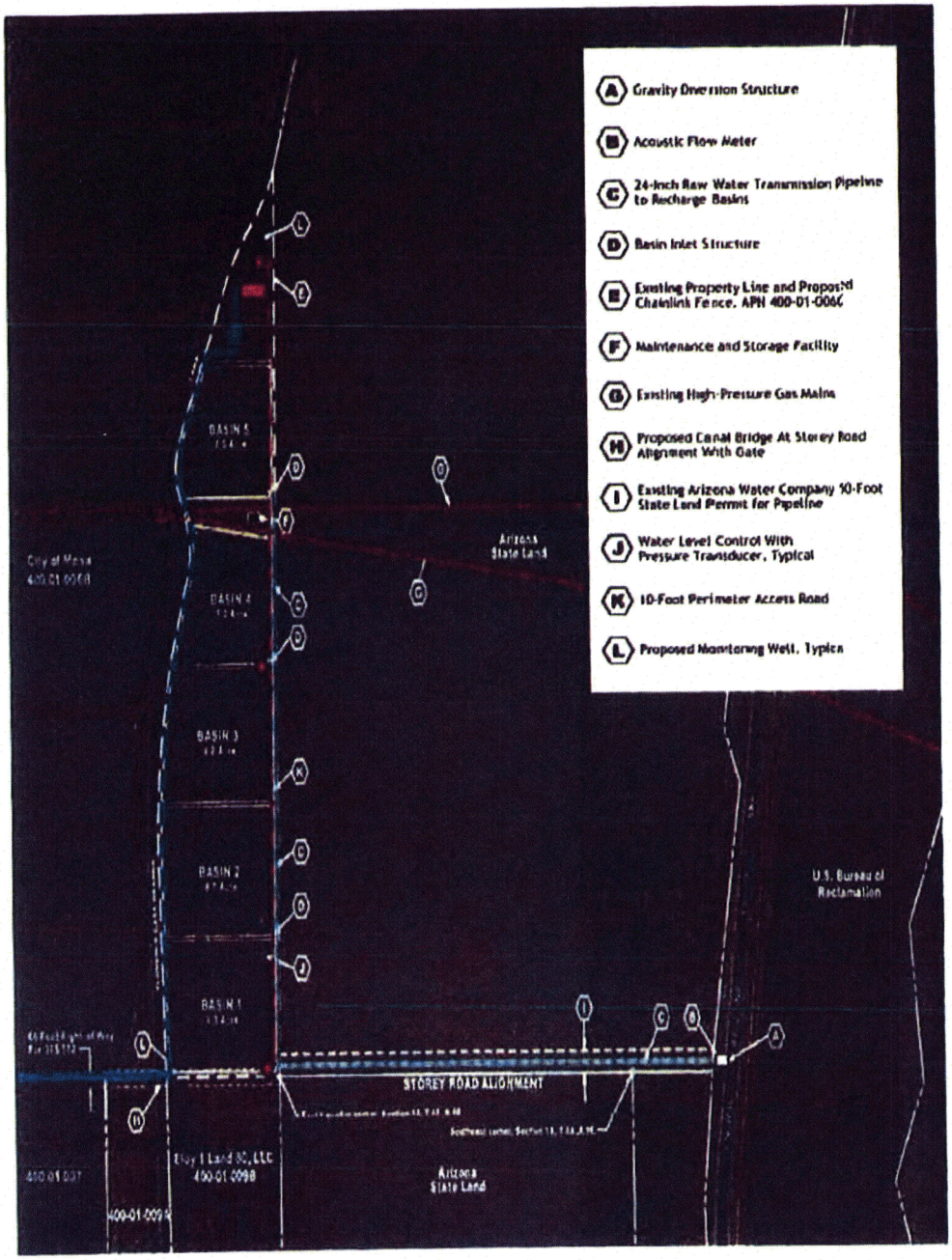
Figure 2
Pinal Valley Recharge and Recovery Facility Conceptual Plan



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Q. WHAT IS RECHARGE AND RECOVERY?

A. Recharge and recovery involves the intentional recharge of water into an aquifer system for intended recovery and beneficial use as an element of long-term water resource management.[1] Under ADWR's recharge and recovery program, water can be stored at either underground storage facilities or groundwater savings facilities. Underground storage facilities are typically constructed using recharge (or spreading) basins where water directly recharges the groundwater aquifer through infiltration. Other methods of underground storage, such as shallow wells (vadose zone) or deep injection wells, are used when recharge basins are impractical or technically not feasible.

Q. HOW MUCH CAP WATER DOES ARIZONA WATER HAVE UNDER SUBCONTRACT WITH THE CAP FOR USE IN THE PINAL VALLEY SERVICE AREA?

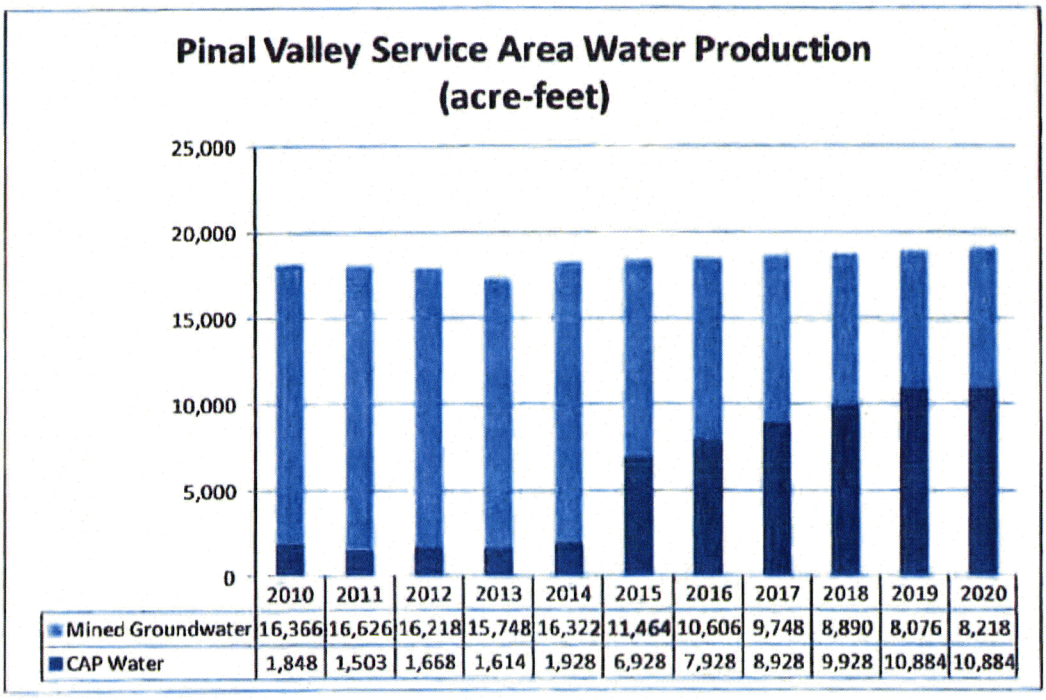
A. Arizona Water holds annual CAP water allocations totaling 10,884 AF in its Pinal Valley service area. Arizona Water delivered over 2,389 AF of CAP water to customers for non-potable use in 2015 and, in 2015, recharged 5,000 AF of CAP water that was recovered from its Pinal Valley service area recovery wells, reducing its groundwater use by 7,389 AF over 2014 groundwater use.

Q. HAVE YOU PROJECTED THE USE OF CAP WATER AND REDUCTION IN GROUNDWATER PUMPING FOR THE PINAL VALLEY SERVICE AREA?

A. Yes. By implementing Arizona Water's 2015 CAP Use Plan, Arizona Water will increase the amount of CAP Water used through recharge and recovery delivered to its customers, thereby reducing the amount of groundwater pumped by 50%, as shown below.

[1] Southwest Hydrology. May/June 2008. University of Arizona.

Figure 3
Pinal Valley Service Area Water Production



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Mined Groundwater	16,366	16,626	16,218	15,748	16,322	11,464	10,606	9,748	8,890	8,076	8,218
CAP Water	1,848	1,503	1,668	1,614	1,928	6,928	7,928	8,928	9,928	10,884	10,884

Q. HOW DOES ARIZONA WATER'S PINAL VALLEY 2015 CAP USE PLAN BETTER MANAGE WATER USE AND COMPLY WITH THE STATE PUBLIC POLICY ON WATER?

A. The Pinal Valley 2015 CAP Use Plan describes Arizona Water's plan to deliver CAP water to its customers through recharge and recovery beginning in 2015. Part of this plan is Arizona Water's recharge and recovery facility located near the CAP canal in Coolidge, Arizona. The estimated construction cost to construct the Pinal Valley recharge and recovery facility is approximately $5.8 million, making it a practical, cost-effective and financially feasible alternative to treatment and direct delivery of CAP water. The City of Coolidge incorporated Arizona Water's Pinal Valley Recharge and Recovery Facility in the water resources section of its 2025 General Plan, which was adopted by the City Council on June 23, 2014.

Q. WHY IS CAP WATER STORAGE AND RECOVERY IMPORTANT TO THIS PROCEEDING?

A. Because Arizona Water's CAP water storage and recovery strategy reduces the overall use of groundwater, recognized by the state authorities as an unsustainable resource, and replaces it with CAP water, a sustainable resource. According to ADWR, increased over-reliance on native groundwater throughout the Pinal Active Management Area ("AMA") threatens the sustainability of groundwater supplies for the Pinal AMA including Arizona Water's Pinal Valley Service Area.[2]

Q. DOES THE STATE OF ARIZONA HAVE A PUBLIC POLICY REQUIRING THE USE OF RENEWABLE WATER RESOURCES INSTEAD OF GROUNDWATER?

A. Yes. Arizona's policy on water storage, water savings and replenishment, as codified in Arizona Revised Statutes Section §45-801.1 states:

> *"The public policy of this state and the general purposes of this chapter are to:*
>
> *1. Protect the general economy and welfare of this state by encouraging the use of renewable water supplies, particularly this state's entitlement to Colorado river water, instead of groundwater through a flexible and effective regulatory program for the underground storage, savings and replenishment of water.*
>
> *2. Allow for the efficient and cost-effective management of water supplies by allowing the use of storage facilities for filtration and distribution of surface water instead of constructing surface water treatment plants and pipeline distribution systems.*

Q. DOES ARIZONA WATER'S PLAN COMPLY WITH ARIZONA'S PUBLIC POLICY?

A. Yes it does.

Q. WHAT EFFECT WILL RECHARGE AND RECOVERY HAVE ON GROUNDWATER PUMPING UNDER THE PINAL VALLEY 2015 CAP USE PLAN?

[2] Arizona Department of Water Resources, *Draft Demand and Supply Assessment, 1985-2025 Pinal Active Management Area*

A. Implementing the Pinal Valley 2015 CAP Use Plan increases the amount of CAP water being put to beneficial use through recharge and recovery of CAP Water delivered to customers, ultimately reducing the amount of mined groundwater Arizona Water pumps by 50% or a total reduction of nearly 11,000 AF annually.

Q. DOES ARIZONA WATER'S 2015 CAP USE PLAN CONSERVE AND PROTECT GROUNDWATER SUPPLIES IN THIS WATER-CHALLENGED AREA?

A. Yes, it does. Arizona Water plan is in compliance with Arizona's Groundwater Management Act as codified in A.R.S. §45-401(B) which states:

> *"It is therefore declared to be the public policy of this state that in the interest of protecting and stabilizing the general economy and welfare of this state and its citizens it is necessary to conserve, protect and allocate the use of groundwater resources of the state and to provide a frame work for the comprehensive management and regulation of the withdrawal, transportation, use, conservation and conveyance of rights to use the groundwater in this state."*

Q. WHAT IS THE STATUS OF ARIZONA WATER'S PINAL VALLEY RECHARGE AND RECOVERY FACILITY WHICH WILL STORE CAP WATER AND REDUCE RELIANCE ON GROUNDWATER, AN UNSUSTAINABLE RESOURCE, IN THE WATER-CHALLENGED AREA AT ISSUE IN THIS PROCEEDING?

A. Arizona Water has completed 30% design plans, applied for and received the Underground Storage Facility permit (Permit No. 71-224242.0000) and Water Storage permit from ADWR (Permit No. 73-224242.0000). Arizona Water is now working to complete the final design for the Pinal Valley Recharge and Recovery Facility. Arizona Water anticipates storing CAP water at its Central Arizona Project water recharge and recovery project in 2016. A copy of the above letter and permits are attached as Exhibit FKS-13. Again, this is contrary to Mr. Goldman's rebuttal testimony and the facts in this case.

Q. HAS ARIZONA WATER TAKEN ANY OTHER STEPS TO IMPROVE ITS MANAGEMENT OF WATER USE IN ITS PINAL VALLEY WATER SYSTEM?

A. As I mentioned earlier, Arizona Water has worked with ADWR to successfully permit 39 of its Pinal Valley wells as recovery wells (Permit No. 74-224234.0000). This ADWR permit allows Arizona Water to recover stored CAP Water, recover stored reclaimed water or other water which may be stored in the Pinal AMA. Like Arizona Water, the Arizona Water Banking Authority ("AWBA") and the Central Arizona Water Conservation District ("CAWCD") plan to recover stored CAP and Colorado River water by using recovery wells.

Q. WHAT ELSE HAS ARIZONA WATER DONE TO PRESERVE AND ADD TO LOCAL WATER SUPPLIES?

A. As an interim step, Arizona Water is already storing CAP water through irrigation and drainage districts located in its Pinal Valley service area. On August 22, 2014, Arizona Water received the necessary ADWR Water Storage permits to store CAP Water at three Groundwater Savings Facilities in the Pinal Valley Active Management Area. Those permit numbers are shown below.

Groundwater Savings Facility	ADWR Water Storage Permit Number
CAIDD	73-531382.0700
MSIDD	73-531381.0700
HIDD	73-534489.0800

In addition, reduce the cost impact on customers, Arizona Water applied for and received $357,500 in grants from ADWR's Water Management Assistance Program to store CAP water in 2015.

Q. WHAT ADDITIONAL STEPS HAS ARIZONA WATER TAKEN TO REDUCE GROUNDWATER PUMPING BEYOND 2015?

A. For 2016, Arizona Water ordered 6,000 AF of CAP water and is in the process of storing that water in the three Groundwater Savings Facilities listed above. Arizona Water is continuing to deliver CAP water to customers for non-potable uses and expects to deliver more than 2,300 AF to customers in 2016.

1 V. **Arizona Water has invested over $1.0 Million Planning for Pinal Valley's Water needs.**

2 Q. **HAS ARIZONA WATER INVESTED A SIGNIFICANT AMOUNT OF TIME AND**
3 **EFFORT TO PLAN FOR THE WATER NEEDS OF ITS PINAL VALLEY WATER**
4 **SYSTEM AND PLANNING AREA?**

5 A. Yes. Contrary to Mr. Goldman's statements, Arizona Water has invested a significant
6 amount of time, effort and money into planning for the water needs in its Pinal Valley Water
7 System and Planning Area. In reviewing timecards and invoices, Arizona Water's efforts
8 through December 31, 2015 total thousands of man-hours and over $1.0 million of
9 investment.

10 Q. **IS MR. GOLDMAN'S REBUTTAL TESTIMONY ON PAGE 4 LINES 5 AND 6**
11 **CORRECT WHERE, MR. GOLDMAN SAYS "I DON'T SEE THAT AWC HAS**
12 **DONE ANYTHING TO PLAN FOR THE DELIVERY OF EFFLUENT IN ITS PINAL**
13 **VALLEY PLANNING AREA".**

14 A. No, that is incorrect. Mr. Goldman's statements are not supported by facts. In my Direct
15 testimony on Remand - Phase 2, I included two detailed reports which I referred to as Exhibit
16 8 and Exhibit 9. These two important reclaimed water planning documents detail Arizona
17 Water's plan to use reclaimed water and shows Arizona Water's planning efforts. These two
18 reports total nearly 90 pages and took thousands of hours of effort and more than $100,000 to
19 develop and compile.

20 VI. **Developers view reclaimed water, or effluent, as problematic to deal with.**

21 Q. **FROM YOUR EXPERIENCE, HOW DO DEVELOPERS VIEW RECLAIMED**
22 **WATER OR EFFLUENT?**

23 A. From my 25 plus years of experience, developers typically see effluent as Mr. Goldman does,
24 a pain to deal with. That is why developers prefer to create uses for effluent through the
25 creation of golf courses and ornamental lakes. Mr. Goldman admits this on page 10, lines

17-19 of his rebuttal testimony when Mr. Goldman says "Given that the Cornman Tweedy property will not have a golf course or ornamental lakes when it is ultimately developed, the reuse options are limited."

In fact, Robson's use of mined groundwater where it could offset its mined groundwater use with recharged effluent shows Robson's mismanagement of water resources in a water-challenged area. Mr. Garfield also discussed in his surrebuttal testimony Robson's use of credits only to reduce costs, which is neither in the best interest of its utility customers nor in the best interest of a water-challenged area.

Arizona Water prefers to fulfill state water policy planning objectives by recharging available water supplies for future recovery and beneficial use by its water systems customers.

Q. WHAT VALUE DOES MR. GOLDMAN AND ROBSON PLACE ON RECLAIMED WATER?

A. Mr. Goldman and Robson place little value on reclaimed water. This fact is supported by Mr. Goldman's rebuttal testimony where on page 4, lines 18-19 where Mr. Goldman states "For example, an integrated utility may reduce the price of its effluent in order to find buyers for that effluent." An integrated utility, like the integrated utility Robson purports is superior, believes effluent or reclaimed water is of little value.

Q. IS RECHARGING RECLAIMED WASTEWATER MORE DIFFICULT THAN RECHARGING UNTREATED CAP WATER?

A. No. Recharging reclaimed water is a routine industry standard practice. However, Mr. Goldman would like the commission to believe "Recharge of effluent is complicated and expensive, and it requires a significant amount of maintenance." (*See* page 10, lines 20-21.) In fact, recharging reclaimed water is so common and the resource so valuable that Liberty Utilities and the CAWCD executed a 100-year agreement in February 2014 to construct and

manage a recharge facility to store reclaimed water. A copy of the agreement is attached as Exhibit FKS-14. As I testified above, Arizona Water plans to recharge, store and recover reclaimed water in its Pinal Valley Planning Area of which the Cornman Tweedy property is a part.

Q. WHAT IS THE STATUS OF USING RECLAIMED WATER FROM THE CITY OF CASA GRANDE ("CITY") OR GLOBAL WATER?

A. Arizona Water and the City are working to develop an MOU that governs the use of reclaimed water. As recently as December 22, 2015, the two met as that process continues. Based on efforts made to date with the City, we expect to execute the MOU this year.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

FIGURES

Figure 1 Pinal Valley Recharge and Recovery Facility Location/Service Area 8

Figure 2 Pinal Valley Recharge and Recovery Facility Conceptual Plan 9

Figure 3 Pinal Valley Service Area Water Production 11

EXHIBITS

FKS-11 Memorandum of Understanding between Arizona Water Company and PERC Water dated July 25, 2014

FKS-12 Pinal Valley 2015 CAP Use Plan

FKS-13 ADWR's Decision of the Director to Grant Underground Storage Facility ("USF") Permit No. 71-224242.0000 and Water Storage Permit No. 73-224242.0000 to Arizona Water Company

FKS-14 Agreement between Liberty Water and the Central Arizona Water Conservation District, dated February 2014

FKS

11

EXHIBIT FKS-11

MEMORANDUM OF UNDERSTANDING

THIS MEMORANDUM OF UNDERSTANDING ("MOU") is made and entered into as of the 25th day of July, 2014, by and between ARIZONA WATER COMPANY, an Arizona corporation ("Arizona Water") and PERC WATER CORPORATION, a California corporation ("PERC").

RECITALS

A. Arizona Water is a public service corporation that owns and operates water systems and provides water service in various cities, towns, and communities located in eight counties in Arizona under and subject to the jurisdiction of the Arizona Corporation Commission (the "Commission"). Arizona Water also anticipates providing sewer/wastewater service to future developments in portions of its service areas where no other sewer/wastewater service provider is available to provide such service, including but not limited to the areas shown on Attachment A, hereto.

B. PERC designs, builds, and operates sewer/wastewater treatment facilities in Arizona and California.

C. The parties are interested in a cooperative arrangement whereby Arizona Water may invite PERC to assist Arizona Water in providing sewer/wastewater service to developments or identified regions in Arizona Water's existing service areas or additions to those existing service areas.

TERMS OF UNDERSTANDING

In consideration of the mutual understandings, covenants, promises, representations, and agreements contained in this MOU and other good and valuable consideration, the parties hereto agree as follows:

1. Cooperation. Arizona Water and PERC intend to cooperate as follows:

a. Arizona Water plans to provide water service to developments within its existing service areas and to additions to its existing service areas and to invite PERC to join with Arizona Water to provide sewer/wastewater service to such developments where no other sewer/wastewater service provider is available to provide such service.

b. Arizona Water will notify PERC of the opportunity to join with Arizona Water to provide sewer/wastewater service in a development or identified region within Arizona Water's service area or an intended addition to Arizona Water's existing service area.

c. PERC may accept or respond by meeting and conferring with Arizona Water representatives about the particular details and requirements for providing such sewer/wastewater service.

d. The parties will cooperate fully in connection with planning their respective services to such developments or regions, including, if necessary, to support Arizona Water's efforts to obtain Commission approval for it to provide such services and, if necessary, such additional service areas.

e. Any agreement between the parties to provide sewer/wastewater service in Arizona Water's service areas will provide mutually acceptable terms and conditions for PERC to deliver all or part of the effluent or reclaimed water PERC produces to Arizona Water for direct or indirect beneficial use by its customers.

2. Non-Disclosure.

a. Except as the parties otherwise agree, neither party will disclose any of the information disclosed, shared, provided by, or obtained from the other party, because any such disclosure will prejudice such other party's ability to successfully conduct its business, and because any such disclosure will cause irreparable harm. Exceptions to the foregoing include information which:

- at the time of disclosure was readily available to the public;
- becomes readily available to the public, other than through a breach of this MOU;
- either party can establish was in its possession prior to the date of disclosure of such information; or
- is required to be disclosed to the Commission in connection with a proceeding in which Arizona Water or PERC are parties, or in accordance with the order or decree of the Commission or a court of competent jurisdiction or by applicable law or regulation, provided that both parties agree to give each other thirty (30) days advance written notice prior to disclosure in order that the affected party may seek a protective order or other appropriate relief.

b. Each party understands that the parties' joint or cooperative disclosure of such information in connection with the developments referred to in section 1 above, or a disclosure with the written consent of the parties, will not violate the terms of this section.

3. Time is of the Essence. Arizona Water and PERC agree that time is of the essence and that each will diligently perform its commitments hereunder in a timely fashion.

4. Notice Provisions. All notices pursuant to this MOU shall be in writing and sent by first class mail or by courier (such as Federal Express) or by hand delivery addressed as follows:

To Arizona Water: Arizona Water Company
3805 N. Black Canyon Highway
Phoenix, Arizona 85015-5351
Attention: President

or

Post Office Box 29006
Phoenix, Arizona 85038-9006
Attention: President

To PERC: PERC Water Corporation
959 South Coast Drive, Suite 315
Costa Mesa, CA 92626
Attention: President

or to such other address or addresses as either party may designate by written notice to the other party. Notices shall be deemed given, received, and effective on the date of delivery, if hand delivered or delivered by courier, or two business days after deposit in the U.S. Mail, postage prepaid, with proof of mailing from the U.S. Postal Service.

5. Execution in Counterparts. This MOU may be executed in any number of counterparts, and each executed counterpart shall have the same force and effect as an original instrument.

6. Succession. This MOU shall inure to the benefit of the successors and assigns of the parties hereto. Any assignment requires the non-assigning party's prior written approval, which shall not be unreasonably withheld. As a condition precedent to the non-assigning party's approval of any assignment, the assignee must be acceptable to the non-assigning party and satisfy the non-assigning party of the assignee's ability to fully perform hereunder. Any assignee must assume all obligations of the assigning party hereunder and, upon the non-assigning party's written approval, the assigning party shall be released from any further obligation hereunder.

7. Complete Agreement. This instrument contains the entire understanding between the parties with respect to the subject matter contained herein and no amendment or modification shall be binding unless made in writing and signed by duly authorized representatives of the parties hereto.

8. Headings. Headings on each paragraph or subparagraph are merely for convenience and shall under no circumstances be used to interpret or construe this MOU.

9. Duration. This MOU shall remain in effect until terminated by either of the parties hereto, or two years from the date of this MOU, whichever occurs first.

10. Attorney's Fees. In the event any claim, controversy, or legal action arises out of this MOU, the prevailing party shall be entitled to recover from the other party all costs, expenses, and fees incurred therein by said prevailing party (including such attorney's fees and costs as shall be fixed by the court).

11. Forum Selection and Choice of Law. Any action or suit arising out of or relating to this MOU shall take place in a court of competent jurisdiction in Maricopa County, Arizona. Arizona law shall govern this MOU without regard to the choice of law provisions thereof.

12. Further Instruments. Arizona Water and PERC agree that they shall execute any further instruments and perform any further acts which are or may become reasonably necessary to carry out the terms of this MOU.

13. Waiver. No waiver hereunder, expressed or implied, shall imply any other waiver, at the same or subsequent time, whether of the same obligation or of any other obligation. No waiver hereunder shall be deemed effective unless expressly set forth in writing.

14. Drafter. Both parties have drafted this MOU and this MOU shall not be construed against either party as the drafter thereof.

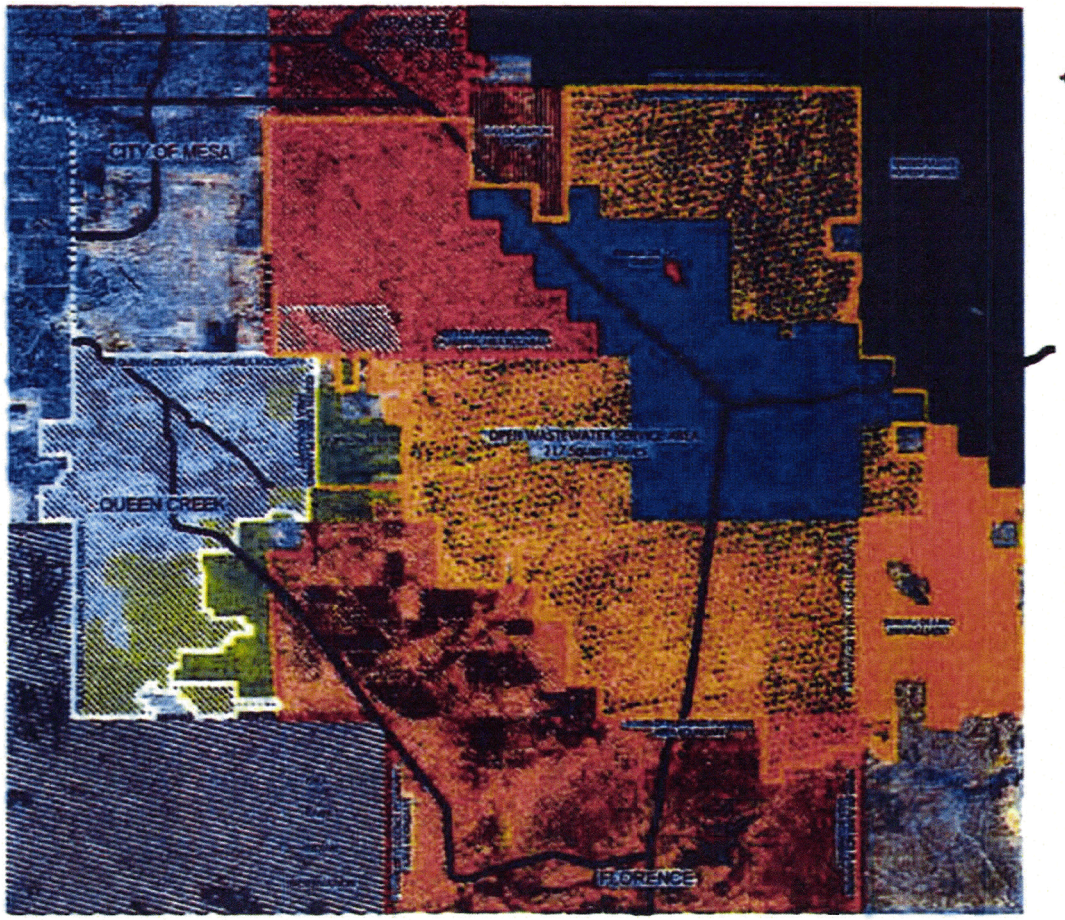
IN WITNESS WHEREOF, each of the parties hereto has caused this instrument to be executed by their respective officers theretofore duly authorized as of the date first written above.

ARIZONA WATER COMPANY,
an Arizona corporation

By: William M Garfield
Its: President and COO

PERC WATER CORPORATION,
a California corporation

By: [illegible]
Its: President

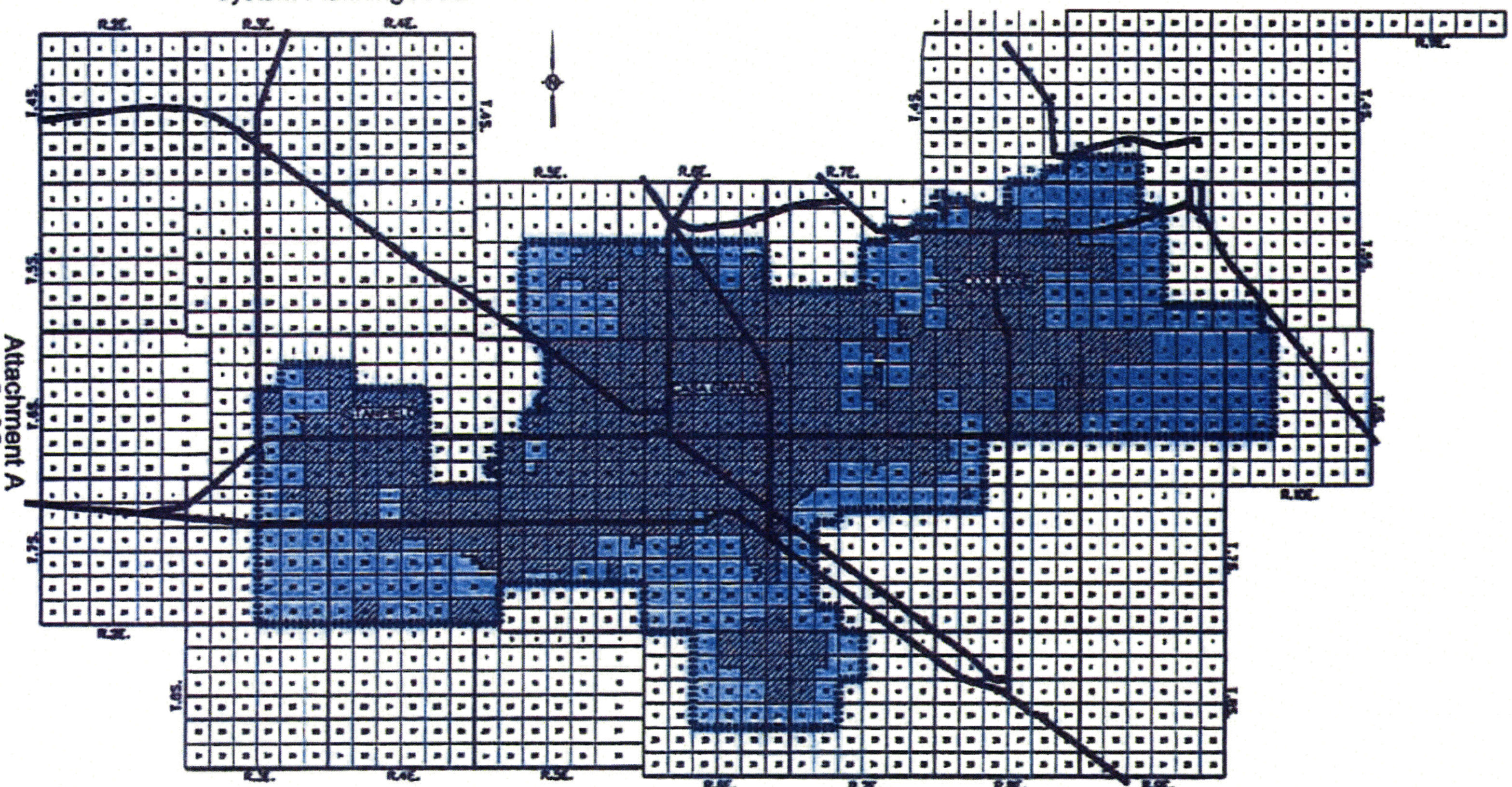


Superstition Vistas

SUPERSTITION VISTAS LEGEND

- Superstition Vistas Study Area
- Arizona Water Company CCN within the Superstition Vista Study Area
- Bureau of Land Management
- United States Forest Service
- Entrada Del Oro Sewer
- Johnson Sewer
- Gold Canyon Sewer (Liberty)
- City of Apache Junction Planning Area
- Town of Florence Planning Area
- City of Queen Creek Planning Area
- Gila River Indian Community

Arizona Water Company Pinal Valley Water System Planning Area



Arizona Water Company Pinal Valley CCN (269 Sq. Mi.)

Arizona Water Company Pinal Valley Water System Planning Area Boundary (477 Sq.Mi.)

Attachment A
2 of 2

FKS

12

EXHIBIT FKS-12

Arizona Water Company

Pinal Valley
Central Arizona Project
Water Use Plan

2015 Update

August 7, 2015

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1. Introduction

In this 2015 Central Arizona Project ("CAP") Water Use Plan ("2015 CAP Use Plan"), Arizona Water Company ("Arizona Water") presents its plan to deliver CAP water to its customers through underground storage and recovery beginning in 2015. The estimated construction cost of Arizona Water's underground storage and recovery project is $5.8 million making it a practical, cost-effective and financially feasible alternative to surface water treatment and direct delivery of CAP water which would cost $94 million.

Arizona Water's earlier 2006 CAP Use Plan (filed with the Arizona Corporation Commission pursuant to Decision No. 68302 on December 29, 2006), called for Arizona Water to design and construct a 10 million gallon per day ("MGD") surface water treatment plant at an estimated cost (in 2006 dollars) ranging from $34 million to $66 million to deliver treated CAP water directly to customers in its Pinal Valley (i.e., Casa Grande and Coolidge) service area. In 2014, after further refinements to design specifications and a general increase in equipment, materials, and construction costs, that cost estimate grew by more than 40% to $94 million. As a result, Arizona Water developed a far less costly and more efficient means of delivering much needed CAP water to Arizona Water's Pinal Valley customers than by constructing a costly and labor intensive surface water treatment plant.

Arizona Water's plan to use CAP water to serve its customers through recharge and recovery coincides with the State of Arizona's public policy directives on water storage and water savings. More specifically, Arizona's policy on water storage, water savings and replenishment, as codified in Arizona Revised Statutes ("A.R.S.") Section §45-801.01 states:

The public policy of this state and the general purposes of this chapter are to:

> *1. Protect the general economy and welfare of this state by encouraging the use of renewable water supplies, particularly this state's entitlement to Colorado river water, instead of groundwater through a flexible and effective regulatory program for the underground storage, savings and replenishment of water.*
>
> *2. Allow for the efficient and cost-effective management of water supplies by allowing the use of storage facilities for filtration and distribution of surface water instead of constructing surface water treatment plants and pipeline distribution systems.*

Arizona Water's use of CAP water through groundwater recharge, storage, and recovery, as described in this 2015 CAP Use Plan, complies with and advances this crucial public policy by using Colorado River water delivered by CAP. Arizona Water's plan also advances this policy by efficiently and cost-effectively managing water supplies through the use of underground storage facilities and recovery wells, instead of constructing a very costly and labor intensive surface water treatment plant.

This 2015 CAP Use Plan provides an overview of water supplies and demands in the Pinal Active Management Area ("AMA"), both historical and projected, which also shows the state's over-reliance on over drafting native groundwater, i.e., pumping groundwater faster than it is replaced naturally. According to the Arizona Department of Water Resources ("ADWR"),

increased over-reliance on native groundwater throughout the Pinal AMA threatens the sustainability of groundwater supplies for the Pinal AMA including Arizona Water's Pinal Valley service area.[1] As a result, there is a demonstrated need to maximize the beneficial use of renewable water supplies such as CAP water as soon as practicable. Recharging CAP water at an underground storage facility, besides being an efficient and cost-effective way to manage Arizona Water's CAP water allocations, is consistent with the policies and recommendations of ADWR, CAP, and the Arizona Water Banking Authority ("AWBA") in the studies and reports listed below.

Furthermore, Arizona Water's use of CAP water as described in this 2015 CAP Use Plan conserves and protects groundwater in compliance with Arizona's 1980 Groundwater Management Act as codified in A.R.S. §45-401(B) which states:

> *"It is therefore declared to be the public policy of this state that in the interest of protecting and stabilizing the general economy and welfare of this state and its citizens it is necessary to conserve, protect and allocate the use of groundwater resources of the state and to provide a frame work for the comprehensive management and regulation of the withdrawal, transportation, use, conservation and conveyance of rights to use the groundwater in this state."*

In addition, Arizona Water's use of CAP water as discussed in this 2015 CAP Use Plan furthers the Pinal AMA management goal by reducing the amount of groundwater pumped by nearly 80,000 acre-feet over the next ten years, thereby preserving those supplies for future non-irrigation uses. Recharging CAP water in underground storage and groundwater savings facilities also protects against shortages when deliveries of CAP from the Colorado River are cut back or curtailed.

The City of Coolidge incorporated Arizona Water's Pinal Valley Recharge and Recovery Facility in the water resources section of its 2025 General Plan, which was adopted by the City Council on June 23, 2014. Coolidge voters approved the City's 2014 General Plan in a general election held on November 4, 2014.[2]

2. Underground Storage and Recovery

2.1. Background

In the 1980s, Arizona's need to replenish its dwindling groundwater aquifers, coupled with the availability of surface water supplies, led to development of an active groundwater storage and recovery program. Since that time, storage and recovery (also known as recharge and recovery) has emerged as one of the most important and effective water management tools for the state, particularly in meeting Arizona's policy goals of protecting the general economy and welfare of the state by using renewable supplies, such as CAP water,

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[1] Arizona Department of Water Resources, *Draft Demand and Supply Assessment, 1985 – 2025 Pinal Active Management Area*

[2] *See* Appendix A-1, Copy of Water Resources Element of City of Coolidge 2025 General Plan

instead of relying on over drafted groundwater.[3] As further evidence of the benefits of storing CAP water underground, ADWR's demand and supply assessment for the Pinal AMA identified replenishment of groundwater with surface water such as CAP water (or treated wastewater effluent), as a flexible, cost-effective approach to making beneficial use of these much-needed renewable water supplies. [4]

ADWR is the state agency that administers Arizona's storage and recovery program and has primary responsibility for enforcing laws and regulations governing storage and recovery through a system of permits and reporting requirements. ADWR also maintains records of all storage facilities and tracks the amount of water stored by each permit holder in separate water storage accounts for each such permit holder. No entity may store water underground without an ADWR issued water storage permit. In addition, entities storing water may not physically recover such water without an ADWR issued recovery well permit. Storing water underground accrues annual or long-term storage credits depending on the eligibility of the entity storing water and the timing of recovery.

Under ADWR's recharge and recovery program, permit holders can store water at either underground storage facilities or groundwater savings facilities. Typically, underground storage facilities are designed and constructed to use recharge (or spreading) basins where water percolates and directly recharges the groundwater aquifer through infiltration. Other types of underground storage facilities, such as shallow wells (vadose zone) or deep injection wells, are used when recharge basins are impractical or technically not feasible. In the alternative, groundwater savings facilities are used for "indirect" recharge, and are operated by agricultural irrigation districts that normally pump groundwater. These groundwater savings facility operators have facilities in place to receive deliveries of CAP water in lieu of the agricultural irrigation districts having to pump groundwater, thereby saving groundwater and creating groundwater storage credits equal to the quantity of CAP water delivered to the irrigation district. As a result, the groundwater aquifer is recharged indirectly by saving groundwater (hence, the term *groundwater savings facilities*).

2.2. Arizona Water's Pinal Valley Recharge and Recovery Facility

Arizona Water holds CAP water allocations totaling 10,884 acre-feet per year in its Pinal Valley service area. Arizona Water delivered 1,928 acre-feet of CAP water to provide water service to customers for direct non-potable uses in 2014.

In order to put its full CAP allocations to use for water service to customers, Arizona Water plans to construct its Pinal Valley Recharge and Recovery Facility in the eastern part of its Pinal Valley service area. A map showing the location of the Pinal Valley Recharge and Recovery Facility is included as Figure 2-1, and a conceptual plan showing the recharge basins and connection to the CAP aqueduct is shown in Figure 2-2.

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[3] *See* A.R.S. §45-801.01 1-2

[4] Arizona Department of Water Resources, *Draft Demand and Supply Assessment, 1985 – 2025 Pinal Active Management Area*, 7.

Figure 2-1 Pinal Valley Service Area and Pinal Valley Recharge and Recovery Facility Location

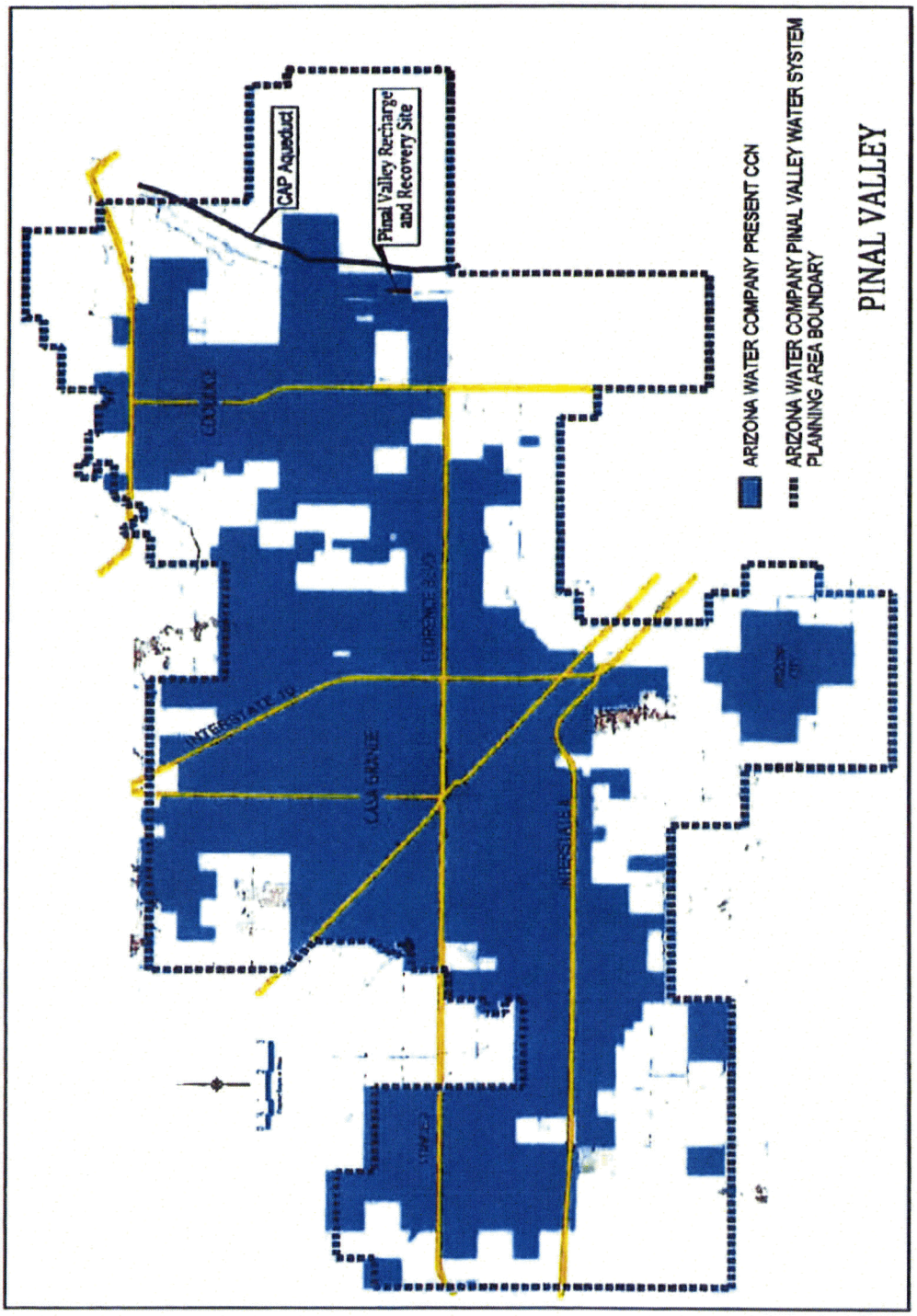
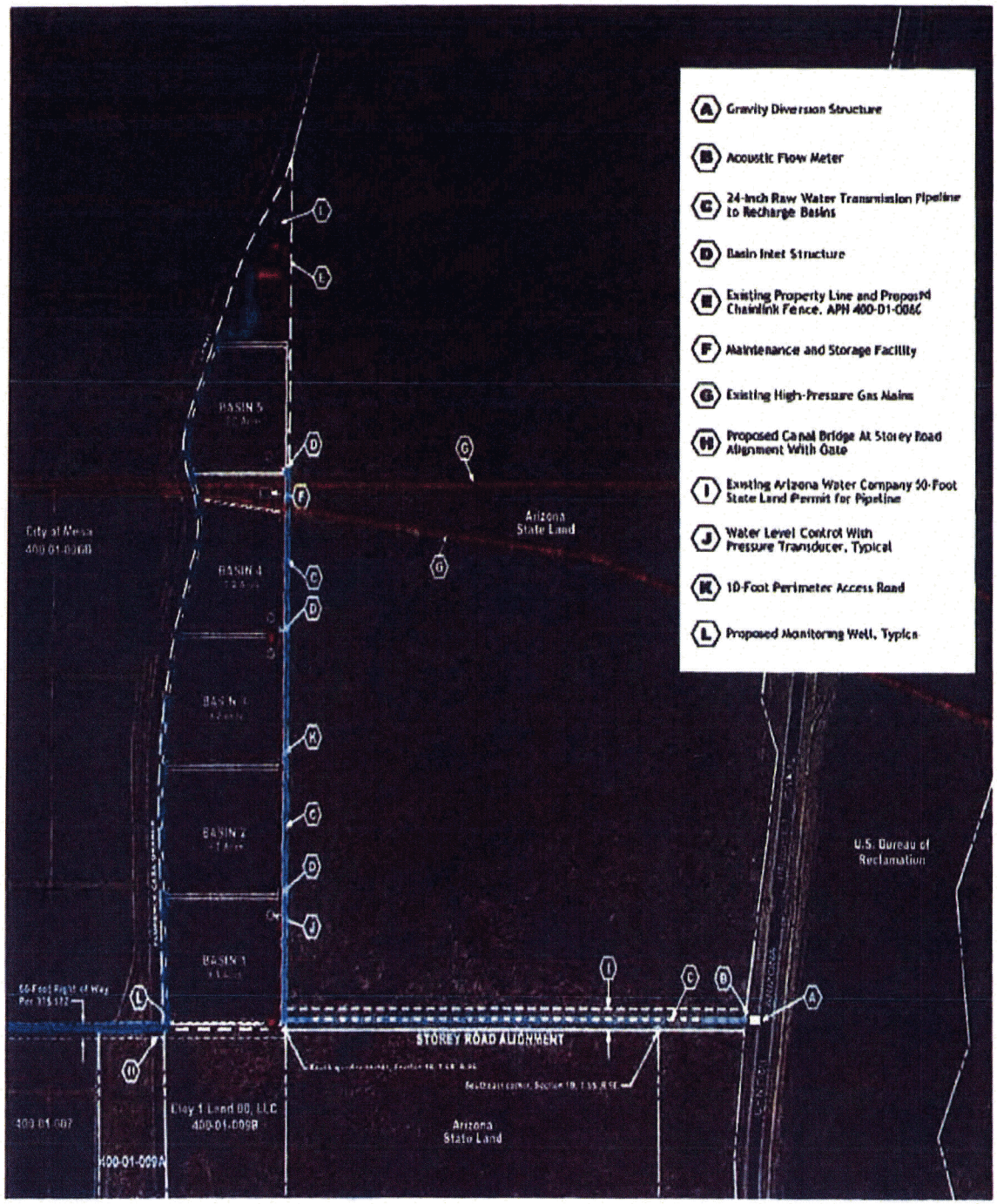


Figure 2-2 Pinal Valley Recharge and Recovery Facility Conceptual Plan



A hydrogeologic study completed for Arizona Water shows that its recharge and recovery site is capable of recharging CAP water at a rate of one foot per day through the use of the planned spreading basins.[5] Based on this recharge rate, the hydrogeologic study estimates that the facility will be capable of recharging Arizona Water's full 10,884 acre-feet CAP allocation with 30 acres of recharge basins.

For purposes of this 2015 CAP Use Plan, Arizona Water has used 12,000 acre-feet per year as the full build out capacity of this facility to account for 2-3 months when each recharge basin is not used because of necessary maintenance. Regular maintenance of the Pinal Valley Recharge and Recovery Facility includes sediment removal and scarification (i.e., tilling the basin surface to prevent clogging), repair and adjustment of monitoring wells, and calibration and repair of water meters and other appurtenances.

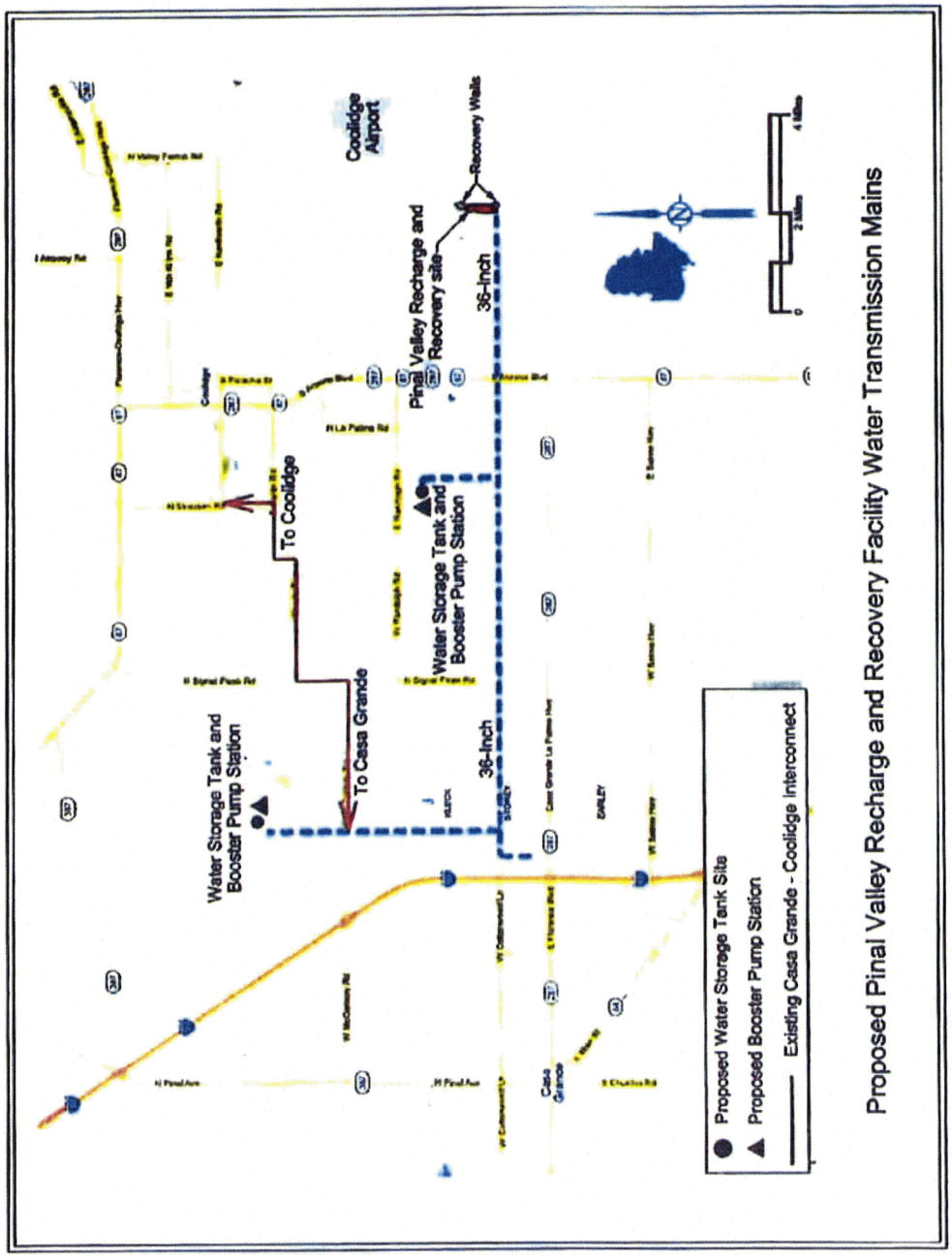
Untreated CAP water will flow by gravity from a turnout or siphon constructed at the CAP aqueduct to the Pinal Valley Recharge and Recovery Facility through 3,000 lineal feet of 24-inch water transmission main. ADWR requires two monitoring wells near the recharge basins as part of the required water storage permit to measure the level of groundwater mounding caused by percolating CAP water. Due to the high quality of CAP water, Arizona Water will not need to treat the water prior to recharge in the Pinal Valley Recharge and Recovery Facility spreading basins. A detailed description of the Pinal Valley Recharge and Recovery Facility is included in the hydrogeologic study attached hereto as Appendix A-2.

2.3. Recovery of Stored CAP Water

Arizona Water will initially recover stored CAP water from any of its 39 existing wells located throughout its Pinal Valley service area pursuant to recovery well permits issued by ADWR. As the area near the Pinal Valley Recharge and Recovery Facility develops, Arizona Water will recover stored CAP water from recovery wells constructed at the recharge site and deliver it to the Pinal Valley service area distribution system through a 36-inch water transmission main. Arizona Water will construct on-site recovery wells as needed to satisfy water system production needs and to meet its needs for recovery of stored CAP water as shown in Figure 2-3 below.

[5] *See* Appendix A-2 Hydrogeologic Study Arizona Water Company, December 18, 2014, Page 9

Figure 2-3 Pinal Valley Recharge and Recovery Facility Water Transmission Mains and Onsite Recovery Wells



2.4. Pinal Valley Recharge and Recovery Facility – Cost Estimate

Arizona Water obtained an Engineer's Opinion of Probable Construction Cost for each phase of this facility (Appendix A-3), which shows a cost of $5.8 million for the Pinal Valley Recharge and Recovery Facility at full build out.[6] The estimate includes costs to construct 3,000 lineal feet of 24-inch water transmission main and related infrastructure required to deliver water from the CAP aqueduct to the Pinal Valley Recharge and Recovery Facility's recharge basins. A schedule showing both the cost and recharge capacity for each phase is shown in Table 2-1 below.

Table 2-1 Pinal Valley Recharge and Recovery Facility Cost Estimate by Phase

Basin Number Or Phase	Year	Basin Area (Acres)	Basin (Facility) Recharge Capacity (AF per year)		Construction Cost
1	2016	9.3	2,650	(2,650)	$2,743,000
2	2017	9.7	2,750	(5,400)	$731,000
3	2018	9.2	2,600	(8,000)	$747,000
4	2019	7.2	2,000	(10,000)	$763,000
5	2020	7.0	2,000	(12,000)	$779,000
Total					$5,763,000

Note 1: Facility Recharge Capacity reflects 2-3 months when recharge basins are not used because of necessary maintenance.
Note 2: Additional CAP water, recycled water or other renewable supplies may be available for recharge at this facility.

The Engineer's Opinion of Probable Operations and Maintenance ("O&M") costs for the Pinal Valley Recharge and Recovery Facility is $64,180 per year at full build out.[7] The O&M cost estimate for Phase One of the Pinal Valley Recharge and Recovery Facility is based on the assumption that the first recharge basin will be placed into service in late 2016. Arizona Water will further develop and refine these O&M cost estimates as it gains experience operating and maintaining Phase One of the Pinal Valley Recharge and Recovery Facility, and from conducting a pilot recharge program in 2015.

Arizona Water plans to fund the construction of the Pinal Valley Recharge and Recovery Facility primarily with off-site facilities fees. Also, Arizona Water will seek federal and state grants, and if necessary, will use company funds. Arizona Water plans to construct the Pinal Valley Recharge and Recovery Facility in phases to match construction costs with collection of off-site facilities fees and awards of federal and state grants. Arizona Water projects that by 2016 it will collect off-site facilities fees sufficient to construct Phase One of the Pinal Valley Recharge and Recovery Facility, estimated to cost $2.7 million. Arizona Water expects to construct all phases of the Pinal Valley Recharge and Recovery Facility by 2020. Table 2-2 shows the phasing of the Pinal Valley Recharge and Recovery Facility and the projected amount of off-site facilities fees available to construct this facility.

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[6] *See* Appendix A-3 Engineer's Opinion of Probable Construction Cost, March 20, 2015
[7] *See* Appendix A-4 Details of the Opinion of Probable Operations and Maintenance Costs

Table 2-2 Pinal Valley Recharge and Recovery Facility Construction Cost and Projected Off-Site Facilities Fees

Phase	Year	Recharge and Recovery Facility Construction Cost	Projected Off-Site Facilities Fees Available*
One	2016	$2,743,000	$2,360,000
Two	2017	$731,000	$728,000
Three	2018	$747,000	$760,000
Four	2019	$763,000	$791,000
Five	2020	$779,000	$823,000
Total		$5,763,000	$5,462,000

*Projected Off-Site Facilities Fees. Federal or state grants that are received would reduce the need to apply offsite facilities fees or company funds.

2.5. Pinal Valley Recharge and Recovery Facility Feasibility and Customer Savings

Arizona Water analyzed the effect on Pinal Valley customers' water rates by comparing the cost of constructing and operating the Pinal Valley Recharge and Recovery Facility to the cost of constructing and operating a surface water treatment plant, as originally planned in the 2006 CAP Use Plan. Table 2-3 below shows the cost savings achieved by constructing, operating and maintaining the Pinal Valley Recharge and Recovery Facility instead of the costly and labor-intensive surface water treatment plant.[8]

Table 2-3 Cost Savings Associated with Pinal Valley Recharge and Recovery Facility

Category	Surface Water Treatment Plant	Recharge and Recovery Facility	*SAVINGS*
Construction Cost	$94.3 million	$5.8 million*	**$88.5 million**
Annual Operating and Maintenance Costs	$4.5 million	$2.1 million	**$2.4 million**
Annual Overall Revenue Requirement	$19.6 million	$2.1 million	**$17.5 million**
Monthly Customer Cost	$27.13	$2.87	**$24.26 or 89%**

* This amount is paid by offsite facilities fees and would not be in rate base.

As Table 2-3 shows, delivering CAP water to customers through recharge and recovery at Arizona Water's Pinal Valley Recharge and Recovery Facility will save customers $17.5 million per year compared to constructing, operating, and maintaining a costly surface water treatment plant. As a result, the average residential customer will save $24.26 per month, or 89%, compared to a surface water treatment plant. As a result, Arizona Water's plan to use CAP water through recharge and recovery at the Pinal Valley Recharge and Recovery Facility is the most cost-effective, practical and thus feasible option.

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[8] *See* Appendix A-5 for cost details.

Beyond the cost savings for the average residential customer, another reason to construct the Pinal Valley Recharge and Recovery Facility instead of a costly surface water treatment plant is the limited availability of contributed capital through offsite facilities fees. Given the low level of customer growth in the Pinal Valley service area over the past eight years and the corresponding low amount of offsite facilities fees, Arizona Water would need to raise approximately $90 million of investment capital (i.e. equity or debt) to pay for a costly surface water treatment plant. To put that $90 million of plant investment into perspective, constructing a costly surface water treatment plant would increase Arizona Water's Pinal Valley water system rate base by nearly 145%. On the other hand, Arizona Water expects to be able to fund most, if not all of the entire cost of the Pinal Valley Recharge and Recovery Facility with offsite facilities fees and federal and state grants, which are recorded as contributions in aid of construction and excluded from rate base, thereby keeping customer rates low.

Given the cost savings and the feasibility of the Pinal Valley Recharge and Recovery Facility, constructing a costly surface water treatment plant is neither feasible nor prudent now or in the foreseeable future.

2.6. Interim Plan to Recharge and Recover CAP Water

Prior to completing construction of the Pinal Valley Recharge and Recovery Facility, Arizona Water plans to store and recover CAP water for delivery to customers on an interim basis starting in 2015 by storing CAP water at groundwater savings facilities. To this end, Arizona Water has been able to negotiate short-term contracts with the Central Arizona Irrigation and Drainage District, the Maricopa-Stanfield Irrigation and Drainage District and the Hohokam Irrigation and Drainage District, to store CAP water in groundwater savings facilities owned and operated by these entities.

Under this interim approach, Arizona Water will schedule delivery of CAP water to these irrigation districts in lieu of their pumping groundwater. Under the terms of Arizona Water's water storage permit, every acre-foot of water delivered to the irrigation districts for use in lieu of pumping groundwater generates an acre-foot of CAP water storage credit. Arizona Water can then recover an equivalent amount of stored CAP water from its recovery wells and directly deliver recovered CAP water to its Pinal Valley customers.

Under the groundwater savings facilities contracts, Central Arizona Irrigation and Drainage District, Maricopa-Stanfield Irrigation and Drainage District and Hohokam Irrigation and Drainage District will pay $36 per acre-foot to help offset Arizona Water's cost to purchase CAP water for groundwater storage. These offsets reduce the net cost of CAP water to Arizona Water and its customers.

Additionally, in 2015, Arizona Water applied for and received $357,500 in grant funding from ADWR's Water Management Assistance Program for the purpose of increasing the amount of CAP water stored in calendar year 2015. As shown in Table 2-4, both the groundwater savings facilities offsets and the ADWR grant greatly reduce the cost of CAP water to Arizona Water and its customers.

In 2015, Arizona Water will store 2,500 acre-feet of CAP water at Maricopa-Stanfield Irrigation and Drainage District's groundwater savings facilities, and 2,500 acre-feet at Central Arizona Irrigation and Drainage District's groundwater savings facilities. Arizona Water

plans to increase the amount of CAP water stored at groundwater savings facilities by 1,000 acre-feet each year until its full allocation is delivered to the company's customers from the recharge and recovery facility or through direct deliveries for non-potable use. As each phase of the Pinal Valley Recharge and Recovery Facility is completed, Arizona Water will shift deliveries of CAP water to that facility from the interim groundwater savings facilities.

Table 2-4 below shows the projected schedule and net cost of CAP deliveries to the groundwater savings facilities and the Pinal Valley Recharge and Recovery Facility by year:

Table 2-4 CAP Water Deliveries and Cost to Recharge CAP Water

Year	Pinal Valley Recharge and Recovery Facility (AF)	Groundwater Savings Facility Recharge (AF)	Cost of CAP Water ($/AF)	Groundwater Savings Facility Offset ($/AF)	ADWR Grant ($)	Total Recharge and Recovery Facility Cost ($)	Total Groundwater Savings Facility Cost ($)	Annual Recharge Cost ($)
2015	0	5,000	$157	$36	$357,500	$0	$247,500	$247,500
2016*	0	6,000	$161	$36	TBD	$0	$750,000	$750,000
2017	2,650	4,350	$166	$36	TBD	$439,900	$565,500	$1,005,400
2018	5,400	2,600	$171	$36	TBD	$923,400	$351,000	$1,274,400
2019	8,000	956	$174	$36	TBD	$1,392,000	$131,928	$1,523,928
2020**	8,956	0	$196	N/A	TBD	$1,755,376	N/A	$1,755,376

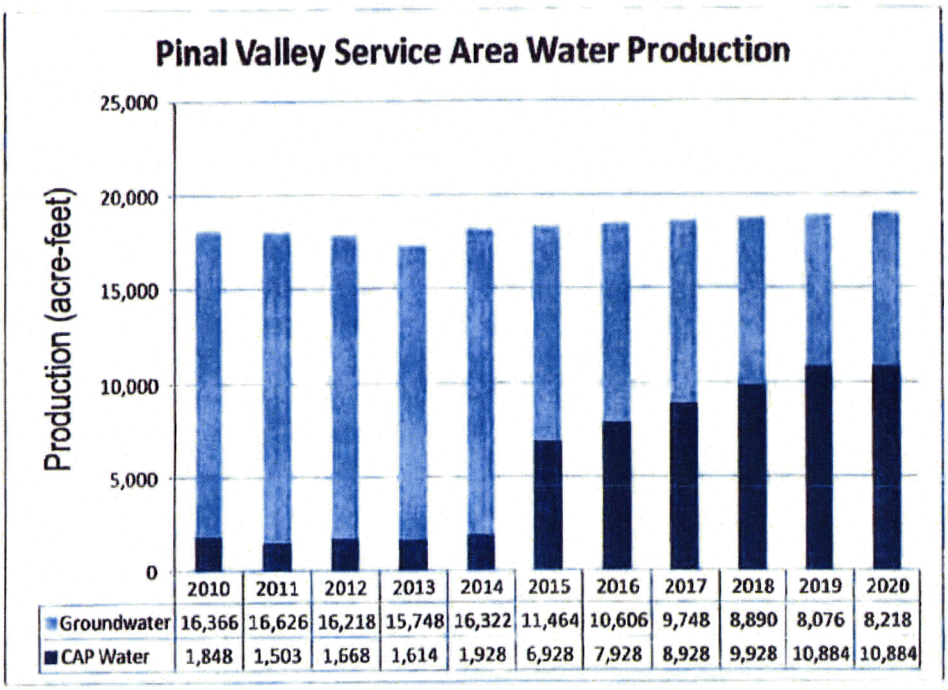
*Note 1: CAP water ordered for 2017 at the Pinal Valley Recharge and Recovery Facility after first recharge basin is completed.

**Note 2: 8,956 AF Based on present CAP allocation (10,884 AF - 1,928 AF) and 1,928 AF delivered directly to non-potable users.

2.7. Future Water Supplies Under this 2015 CAP Use Plan

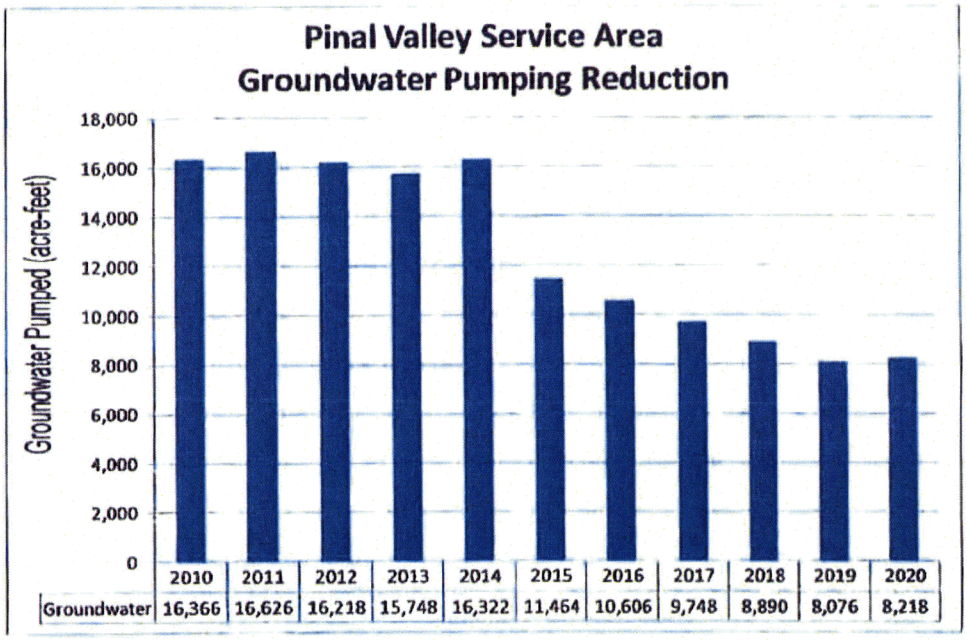
Arizona Water's total 2014 water production in its Pinal Valley service area, including Tierra Grande and Stanfield, was 18,214 acre-feet, with pumped groundwater making up nearly 90% of all water production. Implementing this 2015 CAP Use Plan will significantly increase the amount of CAP water recharged and recovered as shown in Figure 2-4, below.

Figure 2-4 Pinal Valley Service Area Water Production



Under this 2015 CAP Use Plan, Arizona Water will reduce groundwater pumping from 2014 levels by over 50% or 8,000 acre-feet by 2019, as shown in Figure 2-5. Over the next ten years, Arizona Water will recharge an average of 8,000 acre-feet of CAP water per year and will have saved nearly 80,000 acre-feet of groundwater.

Figure 2-5 Pinal Valley Service Area Groundwater Pumping Reduction



3. State and Regional Water Policies Require Arizona Water to Effectively Use its CAP Water Supplies

3.1. Arizona's Need to Address Water Supply Sustainability

Arizona has a long history of successfully addressing the state's need for sustainable, renewable, and effectively managed water supplies, while meeting water users' needs. Since Arizona Water completed its 2006 CAP Use Plan, the State of Arizona, as well as a number of federal agencies, have completed studies, reports, assessments and plans documenting current and future water resource planning needs in Arizona and in other states that rely on Colorado River water. Four of these key documents that Arizona Water relied upon and references in this 2015 CAP Use Plan are:

- *Draft Demand and Supply Assessment 1985-2025: Pinal Active Management Area*, May 2011 – This assessment was prepared by ADWR as background for development of the Fourth Management (Conservation) Plan for the Pinal AMA. ***ADWR's assessment concludes that groundwater pumping will likely increase in the Pinal AMA through 2025.***

- *U.S. Bureau of Reclamation, Colorado River Basin Water Supply and Demand Study: Study Report*, 2012 – This study, prepared by the Bureau of Reclamation, represents the most comprehensive analysis ever undertaken within the Colorado River Basin. ***This study concludes that there is an increased likelihood of future shortages of Colorado River water, having the greatest impact on agricultural users and affecting other CAP users as well.***

- *Arizona's Next Century: A Strategic Vision for Water Supply Sustainability*, January 2014 - This report was prepared by ADWR as a next step to identify possible strategies to address identified water supply and demand imbalances. ***ADWR's study concludes that an appropriate water management strategy needs to include underground storage and recovery of CAP water and reclaimed water.***

- *Recovery of Water Stored by the Arizona Water Banking Authority*, April 2014 – This plan is a collaborative effort among the AWBA, ADWR, CAP and stakeholders to provide a roadmap for recovering CAP water stored in each of the AMAs by the AWBA. ***This plan recommends that entities in the Pinal AMA pursue the construction of underground storage facilities to store CAP water.***

As summarized above, these studies, reports, assessments, and plans conducted by state and federal agencies demonstrate the urgent need to address issues ranging from an increase in groundwater pumping to shortages of Colorado River water. The state agencies charged with addressing these challenges, ADWR, CAP and AWBA, agree that maximizing recharge of available CAP water for underground storage and recovery must play an integral role in assuring

that Arizona's water users have long-term reliable, renewable, and sustainable sources of supply, even as flows and availability of water from the Colorado River become less predictable.

3.2. The Groundwater Management Act

Prior to 1980, groundwater pumping in Arizona was largely unregulated which led to groundwater overdraft. In response, Arizona adopted one of the most comprehensive groundwater management programs in the United States – the 1980 Groundwater Management Act.[9] In order to facilitate management of groundwater supplies in areas where historical groundwater overdraft had been particularly severe, the Groundwater Management Act designated AMAs within certain high growth and water use areas in the state. Arizona Water's Pinal Valley service area is located in the Pinal AMA. The management plans for the AMAs, including the Pinal AMA, are administered by ADWR and require municipal water providers, like Arizona Water, to progressively reduce their reliance on groundwater through the use of renewable water supplies like CAP water, recycled water, or through member land or service area enrollment in the Central Arizona Groundwater Replenishment District.[10] [11]

The Pinal AMA, shown in Figure 3-1, covers approximately 4,000 square miles in the south-central portion of Arizona. The management goal for the Pinal AMA is to (1) allow development of non-irrigation water uses, (2) extend the life of the agricultural economy as long as feasible, and (3) preserve water supplies for future non-irrigation uses.[12]

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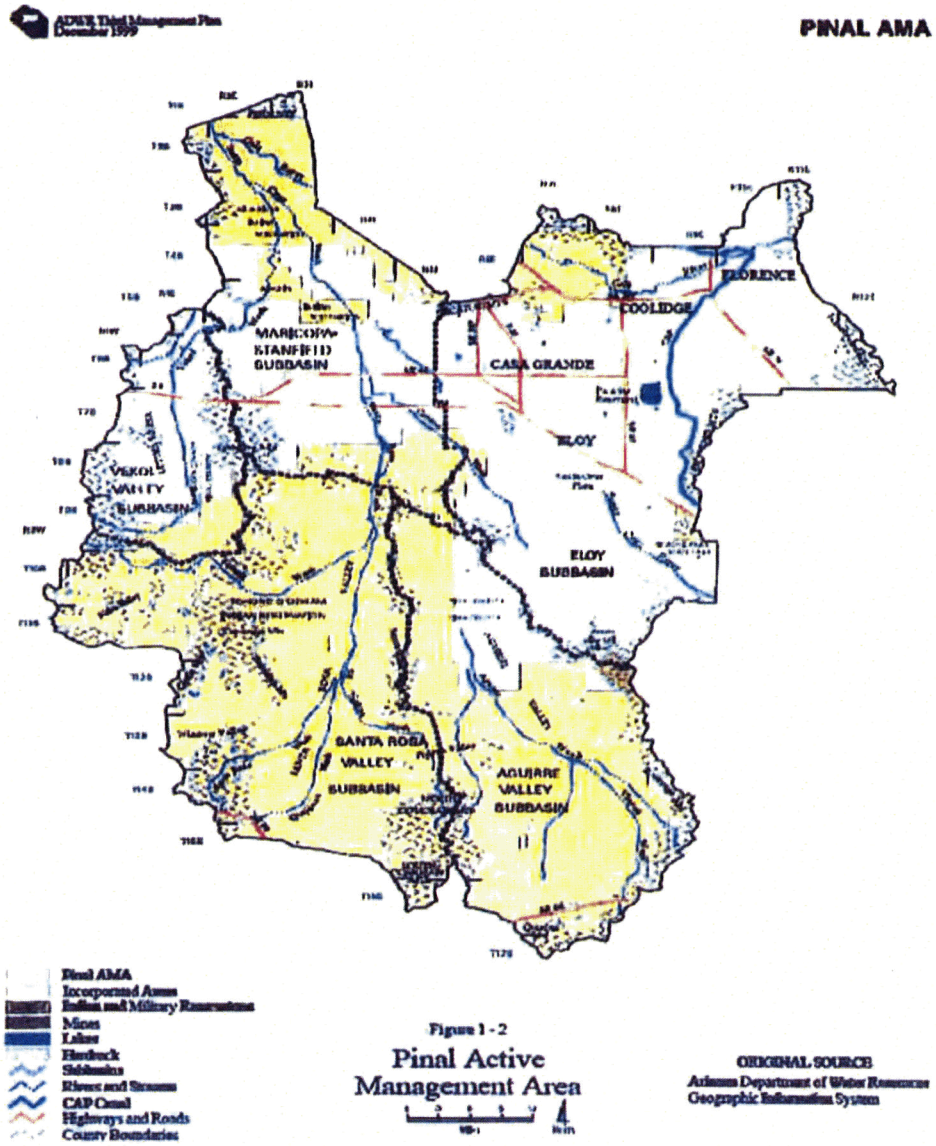
[9] *See* A.R.S. §45-401 through §45-704

[10] *See* A.R.S. §45-801.01 1-2 requiring the use of renewable supplies, such as Colorado River water

[11] The Central Arizona Groundwater Replenishment District is the name used to describe the groundwater replenishment authority operated by the Central Arizona Water Conservation District the entity charged with operating and maintaining the CAP aqueduct throughout its three-county service area.

[12] Arizona Department of Water Resources, *Third Management Plan for Pinal Active Management Area*, 1999, Phoenix, 1-2.

Figure 3-1 Pinal AMA



As discussed in Section 2.7 and shown in Figures 2-2 and 2-3 Arizona Water will reduce groundwater pumping by 5,000 acre-feet in 2015, with corresponding increases in recovery of stored CAP water, followed by annual increases of 1,000 acre-feet of CAP recharge each year thereafter until its full CAP water allocations of 10,884 acre-feet are put to beneficial use, further reducing the need to pump groundwater. As a result, Arizona Water's water supply management strategy complies with the State of Arizona's public policy that requires greater use of renewable supplies such as CAP water. Arizona Water's 2015 CAP Use Plan also helps to achieve the Pinal AMA's management goal of preserving available groundwater supplies for future non-irrigation uses.

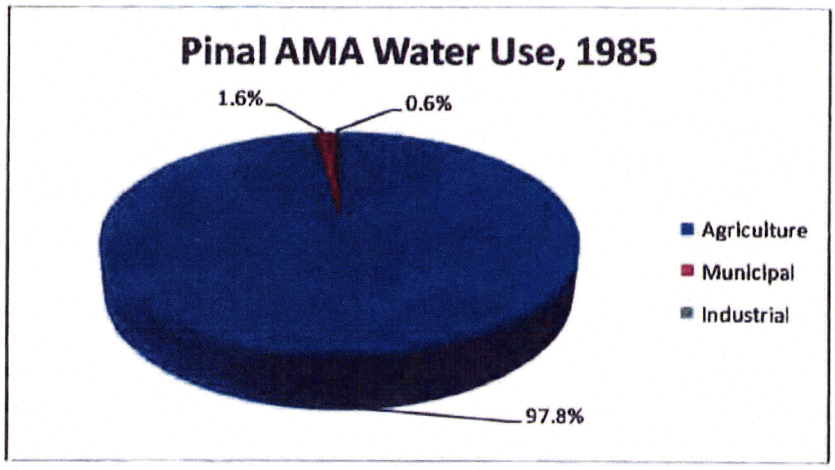
3.3. Water Use in the Pinal AMA

In the Pinal AMA, water is used primarily to meet municipal, industrial, agricultural and Indian demands. Beneficial uses of water, as defined by ADWR, are summarized as follows:

- Municipal water use, which includes water delivered for non-irrigation uses by a city, town, private water company or irrigation district.
- Industrial water use, which includes non-irrigation uses of water not supplied by a city, town, or private water company. Industrial use includes uses by animal industries, mines and power plants.
- Agricultural water use is water for agricultural uses (growing of crops) not located on Indian Reservations.
- Indian water use is either municipal or agricultural water used on Indian Reservations.

In 1985, total water use in the Pinal AMA was 865,024 acre-feet. At that time, non-Indian and Indian agricultural use accounted for 97.8 percent of total water use in the Pinal AMA, while municipal and industrial use collectively accounted for 2.2 percent (1.6 percent for municipal and 0.6 percent for industrial) (*See* Figure 3-2).[13]

Figure 3-2 Pinal AMA Water Use 1985



As shown in Table 3-1 below, total water use in the Pinal AMA increased by nearly 19 percent, from 865,024 acre-feet in 1985 to 1,029,230 acre-feet in 2006.[14] Municipal water use increased from 13,607 acre-feet to 32,968 acre-feet and industrial water use increased from 4,995 acre-feet to 20,243 acre-feet during this same time period, collectively accounting for

[13]ADWR's *Draft Demand and Supply Assessment 1985-2025 Pinal Active Management Area*, 42.
[14]Ibid.

5.2 percent of total water use in the Pinal AMA in 2006. Non-Indian agricultural and Indian communities water use increased from 846,422 acre-feet in 1985 to 976,019 acre-feet in 2006, accounting for 94.8 percent of total water use in the Pinal AMA in 2006.

Table 3-1 Water Used in Pinal AMA in 1985 and 2006 (in Acre Feet)

	1985		2006	
Non-Indian Agriculture Use	792,092		819,894	
Indian Communities Use	54,330		156,125	
Total Agriculture Use	846,422	97.8%	976,019	94.8%
Municipal Use	13,607	1.6%	32,968	3.2%
Industrial Use	4,995	0.6%	20,243	2.0%
Total Municipal and Industrial Use	18,602	2.2%	53,211	5.2%
Total Use	865,024	100.0%	1,029,230	100.0%

3.4. Future Water Uses in the Pinal AMA

ADWR's *Draft Demand and Supply Assessment 1985-2025 Pinal Active Management Area, May 2011* provides three water demand scenarios for the year 2025 for each category of water use in the Pinal AMA. In all demand scenarios, municipal and industrial water uses are expected to increase by 2025 as the Pinal AMA urbanizes and population increases. ADWR projects total agricultural use to remain flat or decline over the long-term.

As shown in Table 3-2, agriculture (Irrigation districts and Indian communities) represents the largest historical and projected use of water in the Pinal AMA.[15] Irrigation district water use is the total water used by four irrigation districts: Central Arizona Irrigation and Drainage District, Maricopa-Stanfield Irrigation and Drainage District, Hohokam Irrigation and Drainage District and the San Carlos Irrigation and Drainage District. The Gila River and Ak-Chin Indian Communities, located immediately north of Arizona Water's Pinal Valley service area, are the largest Indian agricultural users.

Table 3-2 Water Used in Pinal AMA (1985) and Projected Use (2025)

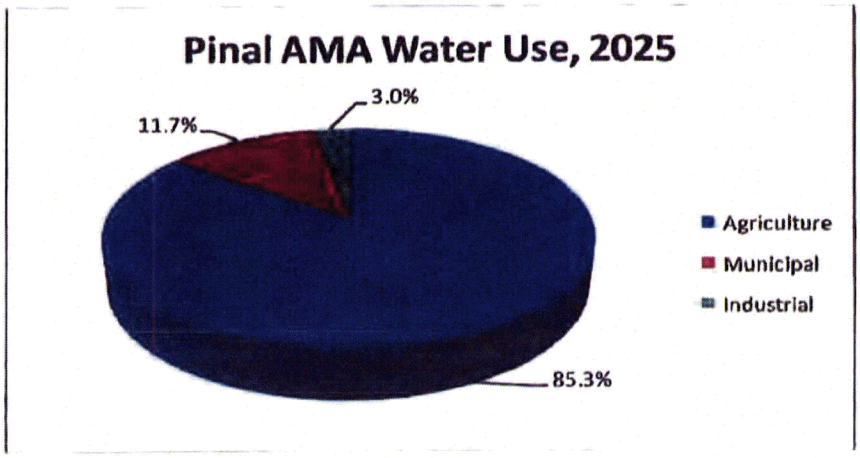
	Water Used (1985)	% of Total	Projected Use (2025)	% of Total
Irrigation Districts	792,092		689,180	
Indian Communities	54,330		194,616	
Total Agriculture	846,422	97.8	883,796	85.3
Municipal	13,607	1.6	121,175	11.7
Industrial	4,995	0.6	31,042	3.0
Total AF	865,024	100.0	1,036,013	100.0

In all three water demand scenarios, agricultural use (Irrigation districts and Indian communities) will continue to make up the majority of water use in the Pinal AMA in 2025, although declining slightly to 85.3 percent of total water use (See Figure 3-3). ADWR

[15] Ibid

projects municipal water use to increase to 11.7 percent of total water use with industrial water use accounting for 3 percent of total water use.

Figure 3-3 Pinal AMA Water Use - Projected 2025



3.5. Available Water Supplies in the Pinal AMA

Prior to the availability of CAP water in 1987, groundwater made up 74 percent of water supplies and the Gila River made up 26 percent of water supplies in the Pinal AMA.[16] [17]

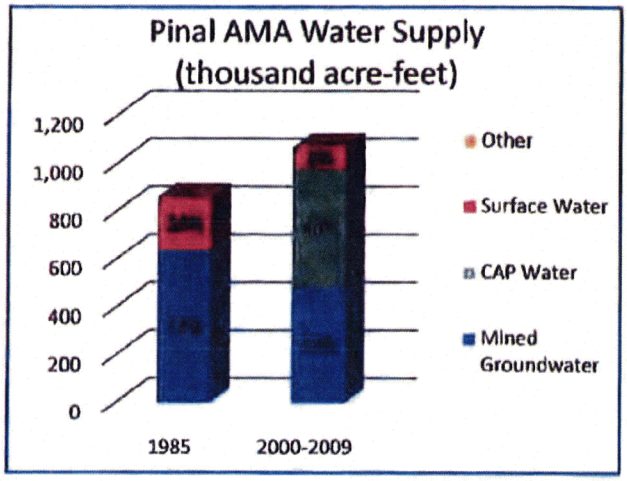
The makeup of water supplies in the Pinal AMA began to change in 1987 after CAP made its first deliveries of Colorado River water to the Pinal AMA from the CAP aqueduct. In the Pinal AMA, CAP water is delivered directly for agricultural purposes or is delivered to agricultural irrigation districts in lieu of pumping groundwater through groundwater savings facilities. Lesser amounts of untreated CAP water are delivered for municipal and industrial water uses. Similar to this 2015 CAP Use Plan, the Pinal County Water Augmentation Authority stored CAP water at groundwater savings facilities owned and operated by Central Arizona Irrigation and Drainage District and Maricopa-Stanfield Irrigation and Drainage District on behalf of the Town of Florence and the City of Eloy, two Pinal AMA municipal providers with CAP allocations. As of December 31, 2014, there was only one small surface water treatment plant in the Pinal AMA located at the Ak-Chin Indian Community.

Deliveries of CAP water to the Pinal AMA in 1987 dramatically reduced reliance on mined native groundwater. Over the ten-year period from 2000 to 2009, groundwater made up 46 percent of water supplies, CAP water made up 46 percent of water supplies, and Gila River water made up the balance of water supplies (See Figure 3-4). [18] [19] Use of groundwater declined from 1985 to 2009 despite the fact that overall water use increased by 30 percent during

[16] Reclaimed water and CAGRD Replenishment are used in the Pinal AMA but represent only about 0.3 percent of supply.
[17] ADWR's *Draft Demand and Supply Assessment 1985-2025 Pinal Active Management Area*, 42.
[18] Includes CAP water used directly and CAP water used in lieu of pumping groundwater.
[19] ADWR, *Pinal AMA Summary Budget*.

this same time period. This is particularly notable since water supplies from the Gila River were significantly reduced during this same time period because of the ongoing drought. As illustrated in Figure 3-4, CAP water supplies significantly reduced the use of mined groundwater. Over the ten-year period from 2000 to 2009, mining of groundwater decreased by an average of over 150,000 acre-feet annually, a decrease of 31 percent from 1985.

Figure 3-4 Pinal AMA Water Supply



3.6. The Future of CAP Water Supplies in the Pinal AMA

As of 2012, approximately 40 million people in seven western states relied on the Colorado River for water supplies.[20] Despite recently experiencing the worst 14-year drought in the last century, to date there has not been a declared shortage on the Colorado River that has affected CAP water deliveries to Arizona.[21] However, as of February 2015, Lake Mead is at approximately 41 percent of capacity.[22] Water levels at Lake Mead are important because the Bureau of Reclamation uses these water levels to determine whether to declare a shortage in supply and to what degree.

Declared shortages by the Bureau of Reclamation can reduce Colorado River water deliveries to the CAP depending on the severity of the declared shortage. For example, the Bureau of Reclamation has three tiers of shortage, Tier 1, Tier 2 and Tier 3, which have a specific effect on Arizona's water supplies from the Colorado River through the CAP. Water users in Arizona who rely on deliveries from the CAP aqueduct incur the majority of any restrictions or reductions in deliveries caused by declared shortages. Appendix A-6 provides greater detail of the process of reducing Colorado River water deliveries to CAP during declared shortages.

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[20] U.S. Department of the Interior, Bureau of Reclamation, *Colorado River Basin Water Supply and Demand Study: Study Report*, 2012, 2

[21] Ibid., 3

[22] U.S. Department of the Interior, Bureau of Reclamation, *Lower Colorado Water Supply Report*, http://www.usbr.gov/lc/region/g4000/weekly.pdf, accessed 2/10/2015.

If drought conditions persist, Arizona could soon face a reduction of nearly one third of its Colorado River water supply.[23] Longer-term drought conditions could cause more severe reductions to Arizona's CAP water supply. During Tier 1, Tier 2 and Tier 3 declared shortages, water users without a CAP subcontract or with CAP subcontracts with a lower priority than Arizona Water will have CAP water deliveries reduced or even eliminated depending on the severity of the shortage. Arizona Water's Municipal and Industrial ("M&I") priority subcontracts have a high priority and somewhat lesser risk of reduced deliveries except under shortages more severe than a Tier 3 shortage. Agricultural users are most affected by declared shortages since they do not have CAP subcontracts and receive Excess CAP water or non-Indian Agricultural priority CAP water, which have a lower priority than M&I priority CAP water.

In addition to the possibility of shortage and reduced deliveries of CAP water, CAP also plans to reduce deliveries to non-Indian agricultural users in the Pinal AMA by 75,000 acre-feet per year in 2017, with an additional 25 percent reduction in 2024. After 2030, CAP plans no deliveries to non-Indian agricultural users. As a result, non-Indian agricultural users will be forced to pump more groundwater to make up the shortfall caused by planned reductions in CAP water deliveries or any mandatory reductions because of declared shortages on the Colorado River.

3.7. The Future of Groundwater Supplies in the Pinal AMA

As of April 2015, the AWBA and the CAWCD had 1.7 million acre-feet of CAP water stored in the Pinal AMA through recharge at the Maricopa-Stanfield Irrigation and Drainage District, Central Arizona Irrigation and Drainage District and Hohokam Irrigation and Drainage District GSFs. In addition, as of April 27, 2015, ADWR reports that nearly 2.5 million acre feet of CAP water is stored at these groundwater savings facilities in the Pinal AMA for the following purposes:

- Assured water supplies
- Recovery during declared shortages
- Indian water Settlement purposes
- Southern Nevada's allocation of Colorado River water

Like Arizona Water, AWBA and CAWCD plan to recover stored CAP and Colorado River water for the above-listed purposes by using recovery wells. For example, AWBA's recovery plan projects the need to recover small volumes of water as early as 2017.[24] In order to prepare for this, AWBA encourages municipal and industrial subcontractors, such as Arizona Water to develop underground storage facilities in the Pinal AMA. Additionally, in late 2014 CAP started reaching out to CAP subcontractors, such as Arizona Water, to develop recovery strategy partnerships.[25] Arizona Water could also operate its recovery wells to recover CAP water stored by AWBA or CAWCD as part of this recovery strategy.

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[23] U.S. Bureau of Reclamation, Colorado River Basin Water Supply and Demand Study, Study Report, December 2012, 6.

[24] Recovery of Water Stored by the AWBA, April 2014

[25] Ibid., 52

4. Conclusion

This 2015 CAP Use Plan identifies and explains how Arizona Water is implementing solutions to water supply uncertainties facing Arizona Water's Pinal Valley service area. According to the Bureau of Reclamation, the likelihood of declared shortages of Colorado River water means that CAP M&I subcontractors like Arizona Water face the risk of cutbacks and curtailments in CAP deliveries when declared shortages on the Colorado River reduce flows in the CAP aqueduct. At the same time, municipal and industrial water use will increase as development occurs in the Pinal AMA.

For these reasons, Arizona Water's 2015 CAP Use Plan carefully examined and analyzed:

- Arizona's public policy of using renewable supplies like CAP water to meet water demands,
- Effects of drought and groundwater overdraft,
- Need to develop a sustainable, renewable, and reliable long-term supply of water,
- Need for a cost-effective and practical way to use CAP water through recharge and recovery facilities, and
- How to make full beneficial use of Arizona Water's CAP water and minimize the effect on customers' water rates.

As a result of that study, Arizona Water already has CAP water in underground storage in cooperation with local irrigation districts and is moving forward to design and construct the Pinal Valley Recharge and Recovery Facility with the following benefits:

- Implements Arizona's public policy of using renewable CAP water supplies to meet Pinal Valley customers' water needs,
- Recharges and recovers CAP water to help mitigate the effects of drought and groundwater overdraft,
- Achieves a renewable, sustainable and reliable long-term supply of water for Pinal Valley customers,
- Saves $88.5 million in construction costs and $2.4 million in annual operating and maintenance costs compared to the cost of designing, constructing, operating and maintaining a costly and labor intensive surface water treatment plant, and
- Saves the average residential customer $24.26 per month or 89% compared to the costly and labor intensive surface water treatment plant.

FKS

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EXHIBIT FKS-13

DOUGLAS A. DUCEY
Governor

THOMAS BUSCHATZKE
Director

ARIZONA DEPARTMENT of WATER RESOURCES
3550 North Central Avenue, Second Floor
Phoenix, Arizona 85012-2105
602.771.8500
azwater.gov

December 21, 2015

CERTIFIED MAIL
Arizona Water Company
Attn: Mr. Fredrick Schneider
3805 N. Black Canyon Highway
Phoenix, AZ 85015-5351

Re: Decision of the Director to Grant Underground Storage Facility (USF) Permit, No. 71-224242.0000, and Water Storage (WS) Permit, No. 73-224242.0000 to Arizona Water Company

Dear Mr. Schneider:

This letter is the Decision of the Director of the Arizona Department of Water Resources ("Department") to grant Underground Storage Facility Permit No. 71-224242.0000 and Water Storage Permit No. 73-224242.0000 to Arizona Water Company to store water at the Pinal Valley Recharge Underground Storage Facility.

Please note that under A.R.S. § 45-852.01(B)(1), water stored pursuant to a water storage permit may be credited to a long term storage account only if the water is water that cannot reasonably be used directly. Under A.R.S. § 45-802.01(22)(a), the amount of Central Arizona Project water stored in an active management area during a year by a municipal provider is considered water that cannot reasonably be used directly only to the extent that it exceeds the amount of mined groundwater withdrawn during the year by the storer in the active management area. Therefore, after this water storage permit is issued, if the permit holder withdraws mined groundwater from within the Pinal active management area in any year, the amount of Central Arizona Project water stored by the permit holder during the year pursuant to the permit equal to the amount of mined groundwater withdrawn will not be eligible for long-term storage credits, but may be considered as being available for recovery on an annual basis under A.R.S. § 45-851.01.

This Decision of the Director to grant Underground Storage Facility (USF) Permit No. 71-224242.0000 and Water Storage (WS) Permit No. 73-224242.0000 is an appealable agency action. I have enclosed a copy of the Final Appealable Draft Permits. The Final Appealable Draft Permits will be the final form of your permits upon issuance.

The Department's review of the relevant information establishes that all of the requirements for the issuance of an Underground Storage Facility (USF) permit and Water Storage (WS) permit, as set forth in A.R.S. § 45-811.01 and § 45-831.01, have been met. The Department has received no objections to your applications.

The Department reviewed the comments and proposed changes submitted by you for the initial draft Arizona Water Company Pinal Valley Recharge Project USF permit 71-224242.0000. Below is a summary of your comments and requested permit changes followed by the Department's response:

1. *"Page 3, Section 2.b. should read 'The first reporting period...through December 2016.' not through 2015 because the final permit will not be issued until late this year or early 2016 and construction will not occur until 2016 at the earliest."*

   Department's Response:
   Section 2.b. of the permit has been amended to read "The first reporting period...through December 31, 2016."

2. *"Page 4, Section 3.e.ii. 'The data reports shall contain the **daily wetted area**...' Arizona Water's preliminary design has a sloped bottom making the calculation very difficult. Arizona Water recommends this requirement be removed from the permit as a meter will be installed to measure flow into each recharge basin."*

   Department's Response:
   The permit has been written to incorporate the Cooley method for calculating evaporation from an open water surface (Section 4.d. of the permit). This method requires that the wetted surface area be determined in order to calculate evaporation from each basin. A calculation of evaporation from each basin is necessary in order to account for the amount of water lost to evaporation during recharge operations. The use of this method is confirmed in the Pinal Valley Recharge USF Hydrogeologic Study (Page 27, Section 7.b).

3. *"Page 5, Section 4.b. 'The permittee shall measure the total volume of water delivered to the recharge facility **each day**...' Arizona Water requests that measurement of water delivered to the recharge facility be measured and recorded weekly."*

   Department's Response:
   Page 5, Section 4.b. of the permit was written as described in the USF Hydrogeologic Study (Page 26, Section 6.e) "One metering location is proposed to record the daily volume of water recharged at the facility."

4. *"Page 6, Section 4.d.ii. 'The permittee shall determine the **daily wetted area**...' Same comment and recommendation as noted in item number 2 above."*

   Department's Response:
   The permit was written as described in the USF Hydrogeologic Study (Page 27, Section 7.b) "AWC will determine the daily wetted area for each basin in operation..."

5. *"Page 12, Section 3. Requires a 5-year construction time table. Arizona Water plans to begin construction of the recharge project within this time table. However, due to the availability of grant and other federal funds, the project could be constructed in phases with completion of the final phase sometime beyond five years. Arizona Water requests this section be modified to allow for such work."*

   Department's Response:
   The permit was written as described in the USF Hydrogeologic Study (which did not propose a phased construction of the facility). Arizona Water may request to modify the proposed Pinal Valley Recharge Project to a phased construction and operation time-table. Please contact the Department to schedule a meeting to discuss the phased construction and operation of the facility through a modification to the USF application report and permit.

6. *"Page 14, Table 2. References daily monitoring. Same comment and recommendation as noted in item number 2 above."*

   Department's Response:
   Table 2 of the permit was written as described in the USF Hydrogeologic Study (Page 26, Section 6.e) "One metering location is proposed to record the daily volume of water recharged at the facility."

7. *"Page 15, Table 4. Table 4 lists the maximum wetted area for each recharge basin in acres. This requirement adversely limits Arizona Water's ability to adjust the basin area during the detailed design phase. Arizona Water requests this table be modified to remove the maximum area requirement to allow for optimization of the basin during final design."*

   Department's Response:
   Table 4 of the permit was written as described in the USF Hydrogeologic Study (Figure 4c and Table 1). If after completion, should the basin acreages differ by a small margin, Arizona Water may request that the permit be modified to reflect the as-built basin acreages.

8. *"Page 17, Table 6. requires source water quality monitoring **every 6 months** for the life of the facility. Because the facility is permitted to recharge Central Arizona Project Water ('CAP Water') and CAP Water quality is known and well documented, Arizona Water should be required to monitor source water quality."*

   Department's Response:
   The last sentenced is assumed to be intended that 'Arizona Water should *not* be required to monitor source water quality.' All water that is recharged into the state's aquifers is required to meet Arizona's Aquifer Water Quality Standards (Arizona Administrative Code R18-11-406). In addition, Page 23, Section 6.c.v. of the USF Hydrogeologic Study references Table 9 which describes the proposed source water quality monitoring plan for this facility.

You are entitled to appeal this decision. If you wish to appeal this decision, you must file a written appeal within **thirty (30) days** from receipt of this letter. I am providing you with a summary of the appeal process and appeal form, should you elect to pursue this option.

As no objections have been filed regarding your permit applications, you may elect to complete and file the enclosed Appealable Agency Action Waiver Form, waiving your right to appeal the Director's Decision, so that your permits can be signed without delay.

If you do not file a notice of appeal or the Appealable Agency Action Waiver Form within the 30 day appeal period, the permits shall be signed and issued at the end of the 30 day appeal period.

Please direct any questions concerning the permit or the appeal process to Shannon Reif at (602) 771-8517.

Sincerely,

Richard B. Obenshain, Manager
Recharge, Assured and Adequate Water Supply Programs

Enclosure

RBO/slr

FKS

14

EXHIBIT FKS-14

AGREEMENT FOR DEVELOPMENT OF EFFLUENT RECHARGE FACILITY, EFFLUENT DISPOSAL AND PURCHASE AND SALE OF EFFLUENT

This Agreement for Development of Effluent Recharge Facilities, Effluent Disposal and Purchase and Sale of Effluent ("Agreement") is made this 6 day of February, 2014 (the "Effective Date"), between the Central Arizona Water Conservation District ("CAWCD"), a multi-county water conservation district organized and existing under the laws of the State of Arizona, and Liberty Utilities (Litchfield Park Water & Sewer) Corp. (hereafter "LIBERTY "). LIBERTY and CAWCD are sometimes collectively referred to herein as the "Parties" or individually as a "Party."

RECITALS

A. Pursuant to A.R.S. § 48-3772, CAWCD is authorized to acquire, develop, construct, operate, maintain, replace and acquire permits for water storage for replenishment purposes. CAWCD is also authorized to acquire, transport, hold, exchange, own, or lease water and water rights for replenishment purposes.

B. CAWCD has enrolled member lands and member service areas in the West Salt River Valley groundwater basin of the Phoenix Active Management Area, and to the extent reasonably feasible, CAWCD desires to satisfy its replenishment obligation associated with such member lands and member service areas in close proximity to such members' groundwater pumping sites.

C. LIBERTY is a private water and wastewater utility company in the Phoenix Active Management Area. LIBERTY holds a Certificate of Convenience and Necessity ("CC&N") issued by the Arizona Corporation Commission ("ACC") authorizing LIBERTY to provide public water and wastewater utility service within its CC&N, including delivery of Effluent. LIBERTY's CC&N area encompasses approximately 20 square miles located west of the Agua Fria River between Luke Air Force Base and interstate highway I-10, and may be amended from time to time by order of the ACC.

D. LIBERTY owns and operates the Palm Valley Wastewater Reclamation Facility ("PVWRF") at 14222 W. McDowell Road in Goodyear, Arizona. PVWRF currently produces approximately 3.5 million gallons per day ("MGD") of A+ quality Effluent. LIBERTY is currently permitted to operate PVWRF to a maximum treatment capacity of 8.2 MGD in various phases in the future. In 2012, PVWRF generated 2,340 acre-feet of Effluent in excess of re-use demands and LIBERTY estimates that total Effluent production from PVWRF in excess of reuse demands may increase to approximately 3,000 acre-feet per annum by 2017.

E. In order to support water supply availability within LIBERTY's CC&N and to benefit LIBERTY's utility customers, LIBERTY proposes to recharge into the aquifer any Effluent discharged from the PVWRF and any other Effluent that may be available to LIBERTY

from other sources as determined by LIBERTY in its sole discretion that is not re-used or used by LIBERTY within its CC&N.

F. On June 22, 2010, CAWCD and LIBERTY executed an agreement to cost-share a hydrologic study to determine feasibility of constructing a recharge facility within LIBERTY's CC&N (the "Cost Sharing Agreement"). In entering that agreement, the mutual goal of the Parties was to initiate a long-term partnership between LIBERTY and CAWCD for the development of a recharge facility ("Effluent Recharge Project") to store excess Effluent produced at the PVWRF or other wastewater reclamation facilities, and to enter into a long-term agreement for CAWCD to acquire and receive such excess Effluent from LIBERTY and for LIBERTY to dispose of such excess Effluent. Under the Cost Sharing Agreement, LIBERTY and CAWCD agreed to share the costs of a hydrologic investigation to determine the feasibility of the proposed Effluent Recharge Project.

G. The Cost Sharing Agreement provides that the Hydrologic Feasibility Study will proceed in two phases. Phase 1 involved retaining a hydrological consultant to locate and determine suitable sites for the Proposed Recharge Project. Phase 2 involved retaining a hydrological consultant to provide conceptual designs, cost estimates and a feasibility analysis for construction of the proposed Effluent Recharge Project. The Phase 1 investigation was completed on February 17, 2011 and identified several potential sites for the proposed Effluent Recharge Project. The Cost Sharing Agreement provides that if CAWCD and LIBERTY agreed that the Phase 1 Final Report of the hydrologic feasibility study identifies suitable site(s) for the Effluent Recharge Project acceptable to the Parties within or adjacent to the LIBERTY's CC&N for storage of excess Effluent generated at PVWRF or other potential sources, then LIBERTY and CAWCD would use their best efforts to negotiate and enter into a Memorandum of Understanding outlining the terms of a future agreement for the development, design, funding, construction and operation of the Effluent Recharge Project and CAWCD's acquisition and receipt of excess treated wastewater discharged from PVWRF or other potential sources. The Phase 2 investigation was completed on or about August 1, 2013 and determined that a viable, cost-effective Effluent Recharge Project capable of storing at least 5,000 acre-feet of Effluent annually can be developed and constructed within or adjacent to LIBERTY's CC&N.

H. Section 3.2 of the Cost Sharing Agreement provides that the Memorandum of Understanding shall document the Parties' agreement with respect to the following concepts: (1) the term and duration of a contract to lease excess treated wastewater discharged from PVWRF for replenishment purposes by CAWCD from LIBERTY; (2) the volume of excess treated wastewater discharged from PVWRF to be leased by CAWCD, and (3) the cost and payment terms for such lease agreement. The Parties entered a Memorandum of Understanding Regarding Development of Effluent Recharge Facility and Purchase and Sale of Effluent ("MOU") dated March 7, 2013.

I. The Parties now enter into this Agreement relating to development of the Effluent Recharge Project, disposal of Effluent and Purchase and Sale of Effluent. This Agreement is subject to review and approval by the respective Boards of Directors of LIBERTY and CAWCD and/or their respective executive management. Because the Phase 2 Final Report has concluded that a viable, cost-effective Effluent Recharge Project capable of storing at least

5,000 acre-feet of Effluent annually can be developed and constructed within or adjacent to LIBERTY's CC&N, LIBERTY and CAWCD enter this Agreement relating to construction, operation and use of the Effluent Recharge Project. This Agreement governs (1) the development, design, funding, construction and operation of the Effluent Recharge Project (the "Final Agreement for Development, Design, Funding, Construction and Operation of Effluent Recharge Project" set forth in Article 3 below); (2) the agreement between the Parties for LIBERTY to sell/dispose of and deliver to CAWCD 2,400 acre-feet of Effluent per annum for 100 years (the "Effluent Disposal Agreement" set forth in Article 4 below); and (3) the agreement between the Parties for the purchase by CAWCD of Long-Term Storage Credits accrued by LIBERTY at the Effluent Recharge Project (the "Agreement for Purchase of Long-Term Storage Credits" set forth in Article 5 below). As of the Effective Date, this Agreement shall supersede and replace the MOU between the Parties and the MOU shall be of no further force or effect.

J. The Parties understand and agree that this Agreement relates to disposal of Effluent from PVWRF by LIBERTY through the Effluent Recharge Project, and that CAWCD is not purchasing Effluent for use or re-use. The Parties understand and agree that CAWCD is acquiring an entitlement to 2,400 acre-feet of Effluent per annum for 100 years to be recharged at the Effluent Recharge Project and CAWCD is acquiring the contractual right to purchase Long-Term Storage Credits from LIBERTY relating to the Effluent Recharge Project, all in accordance with the terms and conditions set forth below.

K. All of CAWCD's costs associated with the existing Cost Sharing Agreement, the Phase 1 and Phase 2 investigations and CAWCD's obligations under this Agreement shall be paid using Central Arizona Groundwater Replenishment District funds.

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

As used in this Agreement, the following terms, when capitalized, shall mean:

1.1 "ACC" means the Arizona Corporation Commission.

1.2 "ADWR" means the Arizona Department of Water Resources.

1.3 "Agreement for Purchase of Long-term Storage Credits" means the agreement, terms and conditions set forth in Article 5 below between CAWCD and LIBERTY for the purchase by CAWCD of Long-Term Storage Credits accrued by LIBERTY at the Effluent Recharge Project.

1.4 "CAGRD's Account(s)" means (i) the long-term storage account established pursuant to A.R.S. § 45-859.01 for the Phoenix Active Management Area, Account No. 70-411120.0001; (ii) the conservation district account established pursuant to A.R.S. § 45-859.01 for the Phoenix Active Management Area, Account No. 75-411120 and/or (iii) the

conservation district replenishment reserve sub-account for the Phoenix Active Management Area, Account No 70-411120.0002.

1.5 "CAWCD's Storage Capacity Entitlement" means CAWCD's annual entitlement to the Effluent Recharge Project's storage capacity as provided in Section 3.1.3 below and subject to the terms and conditions set forth in this Agreement.

1.6 "Cost Sharing Agreement" means the agreement between CAWCD and LIBERTY dated June 22, 2010 to share the costs of a feasibility study to explore jointly developing an Effluent Recharge Project and the leasing of Effluent to CAWCD.

1.7 "CPI-U" means the Consumer Price Index—All Urban Consumers published by the United States Bureau of Labor Statistics. If the CPI-U ceases publication during the term of this Agreement, then the Parties shall use a substantially similar consumer price index as agreed between the Parties.

1.8 "Delivery Point" means the delivery point interconnecting the Effluent Pipeline with the turnout for the Effluent Recharge Project as determined by LIBERTY.

1.9 "Effluent" means wastewater that is treated or reclaimed so that it is suitable for underground storage pursuant to A.R.S. Titles 45 and 49. Effluent includes treated wastewater that is produced now or in the future from PVWRF, including any future expansions thereof, and Effluent produced at any other wastewater treatment plant as determined by LIBERTY in its sole discretion that may be owned or controlled by LIBERTY.

1.10 "Effluent Entitlement" means the annual entitlement to 2,400 acre-feet of Effluent for a period of 100 years to be granted to CAWCD by LIBERTY pursuant to the terms of the Effluent Disposal Agreement set forth below and subject to the terms, conditions and any adjustments set forth in this Agreement, including the provisions of Section 4.1.6.

1.11 "Effluent Disposal Agreement" means the agreement terms and conditions set forth in Article 4 below between CAWCD and LIBERTY providing for the acquisition and receipt by CAWCD and the sale/disposal and delivery by LIBERTY of 2,400 acre-feet per year of Effluent for 100 years.

1.12 "Effluent Pipeline" means the effluent pipeline from the PVWRF to the boundary of the Effluent Recharge Project site owned by LIBERTY that conveys Effluent produced at PVWRF for reuse, disposal and discharge.

1.13 "Effluent Pipeline Capacity Reservation" means CAWCD's annual right to use capacity of the Effluent Pipeline as provided in this Agreement to transport Effluent from PVWRF to the Effluent Recharge Project.

1.14 "Effluent Recharge Project" means a constructed underground storage facility located within or adjacent to LIBERTY's CC&N capable of storing 5,000 acre-feet of treated Effluent annually.

1.15 "Effluent Recharge Project Operating Agreement" means the Effluent Recharge Project Operating Agreement to be executed between CAWCD and LIBERTY, the form of which is attached hereto as Exhibit A.

1.16 "Effluent Recharge Project Property" means the property on which the Effluent Recharge Project is built.

1.17 "Extraordinary O&M Costs" means those costs that are not Ordinary O&M Costs, including but not limited to non-routine, major maintenance, repair, replacement and capital improvement costs associated with the Effluent Recharge Project and/or the Effluent Pipeline that exceed a cost of $75,000.

1.18 "Final Agreement for Development, Design, Funding, Construction and Operation of the Effluent Recharge Project" means the terms and conditions set forth in Article 3 below between CAWCD and LIBERTY to develop, design, fund, construct and operate the Effluent Recharge Project in or adjacent to LIBERTY's CC&N.

1.19 "Long-Term Storage Credit" is as defined in A.R.S. § 45-802.01(11).

1.20 "Long-Term Storage Credit Transfer Form" is a form, approved by ADWR, to effectuate the assignment of Long-Term Storage Credits, as defined in A.R.S. § 45-854.01(B), and more specifically described in Section 5.1.7 below.

1.21 "LIBERTY's Long-Term Storage Account" means the account established pursuant to A.R.S. § 45-852.01 in LIBERTY's name, Account No. 70-441139.

1.22 "Notice of Substantial Completion" means the notice issued by LIBERTY warranting that construction of the Effluent Recharge Project is substantially complete.

1.23 "Ordinary O&M Costs" means the annual labor, overhead, and material costs for the routine operation, maintenance, monitoring and regulatory reporting at the Effluent Recharge Project. For purposes of this Agreement, the Parties agree that LIBERTY's overhead costs are equal to 10% of the ordinary O&M Costs directly charged to the Effluent Recharge Project and shall not represent or include profit earned by LIBERTY.

1.24 "PVWRF" means the Palm Valley Wastewater Reclamation Facility owned and operated by LIBERTY at 14222 W. McDowell Road in Goodyear, Arizona.

ARTICLE 2

PHASE 2 HYDROLOGIC FEASIBILITY STUDY

2.1 The Phase 2 Hydrologic Feasibility Study was completed on or about August 1, 2013 and determined that a viable, cost-effective Effluent Recharge Project capable of storing at least 5,000 acre-feet of Effluent annually can be developed and constructed within or adjacent to LIBERTY's CC&N. The Phase 2 Study identified several viable project sites located within LIBERTY's CC&N.

ARTICLE 3

FINAL AGREEMENT FOR DEVELOPMENT, DESIGN, FUNDING, CONSTRUCTION AND OPERATION OF EFFLUENT RECHARGE PROJECT

3.1 The Phase 2 Hydrologic Feasibility Study Final Report has concluded that a viable, cost-effective, Effluent recharge facility capable of storing at least 5,000 acre-feet of Effluent annually can be developed and constructed within or adjacent to LIBERTY's CC&N. As a result, the terms and conditions set forth in this section below shall govern the development, design, funding, construction and operation of the Effluent Recharge Project by LIBERTY and CAWCD on the Effluent Recharge Project Property.

3.1.1 **Project Construction and Design.** Upon payment of the amounts set forth below by CAWCD, LIBERTY will design, permit and construct the Effluent Recharge Project, including acquiring all necessary land interests or rights of way for the Effluent Recharge Project. LIBERTY shall be responsible for designing, permitting and constructing the Effluent Recharge Project, including hiring contractors, project scheduling, the location and siting of Effluent Recharge Project facilities and other similar issues.

3.1.2 **Project Financing.** CAWCD shall pay $4,800,000 and LIBERTY shall pay $1,200,000 as payment for costs associated with the development, design, permitting and construction of the Effluent Recharge Project, including any costs associated with acquisition of necessary land interests or rights of way.

3.1.2.1 **Escrow Account.** Within 30 days after execution of this Agreement, CAWCD shall deposit $4,800,000 into an interest-bearing escrow account (the "Escrow Funds") established by LIBERTY with an escrow agent determined by LIBERTY (the "Escrow Agent"). The Parties agree to effectuate and execute necessary agreements with the Escrow Agent subject to the payment instructions set forth in Section 3.1.2.2 below.

3.1.2.2 **Escrow Instructions.** LIBERTY shall be entitled from time to time to withdraw all or any amounts of the Escrow Funds for land acquisition, design, development, permitting and construction of the Effluent Recharge Project upon delivery to the Escrow Agent, with a courtesy copy to CAWCD, of a written certificate executed by an officer of LIBERTY requesting that such funds be released as necessary to cover costs for land acquisition, design, permitting and/or construction of the Effluent Recharge Project. Upon LIBERTY's delivery of such written certification and payment direction to Escrow Agent, Escrow Agent shall immediately release and pay to LIBERTY that portion of the Escrow Funds requested from escrow in the amounts and as directed by LIBERTY. CAWCD understands the $4,800,000 payment represents the costs associated with the acquisition of the Effluent Entitlement and CAWCD's Storage Capacity Entitlement (as defined below), and is, therefore, non-refundable to CAWCD in the event that actual costs for development, design, permitting and construction of the Effluent Recharge Project are less than $6,000,000.

3.1.2.3 **Development Costs.** LIBERTY's and CAWCD's costs for the Phase 1 and Phase 2 Hydrologic Feasibility Studies under the Cost Sharing Agreement shall be considered development costs under Section 3.1.2 above. CAWCD shall be entitled to a credit for its portion of costs paid pursuant to the Cost Sharing Agreement against its $4,800,000 payment referenced in Section 3.1.2 above. LIBERTY shall be entitled to a credit for its portion of costs paid pursuant to the Cost Sharing Agreement against its $1,200,000 payment referenced in Section 3.1.2 above.

3.1.2.3.1 CAWCD and LIBERTY believe that the Effluent Recharge Project can be constructed for an amount of $6,000,000 or less, including land acquisition, permitting and construction. If the total cost of the Effluent Recharge Project is less than $6,000,000, then any interest accrued on funds deposited into escrow pursuant to Section 3.1.2 will be credited to CAWCD subject to Section 3.1.2.3.2 below.

3.1.2.3.2 If the total cost of the Effluent Recharge Project plus LIBERTY's attorney's fees and legal costs associated with seeking ACC approval pursuant to Section 6.1 below is greater than $6,000,000, then LIBERTY's attorney's fees and legal costs associated with seeking ACC approval pursuant to Section 6.1 shall be included as costs associated with the development, design, permitting and construction of the Effluent Recharge Project. In the event that the total costs of the Project (including LIBERTY's attorney's fees and legal costs noted above) is greater than $6,000,000, then any interest accrued on funds deposited into escrow pursuant to Section 3.1.2.1 will be applied to cover project costs (including LIBERTY's attorney's fees and legal costs noted above) in excess of $6,000,000. If, after the application of interest on escrowed funds, there are still excess project costs, then LIBERTY will pay the excess costs, or LIBERTY may request that CAWCD pay the excess costs, and in such event CAWCD shall pay such excess costs upon request by LIBERTY. If, after application of interest on escrowed funds, there is still remaining interest earned, then any such remaining interest shall be credited to CAWCD. If CAWCD pays excess costs pursuant to this section above the application of interest, then the Parties shall amend the Effluent Disposal Agreement in Article 4 below to increase the volume of the Effluent Entitlement at a rate of one additional acre-foot of Effluent to be disposed of by LIBERTY and delivered to CAWCD for every $2,547 of excess cost paid by CAWCD. Also, CAWCD's Storage Capacity Entitlement and Effluent Pipeline Capacity Reservation shall be increased to correspond with any adjustment to the Effluent Entitlement pursuant to this Section 3.1.2.3.2.

By way of example and for illustration purposes only, if the project costs of the Effluent Recharge Project total $5,980,000 and LIBERTY incurs $50,000 in attorney's fees and legal costs, then the total cost of the Project under this section is $6,030,000. If the $4,800,000 deposited in escrow earned $20,000 in interest, then that $20,000 in interest will be applied to pay the total project cost of $6,030,000. In this example, the remaining $10,000 of unpaid Project costs either would be paid by LIBERTY or, at LIBERTY's request, would be paid by CAWCD with an associated increase in Effluent Entitlement, CAWCD's Storage Capacity Entitlement and Effluent Pipeline Capacity Reservation of 3.93 acre-feet ($10,000/$2,547). Similarly, if the project costs total $5,980,000 and LIBERTY incurs $25,000 in attorney's fees and legal costs, then the total project costs would be $6,005,000 under this section. In that example, if the $4,800,000 deposited in escrow earned $20,000 in interest, then $5,000 of that interest would be used to reimburse LIBERTY for the added costs above $6,000,000 and CAWCD would be entitled to retain the remaining $15,000 in interest.

3.1.3 **CAWCD's Storage Capacity Entitlement.** In exchange for CAWCD's payment pursuant to Section 3.1.2 above and subject to the terms and conditions set forth in this Agreement, LIBERTY hereby grants CAWCD an annual entitlement to 2,400 acre-feet of the Effluent Recharge Project's storage capacity ("CAWCD's Storage Capacity Entitlement"), subject to any adjustments made pursuant to Section 3.1.2.3.2, and subject to any terms, conditions and limitations pursuant to Section 4.1.6 below. CAWCD's Storage Capacity

Entitlement shall be for a period of 100 years commencing on the date of issuance of the Notice of Substantial Completion. Except as provided in Section 3.1.2.3.2, the Parties understand and agree that CAWCD's Storage Capacity Entitlement of 2,400 acre-feet is not subject to increase under this Agreement.

3.1.4 **LIBERTY's Storage Capacity Entitlement.** LIBERTY's annual entitlement to the Effluent Recharge Project's storage capacity shall be the Effluent Recharge Project's total storage capacity minus the CAWCD Storage Capacity ("LIBERTY's Storage Capacity Entitlement").

3.1.5 **Ownership of the Effluent Recharge Project.** LIBERTY shall own and operate the Effluent Recharge Project, including any and all land on which the Project is located. The Parties understand and agree that the Project site shall include additional land for location of offices and/or other buildings that may be constructed by LIBERTY for use in operation of the Effluent Recharge Project or other business purposes.

3.1.6 **Execution of Effluent Recharge Project Operating Agreement.** Within sixty (60) days of ADWR's issuance of a final underground storage facility permit for the Effluent Recharge Project, the Parties shall execute the Effluent Recharge Project Operating Agreement, which shall be substantially in the form as Exhibit A, attached hereto. The Effluent Recharge Project Operating Agreement is subject to the terms and conditions set forth in this Agreement and to the extent any conflict exists between this Agreement and the Effluent Recharge Project Operating Agreement, the terms of this Agreement shall take precedence and control. Further, in the event that this Development Agreement is terminated for any reason, the Operating Agreement also will terminate and will no longer be in force or effect between the Parties.

3.1.7 **Ordinary O&M Costs.** Each Party will be responsible for annual costs for Ordinary O&M Costs at the Effluent Recharge Project based on each Party's proportionate share of storage capacity utilized during the year divided by the total Effluent delivered to the Effluent Recharge Project. By way of example only, if 3,000 acre-feet of Effluent is delivered to the Effluent Recharge Project in a given year, and CAWCD uses 2,400 acre-feet of storage capacity and LIBERTY uses 600 acre-feet of storage capacity, then CAWCD shall be responsible for 80% (2400/3000) of the Ordinary O&M Costs and LIBERTY shall be responsible for 20% (600/3000) of the Ordinary O&M Costs. At least six months before the first delivery of Effluent to the Effluent Recharge Project, LIBERTY and CAWCD will jointly develop an estimate of the total annual Ordinary O&M Costs and an estimate of CAWCD's share of annual Ordinary O&M Costs based on CAWCD's proportionate share of storage capacity to be utilized during the following year. The Parties anticipate that the estimated cost will initially be in the range of $20 per acre foot. On or before November 15th of the initial year of delivery of Effluent to the Effluent Recharge Project and each year thereafter, LIBERTY shall provide to CAWCD an estimate of the total annual Ordinary O&M Costs and an estimate of CAWCD's share of annual Ordinary O&M Costs based on CAWCD's proportionate share of storage capacity to be utilized during the following year. On or before the 15th of each month, LIBERTY will bill CAWCD one-twelfth (1/12) of the annual estimated Ordinary O&M Costs. CAWCD shall pay LIBERTY within thirty days of receipt of the bill. Differences between

actual Ordinary O&M Costs and estimated O&M Costs shall be determined by LIBERTY and shall be adjusted in the next succeeding annual estimate of Ordinary O&M Costs.

3.1.8 **Extraordinary O&M Costs.** LIBERTY and CAWCD shall share Extraordinary O&M Costs related to the Effluent Recharge Project based on each Party's annual entitlement to the Effluent Recharge Project's storage capacity. To the extent practicable, before LIBERTY incurs any Extraordinary O&M Costs, the Parties shall meet and confer regarding the need to incur such costs.

3.1.9 **Effluent Pipeline Capacity Reservation.** LIBERTY owns and operates the Effluent Pipeline that conveys or will convey Effluent produced at PVWRF to the Effluent Recharge Project for reuse and discharge. CAWCD seeks dedicated capacity in the Effluent Pipeline for transport of the Effluent Entitlement to the Effluent Recharge Facility. Subject to any adjustment made pursuant to Section 3.1.2.3.2 and subject to CAWCD's compliance with its obligations under this Agreement, LIBERTY hereby grants CAWCD an entitlement to use that capacity of the Effluent Pipeline sufficient to transport 2,400 acre-feet of Effluent to the Project during the course of a year. LIBERTY grants CAWCD this Effluent Pipeline Capacity Reservation for a period of 100 years commencing on the date of issuance of the Notice of Substantial Completion. CAWCD shall pay LIBERTY $1,313,100 for the Effluent Pipeline Capacity Reservation. The amount due under this Section 3.1.9 shall be due and payable by CAWCD to LIBERTY when the total amount of Escrow Funds withdrawn from the Escrow Account equals or exceeds $4,000,000. Upon such payment, LIBERTY shall reserve to CAWCD the necessary capacity in the Effluent Pipeline sufficient to transport 2,400 acre-feet of Effluent per annum to the Effluent Recharge Project.

3.1.10 **Effluent Delivery Charge.** CAWCD shall pay LIBERTY a per acre-foot delivery charge for transportation, delivery and disposal of CAWCD's Effluent Entitlement through the Effluent Pipeline to the Effluent Recharge Project. Such charge will be based on LIBERTY's actual cost for delivery and disposal, including pumping energy and pipeline operation and maintenance costs for Ordinary O&M. The per acre-foot delivery charge is estimated to be $27.16 per acre foot of Effluent delivered to the Effluent Recharge Project based on an actual historical (prior year) cost for power of $19.16 per acre-foot and an agreed upon pipeline maintenance fee of $8.00 per acre-foot. LIBERTY shall bill CAWCD on a monthly basis for such charges subject to reconciliation for actual power costs at the end of the year. The pipeline maintenance fee was agreed by the Parties to be $8.00 per acre-foot for 2011 with adjustments for CPI-U in future years. Using 2013 as the base year, the billed pipeline maintenance fee for future years will be based on the CPI-U index as of December 31 of the previous year using December 31, 2013 as the base year with an annual true-up to be completed using the actual CPI-U at December 31 of the current year completed as the measuring factor. CAWCD shall be responsible for its pro-rata share of Extraordinary O&M Costs of the Effluent Pipeline. CAWCD's pro-rata share of Extraordinary O&M Costs of the Effluent Pipeline shall be determined by dividing CAWCD's entitlement to use the Effluent Pipeline Capacity by the total Effluent Pipeline Capacity.

3.1.11 **Maintenance of Insurance for Effluent Recharge Project and Physical Damage.**

3.1.11.1 **Maintenance of Insurance for Effluent Recharge Project.** While this Agreement shall remain in effect, LIBERTY shall obtain and cause to be maintained, with financially sound and reputable insurers, property and liability insurance, or its equivalent, with respect to the Effluent Recharge Project (including all improvements now existing or hereafter erected as a part thereof), or any substitute or replacement facility, against all losses, hazards, casualties, liabilities and contingencies as customarily carried or maintained by public services corporations of established reputation engaged in a similar business. The cost of such insurance is an operating cost of the Effluent Recharge Project and shall be included as a part of Ordinary O&M Costs as defined in Section 1.23.

3.1.11.2 **Physical Damage**. In the event of any physical damage to the Effluent Recharge Project or physical loss of the Effluent Recharge Project (collectively, "Physical Damage") that will or is reasonably likely to prevent delivery of CAWCD's Effluent Entitlement, LIBERTY shall give immediate written notice of the same to its insurance carrier and to CAWCD. Subject to the terms and conditions in this paragraph, LIBERTY shall pursue an insurance claim relating to such Physical Damage and LIBERTY shall promptly commence and diligently prosecute to completion the repair and restoration of the Effluent Recharge Project as nearly as possible to the condition of the Effluent Recharge Project immediately prior to the Physical Damage (a "Restoration"). LIBERTY agrees to dedicate all insurance proceeds associated with any Physical Damage to the Restoration of the Effluent Recharge Project. If the insurance proceeds are insufficient to cover 100% of the costs of Restoration, then LIBERTY and CAWCD shall pay those costs of Restoration not covered by the insurance proceeds in proportion to each Party's annual entitlement to the Effluent Recharge Project's storage capacity. At its discretion, LIBERTY may construct a substitute facility at a new location; provided, however, that in such event LIBERTY shall satisfy CAWCD's Effluent Entitlement from such substitute facility on the same terms and conditions as set forth in this Agreement. LIBERTY currently maintains replacement cost property insurance. LIBERTY shall notify CAWCD in writing, if at any time during the term of this Agreement, it will no longer maintain replacement cost property insurance. In such case, CAWCD and LIBERTY shall negotiate in good faith an amendment to this Section 3.1.11.2 addressing how the Parties shall address the risk of Physical Damage and share the costs of any Restoration. If Physical Damage occurs during the term of this Agreement at a point in time where the Parties mutually determine that it would be economically infeasible to rebuild or restore the Effluent Recharge Project, the Parties agree to negotiate in good faith on an alternative resolution.

3.1.12 **Condemnation**. LIBERTY shall promptly notify CAWCD in writing of the actual or threatened commencement of any proceeding to acquire the Effluent Recharge Project or any substitute or replacement facility through condemnation or eminent domain (collectively, "Condemnation"), and shall deliver to CAWCD copies of any and all papers served in connection with such proceedings. If the Effluent Recharge Project or any portion thereof (including any substitute or replacement facility) is taken through Condemnation, LIBERTY agrees to dedicate all proceeds of the Condemnation relating to the Effluent Recharge Project towards the construction of a substitute facility under this Agreement. If the Condemnation proceeds are insufficient to cover 100% of the costs of constructing a substitute facility, then LIBERTY and CAWCD, in their discretion, may pay those costs not covered by the Condemnation proceeds in proportion to each Party's annual entitlement to the Effluent Recharge

Project's storage capacity. In the event that Liberty opts to pay additional capital costs for a replacement facility, then the Parties agree to negotiate a revised Effluent Delivery Charge under Section 3.1.10 to account for such additional capital costs. If either CAWCD or LPSCO opts not to pay for such additional costs of a substitute facility, then the other party may opt to pay the entire amount of such additional costs. If the Parties decide not to build a substitute facility, then the Condemnation proceeds relating to the Effluent Recharge Project shall be used to reimburse CAWCD for its initial investment of $6,113,100 as adjusted for inflation and as pro-rated based on the use of the Effluent Recharge Project as measured by the total amount of CAWCD's Effluent Entitlement delivered to the Project as of the sale date divided by 240,000 acre-feet of Effluent. Any Condemnation proceeds remaining after repayment of CAWCD's pro-rated investment shall be distributed equally to LIBERTY and CAWCD. CAWCD shall be entitled to the Condemnation proceeds subject to the condition that such payment must be rate-base neutral for LIBERTY and eliminate any Contributions in Aid of Construction on LIBERTY's utility accounts associated with the Effluent Recharge Project for utility ratemaking purposes. As used in this Agreement, the term "Condemnation" shall mean any taking, whether full, partial, permanent or temporary, under the power of eminent domain or any similar power, and any transfer in lieu or in settlement of the assertion of any such right or the threat of such assertion. In the event that a condemning authority condemns all of the assets of LIBERTY, then LIBERTY shall use commercially reasonable efforts to require the condemning authority to assume the obligations of LIBERTY under this Agreement.

ARTICLE 4

EFFLUENT DISPOSAL AGREEMENT

4.1 LIBERTY shall sell/dispose of and deliver to the Effluent Recharge Project the Effluent Entitlement, subject to the terms of this Agreement. This Effluent Disposal Agreement is subject to the following terms and conditions.

4.1.1 <u>CAWCD Effluent Entitlement; Right of First Refusal.</u>

4.1.1.1 Subject to CAWCD's obligations under this Agreement, LIBERTY hereby grants CAWCD an annual entitlement to 2,400 acre-feet of Effluent for a term of 100 years, commencing on the date of issuance of the Notice of Substantial Completion of the Effluent Recharge Project, subject to any adjustments pursuant to Sections 3.1.2.3.2 and 4.1.7 and subject to Section 4.1.6. Subject to the terms and conditions of this Agreement, throughout this 100-year term, LIBERTY shall deliver the Effluent Entitlement each year to the Delivery Point.

4.1.1.2 LIBERTY agrees to grant CAWCD a right of first refusal to acquire any available Effluent in excess of the Effluent Entitlement proposed to be sold to a water customer outside of LIBERTY's CC&N for use or reuse on the same terms offered or agreed to by such water customer. LIBERTY further agrees that it will not actively market Effluent from PVWRF for sale outside of its CC&N, nor will it sell Effluent from PVWRF to a water user outside of LIBERTY's CC&N for underground storage purposes.

4.1.2 **Metering Device.** LIBERTY shall install a metering device ("Metering Device") to measure the quantity of Effluent delivered to the Delivery Point. The Metering Device shall be the basis for determining whether LIBERTY has met its obligation to deliver the Effluent Entitlement in any year during the term of this Agreement. The Metering Device shall be of a design and type mutually acceptable to LIBERTY and CAWCD. LIBERTY shall calibrate the metering device no less frequently than once every year. Any and all costs for the Metering Device shall be included as part of Development Costs in Section 3.1.2.3 above.

4.1.3 **CAWCD Payment Obligations.** In consideration of the disposal and delivery of the Effluent Entitlement from LIBERTY to the Effluent Recharge Project, CAWCD's Storage Capacity Entitlement and the Effluent Pipeline Capacity Reservation, CAWCD shall make the following payments:

4.1.3.1 The $4,800,000 to be paid by CAWCD under Section 3.1.2 above;

4.1.3.2 The cost associated with the Effluent Pipeline Capacity Reservation as provided in Section 3.1.9 above;

4.1.3.3 The per acre-foot delivery charges as provided in Section 3.1.10 above; and

4.1.3.4 The Ordinary O&M Costs and Extraordinary O&M Costs as provided in Sections 3.1.7 and 3.1.8 above.

4.1.4 **Replacement or Expansion of PVWRF.** LIBERTY shall operate, maintain, repair and replace PVWRF in compliance with all applicable regulatory requirements. In the event that PVWRF is replaced with another wastewater treatment facility ("Replacement Facility") or LIBERTY expands PVWRF so that it has additional capacity, then the provisions of the Effluent Disposal Agreement set forth herein shall be deemed to include the Effluent produced from either the Replacement Facility or the expanded PVWRF. LIBERTY shall install, operate, and maintain any Replacement Facility constructed at any location other than the PVWRF in such manner that the installation, operation, and maintenance of such new plant will not impair the ability of LIBERTY to sell and deliver 2,400 acre-feet of Effluent annually to the Effluent Recharge Project, regardless of whether the Effluent is produced at PVWRF or the Replacement Facility, subject to any and all regulatory obligations and/or requirements of LIBERTY.

4.1.5 **Permits and Authorizations.** LIBERTY shall be solely responsible for securing and maintaining in force and effect any and all permits and authorizations required by law for the operation of the Effluent Recharge Project and the delivery of Effluent to CAWCD at the Delivery Point.

4.1.6 **Priority.** During the term of this Agreement, as defined in Section 4.1.1.1, and as set forth in this Section 4.1.6, CAWCD's right to the Effluent Entitlement pursuant to the Effluent Disposal Agreement shall have priority over all other sales of Effluent by LIBERTY, except for the obligation(s) of LIBERTY to provide Effluent (i) to any current customer of LIBERTY which is receiving Effluent as of the Effective Date of this Agreement; or

(ii) to any entity which has a contract with LIBERTY to purchase Effluent as of the Effective Date of this Agreement. Except as provided in the preceding sentence, LIBERTY will not (a) commence or agree to commence delivery of Effluent to any current or future customer of LIBERTY; or (b) enter into any contract to deliver Effluent to any entity if such delivery of Effluent will impair, or is reasonably likely to impair, LIBERTY's ability to deliver the full Effluent Entitlement to CAWCD hereunder; provided, however, that LIBERTY may deliver Effluent to any current customer not receiving Effluent as of the Effective Date of this Agreement or future customer if the ACC issues a final order requiring LIBERTY to deliver Effluent to such customer. Provided, further, that delivery of Effluent pursuant to such a final order of the ACC shall not be deemed a breach of this Agreement. LIBERTY agrees that it will not initiate any proceeding at the ACC requesting an order from the ACC requiring LIBERTY to deliver Effluent to any current or future customer, including any entity seeking to contract with LIBERTY to acquire Effluent. In the event that any proceeding or action is undertaken to request or require that LIBERTY deliver Effluent to any current or future customer, which would impair LIBERTY's ability to deliver the full Effluent Entitlement to CAWCD, LIBERTY agrees that it will take reasonable efforts to defend CAWCD's right to the Effluent Entitlement under this Agreement. In that event, CAWCD also shall intervene in such proceeding and defend the Effluent Entitlement.

4.1.7 **Failure to Deliver Full Effluent Entitlement.**

4.1.7.1 **Make Up of Shortfall; Transfer of Long-Term Storage Credits.** If, in any year during the term of the Effluent Disposal Agreement, LIBERTY fails to deliver the full Effluent Entitlement, then LIBERTY shall make up the shortfall in the following year by delivering the full Effluent Entitlement for that year plus an amount equal to 103% of the shortfall from the previous year. For each acre-foot of Effluent delivered under a shortfall pursuant to this Section 4.1.7.1, CAWCD shall pay LIBERTY the same rate that it would have paid LIBERTY for storage at the Effluent Recharge Project in the year of the shortfall, as defined in Sections 3.1.7 and 3.1.10. If LIBERTY is unable to deliver some or all of the additional Effluent to fully offset the shortfall volume in the year following the shortfall year, then LIBERTY shall transfer Long-Term Storage Credits from LIBERTY's Long-Term Storage Account, or LIBERTY may acquire Long-Term Storage Credits to transfer to CAWCD in an amount equal to 103% of the shortfall. If LIBERTY is unable to deliver some or all of the additional Effluent and/or does not transfer Long-Term Storage Credits to fully offset the shortfall, then the shortfall will be addressed pursuant to Section 4.1.7.2. For each acre-foot of Long-Term Storage Credits transferred pursuant to this Section 4.1.7.1, CAWCD shall pay LIBERTY the same rate that it would have paid LIBERTY for storage at the Effluent Recharge Project in the year of the shortfall, as defined in Sections 3.1.7 and 3.1.10.

4.1.7.2 **Five-Year Shortfall Review.** Within 90 days of the fifth anniversary of the date of the Notice of Substantial Completion, and every five years thereafter, the Parties shall meet and review (i) the volume of the Effluent Entitlement delivered during the preceding five years; (ii) the volume of any shortfall in the delivery of the Effluent Entitlement during the previous five years; (iii) the cause of any shortfall in the delivery of the Effluent Entitlement; and (iv) the volume of any Long Term Storage Credits transferred to cover any shortfall. As part of this five year review process, the Parties also shall determine whether and to what extent CAWCD may be entitled to a refund or offset for its capital investment based on

delivery of Effluent and/or transfer of Long-Term Storage Credits pursuant to Section 4.1.7.1 above during each five year period. Under this Agreement, CAWCD is entitled to 12,000 acre-feet of Effluent and/or Long-Term Storage Credits pursuant to Section 4.1.7.1, during each five year period of this Agreement. Within 90 days of the fifth anniversary of the Notice of Substantial Completion, and every five years thereafter, the Parties shall meet and determine the total amount of Effluent and Long-Term Storage Credits delivered during the prior five years. If there is a shortfall in the amount of Effluent and/or Long-Term Storage Credits delivered during that five year period (*i.e.*, if LIBERTY has delivered less than 12,000 acre-feet of Effluent and/or Long-Term Storage Credits to CAWCD), then the Parties shall determine whether LIBERTY can reasonably be expected to make up that shortfall during the next five year period. If the Parties determine that LIBERTY cannot reasonably make up that shortfall during the next five year period, then CAWCD shall be entitled to a refund for the shortfall based on the following formula: (acre-feet of shortfall)/240,000 x $6,113,100 (as adjusted for depreciation of the Effluent Pipeline) equals refund amount. The refund amount shall be adjusted for inflation using the CPI-U index. For illustration purposes only, if during the years 2020-2025, LIBERTY delivers 10,000 acre-feet of Effluent and no Long-Term Storage Credits, resulting in a 2,000 acre-foot shortfall, the Parties shall assess a potential refund as part of the five year review in 2026. If the Parties determine that LIBERTY cannot reasonably be expected to make up that 2,000 acre-foot shortfall during the 2026-2030 period, then CAWCD shall be entitled to a refund for the period of 2020-2025 calculated as follows: 2,000/240,000 = .0083; .0083 x $6,113,100 (as adjusted for depreciation of the Effluent Pipeline) = $50,739 (adjusted for inflation using the CPI-U index). Depreciation shall be calculated based on the CAWCD investment price for the Effluent Pipeline Capacity Reservation of $1,313,100 The Parties understand and agree that any such refund shall be offset against CAWCD's future payment obligations during the next succeeding five-year period under this Agreement; provided, however, that if CAWCD's future payment obligations during the next succeeding five-year period are projected to be insufficient to cover the amount of the refund due, then LIBERTY shall pay CAWCD the amount of the refund that cannot be offset with such future payment obligations.

4.1.8 **Maintenance of Insurance for PVWRF and Physical Damage.**

4.1.8.1 **Maintenance of Insurance for PVWRF.** While this Agreement shall remain in effect, LIBERTY shall obtain and cause to be maintained, with financially sound and reputable insurers, property and liability insurance, or its equivalent, with respect to the PVWRF (including all improvements now existing or hereafter erected as a part thereof), or any substitute or replacement facility, against all losses, hazards, casualties, liabilities and contingencies as customarily carried or maintained by public services corporations of established reputation engaged in a similar business.

4.1.8.2. **PVWRF Physical Damage.** In the event of any physical damage to the PVWRF or physical loss of the PVWRF ("PVWRF Physical Damage") that will or is reasonably likely to prevent delivery of CAWCD's Effluent Entitlement, LIBERTY shall give immediate written notice of the same to its insurance carrier and to CAWCD. In the event of PVWRF Physical Damage, at its discretion LIBERTY may, but shall not be required to: (i) restore or reconstruct the PVWRF as nearly as possible to the condition of the PVWRF immediately prior to the Physical Damage; or (ii) construct a substitute facility at a new location in such a manner as to permit LIBERTY to satisfy CAWCD's Effluent Entitlement from such

substitute facility on the same terms and conditions as set forth in this Agreement. If LIBERTY elects to neither restore the PVWRF nor construct a substitute facility, then LIBERTY shall use commercially reasonable efforts to deliver Effluent from another facility owned by LIBERTY, if any, to satisfy CAWCD's Effluent Entitlement. If LIBERTY is unable to satisfy CAWCD's Effluent Entitlement on the same terms and conditions as set forth in the Agreement after PVWRF Physical Damage, the Parties agree to sell the Effluent Recharge Project, and CAWCD shall be entitled to a portion of the proceeds from the sale of the Effluent Recharge Project, subject to regulatory requirements, approvals, decisions and/or orders, including any regulatory decisions issued by the ACC. Subject to any such regulatory decisions, CAWCD shall be entitled to a portion of the proceeds of the sale of the Effluent Recharge Project subject to the condition that such payment must be rate-base neutral for LIBERTY and eliminate any Contributions in Aid of Construction on LIBERTY's utility accounts associated with the Project for utility ratemaking purposes. In the event of such sale, this Agreement shall be terminated. The sale proceeds shall be distributed as follows. First, the sale proceeds shall be used to reimburse CAWCD for its initial investment of $6,113,100 as adjusted for inflation and as pro-rated based on the use of the Effluent Recharge Project as measured by the total amount of CAWCD's Effluent Entitlement delivered to the Project as of the sale date divided by 240,000 acre-feet of Effluent. Second, any sale proceeds remaining after repayment of CAWCD's pro-rated investment shall be distributed equally to LIBERTY and CAWCD.

4.1.9 **Condemnation**. LIBERTY shall promptly notify CAWCD in writing of the actual or threatened commencement of any proceeding to acquire the PVWRF or any substitute or replacement facility through condemnation or eminent domain, and shall deliver to CAWCD copies of any and all papers served in connection with such proceedings. If condemnation of the PVWRF or replacement facility prevents LIBERTY from satisfying its obligations under this Agreement, the Parties agree to sell the Effluent Recharge Project, and CAWCD shall be entitled to a portion of the proceeds from the sale of the Effluent Recharge Project, subject to regulatory requirements, approvals, decisions and/or orders, including any regulatory decisions issued by the ACC. Subject to any such regulatory decisions, CAWCD shall be entitled to a portion of the proceeds of the sale of the Effluent Recharge Project subject to the condition that such payment must be rate-base neutral for LIBERTY and eliminate any Contributions in Aid of Construction on LIBERTY's utility accounts associated with the Project for utility ratemaking purposes. In the event of such sale, this Agreement shall be terminated. The sale proceeds shall be distributed as follows. First, the sale proceeds shall be used to reimburse CAWCD for its initial investment of $6,113,100 as adjusted for inflation and as pro-rated based on the use of the Effluent Recharge Project as measured by the total amount of CAWCD's Effluent Entitlement delivered to the Project as of the sale date divided by 240,000 acre-feet of Effluent. Second, any sale proceeds remaining after repayment of CAWCD's pro-rated investment shall be distributed equally to LIBERTY and CAWCD. In the event that a condemning authority condemns all of the assets of LIBERTY, then LIBERTY shall use commercially reasonable efforts to require the condemning authority to assume the obligations of LIBERTY under this Agreement.

ARTICLE 5

AGREEMENT FOR PURCHASE OF LONG-TERM STORAGE CREDITS

5.1 Under this Agreement, LIBERTY and CAWCD hereby agree to the following terms and conditions for an Agreement For Purchase of Long-Term Storage Credits:

5.1.1 **Intent of the Parties.** CAWCD desires to purchase Long-Term Storage Credits developed by LIBERTY pursuant to A.R.S., Title 46, Chapter 3.1, for the benefit of member lands and member service areas. LIBERTY has authority and is willing to sell and transfer certain Long-Term Storage Credits in the amounts and for the prices specified below.

5.1.2 **Generation and Sale of Long-Term Storage Credits.** Upon construction and operation of the Effluent Recharge Project, LIBERTY agrees to deliver and dispose of treated wastewater discharged from PVWRF that is not reused by LIBERTY customers within or outside its CC&N service area, or delivered to CAWCD pursuant to this Agreement, to the Effluent Recharge Project. LIBERTY agrees to store such treated wastewater using LIBERTY's Storage Capacity Entitlement to generate Long-Term Storage Credits as authorized by applicable law. LIBERTY covenants that all of the Long-Term Storage Credits to be sold pursuant to this Agreement will be accrued through storage of Effluent at the Effluent Recharge Project, unless otherwise agreed by the Parties. It is the intent of the Parties that all Long-Term Storage Credits purchased and sold under this Agreement shall retain the identity of the source of water used to generate such Long-Term Storage Credits.

5.1.2.1 The Long-Term Storage Credits to be sold by LIBERTY under this Agreement will be from LIBERTY's Long-Term Storage Account. The Long-Term Storage Credits to be sold by LIBERTY will be stored at the Effluent Recharge Project pursuant to an ADWR Facility Permit to be obtained by LIBERTY for the Effluent Recharge Project, such facility being located in the Phoenix Active Management Area.

5.1.2.2 The Long-Term Storage Credits to be sold by LIBERTY will be stored pursuant to ADWR Water Storage Permit No. 73-572386.0200.

5.1.2.3 The source of water used to generate the Long-Term Storage Credits to be sold by LIBERTY will be Effluent.

5.1.3 **Purchase of Long-Term Storage Credits.** LIBERTY agrees to sell to CAWCD and CAWCD agrees to purchase from LIBERTY all Long-Term Storage Credits accrued by LIBERTY at the Effluent Recharge Project that are not required for LIBERTY's own water supply purposes by the ACC or any other state, federal or local entity with jurisdiction over LIBERTY. In the event that LIBERTY is prohibited by law from accruing Long-Term Storage Credits using Effluent as a source supply, then LIBERTY shall sell Effluent to CAWCD and CAWCD shall buy Effluent from LIBERTY at the price derived from the formula set forth in Section 5.1.5 below. LIBERTY shall be responsible for storing the Effluent at no additional charge and the Effluent price will be based on the water credits earned. LIBERTY warrants that it will have good and marketable title to the Long-Term Storage Credits that are the subject of this Agreement and agrees to convey marketable title to such Long-Term Storage Credits free and clear of all liens and encumbrances. LIBERTY shall warrant and defend title against all persons whomsoever.

5.1.4 **Term.** The term of this Agreement for Purchase of Long-term Storage Credits will be 100 years, commencing on the date of the issuance of the Notice of Substantial Completion.

5.1.5 **Purchase Price.** The purchase price for Long-Term Storage Credits in excess of CAWCD's Effluent Entitlement shall be based on the standard formula that LIBERTY and CAWCD previously used for Effluent credit purchases. The per acre-foot price for Long-Term Storage Credits in 2013 is $138.00. For example, the credit purchase price using 2013 CAWCD water rates is calculated as follows: (CAP M&I Recharge Delivery Rate + Recharge O&M) / 0.99 x 0.9 = ($144 + 8) / 0.99 x 0.9 = $138/acre-foot.

5.1.6 **Price Adjustment.** The purchase price of Long-Term Storage Credits after 2013 will be escalated annually by the CPI-U index, which is currently estimated to be approximately 3% annually. Any Long-Term Storage Credits stored or purchased by CAWCD from LIBERTY pursuant to this Agreement shall be used to meet replenishment obligations including establishment and maintenance of the replenishment reserve. Every five years, either party may request that the Long-Term Storage Credit purchase price identified under this section be adjusted. The rate adjustment would be negotiated and could take into consideration the sale price of Long-Term Storage Credits in the Phoenix Active Management Area during the previous 18 months or by an alternative method that is mutually agreeable to the Parties.

5.1.7 **Long-Term Storage Credit Transfer Form.** For each year of this Agreement during which CAWCD purchases Long-Term Storage Credits from LIBERTY, LIBERTY and CAWCD shall complete, sign and deliver the Long-Term Storage Credit Transfer Form as prescribed below to evidence the transfer of Long-Term Storage Credits pursuant to this Agreement. A copy of the Long-Term Storage Credit Transfer Form is attached as Exhibit B to this Agreement. The Parties understand that the necessary form may change from time to time during the term of this Agreement, and the Parties agree to execute the necessary transfer forms as appropriate during the term of this Agreement. The Parties shall cooperate to take such further actions and execute such further documents as may be determined by either party to be necessary or advisable in order to complete the transfer of the Long-Term Storage Credits contemplated by this Agreement. Commencing on the one-year anniversary after the Effluent Recharge Project begins operations (the "Transfer Date"), CAWCD and LIBERTY shall complete, sign and deliver the Long-Term Storage Credit Transfer Form to evidence the transfer of Long-Term Storage Credits during that initial year of the Agreement. After LIBERTY has executed and delivered the Long-Term Storage Credit Transfer Form to CAWCD, CAWCD shall promptly deliver the fully executed Long-Term Storage Credit Transfer Form to ADWR. To evidence the transfer of Long-Term Storage Credits for each successive year of this Agreement, CAWCD and LIBERTY shall complete, sign and deliver the necessary Long-Term Storage Credit Transfer Form no later than the Transfer Date on each successive year of this Agreement.

5.1.8 **Completion of Delivery.** Delivery(ies) of the Long-Term Storage Credits to be transferred pursuant to this Agreement shall be deemed complete when ADWR notifies LIBERTY or CAWCD in writing that it has received and accepted the Long-Term Storage Credit Transfer Form(s) or as otherwise reflected in ADWR's records ("ADWR Acceptance"). CAWCD and LIBERTY shall cooperate with ADWR to facilitate completion of such transfer by ADWR.

5.1.9 **Timing of Payment.** For each year of this Agreement, CAWCD shall pay the amounts specified in Section 5.1.5 above no later than twenty (20) business days after ADWR Acceptance of credits transferred pursuant to this Agreement. In the event that ADWR Acceptance has not occurred within sixty (60) days after submission of the Long-Term Storage Credit Transfer Form(s), either CAWCD or LIBERTY may void the transfer transaction for that year. In that event, the Parties understand and agree that neither Party will be in violation or breach of this Agreement. In the event that the Long-Term Storage Credits are transferred out of LIBERTY's account by ADWR, but CAWCD is unable to obtain approval, for any reason, of a transfer of the credits into CAGRD's Account(s), CAWCD shall cooperate with and assist LIBERTY in efforts to obtain approval of a transfer of the Long-Term Storage Credits back into LIBERTY's Long-Term Storage Account.

5.1.10 **Rejection or Invalidation of Transfer.** If ADWR, pursuant to A.R.S. § 45-854.01(C), rejects or invalidates any transfer or assignment of Long-Term Storage Credits made hereunder before CAWCD has paid for such Long-Term Storage Credits, CAWCD shall not be obligated to pay for the number of Long-Term Storage Credits affected by such rejection or invalidation. If such rejection or invalidation occurs after payment has been made by CAWCD, LIBERTY shall refund an amount equal to the number of Long-Term Storage Credits affected by such rejection or invalidation times the price per acre-foot for the affected Long-Term Storage Credits, as such prices are established above. Before such refund is payable, CAWCD shall exhaust all administrative remedies to achieve transfer or assignment of the Long Term Storage Credits unless the Parties mutually agree otherwise. CAWCD shall pursue such administrative remedies for transfer or assignment of Long Term Storage Credits as a condition prerequisite to seeking any refunds under Section 4.1.7.2 above to the extent such Long Term Storage Credits impact any shortfall in the delivery of the Effluent Entitlement. Upon exhaustion of such administrative remedies, LIBERTY shall refund such amount within twenty (20) business days after either CAWCD or LIBERTY receives any notice of rejection or invalidation from ADWR. CAWCD shall transfer and assign back to LIBERTY the number of credits affected by any such rejection or invalidation. LIBERTY's obligation to refund any payments under this section shall expire thirty (30) days after ADWR has issued a non-appealable final agency decision approving the transfer and assignment of the Long-Term Storage Credits into CAGRD's Account(s).

ARTICLE 6

MISCELLANEOUS

6.1 **ACC Approval.** LIBERTY and CAWCD seek assurances from the ACC that LIBERTY has the right and authority to commit the Effluent Entitlement to CAWCD for 100 years as provided in this Agreement. In addition, CAWCD and LIBERTY seek assurances from the ACC that the mechanisms for establishing rates and rate adjustments for the Effluent Entitlement and purchase of Long-Term Storage Credits which will remain in effect during the 100-year term of this Agreement are in accordance with the ACC's rules, policies and decisions and the tariffs of LIBERTY. As a result, CAWCD seeks ACC approval of the Effluent Entitlement and ACC approval of the agreed upon rates and rate-adjustment mechanisms for

delivery and disposal of Effluent to the Effluent Recharge Project and purchase of Long-Term Storage Credits set forth in this Agreement between LIBERTY and CAWCD.

6.1.1 Upon execution of this Agreement, LIBERTY shall prepare (in consultation with CAWCD) and file an application with the ACC seeking approval of the Effluent Entitlement and the agreed upon rates and rate adjustment mechanisms for delivery and disposal of Effluent to the Effluent Recharge Project and purchase of Long-Term Storage Credits as set forth herein. In seeking ACC approval, the Parties will notify the ACC that upon CAWCD's payment of the amounts set forth above, any additional costs incurred by LIBERTY to deliver the Effluent Entitlement to the Effluent Recharge Project during the term of the Effluent Delivery Agreement shall be a utility expense subject to inclusion in future rate base or expenses in the event that the ACC issues a future decision modifying or changing the terms of the Effluent Delivery Agreement and resulting in LIBERTY incurring such additional costs to provide the Effluent Entitlement to CAWCD. In seeking ACC approval, the Parties pledge to support and defend any agreements submitted to the ACC for approval, including, but not limited to, appearing at hearings, providing testimony, and attending Open Meetings of the ACC. If the ACC fails to enter a final order that is satisfactory to both Parties, in their reasonable discretion, then either Party may cancel this Agreement by providing written notice of cancellation ("Notice of Cancellation") to the other Party within 30 days after the date of a final order of the ACC, and this Agreement (including the Effluent Disposal Agreement and the Agreement for Purchase of Long-Term Storage Credits) shall thereafter be of no further force or effect. In that event, any Escrow Funds shall be used to pay for any unpaid land acquisition, development, design and/or construction costs incurred and payable by LIBERTY as of the date of the Notice of Cancellation, and any remaining Escrow Funds shall be refunded to CAWCD within 30 days of the date of the Notice of Cancellation subject to a determination by the Parties that there are no outstanding land, development, design and/or construction costs due by LIBERTY. If either party elects to cancel this Agreement under this section and LIBERTY has purchased or contracted to purchase property for the Effluent Recharge Project as of the date of the Notice of Cancellation, then within 15 days of cancellation of this Agreement, LIBERTY shall transfer title to such property to CAWCD in the same condition of the property when it was purchased or contracted by LIBERTY.

6.1.2 In the event that the ACC does not issue a decision approving the Effluent Entitlement and the agreed upon rates for delivery and disposal of Effluent to the Effluent Recharge Project and purchase of Long-Term Storage Credits set forth in this Agreement between LIBERTY and CAWCD that is satisfactory to both Parties, in their reasonable discretion, then in lieu of cancelling the agreements pursuant to Section 6.1.1, the Parties may meet and confer to determine whether additional terms could be included in this Agreement to ensure that the benefits of the Effluent Entitlement and the Effluent Recharge Project for each of the Parties are achieved.

6.2 **Additional Documentation**. Each Party agrees to execute and record any additional documentation that the other may reasonably require to effectuate the intents and purposes of this Agreement.

6.3 **Effective Date**. This Agreement shall be effective upon the date first set forth above.

6.4 **Amendments**. This Agreement may be modified, amended or revoked only by the express written agreement of the Parties hereto.

6.5 **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, without regard to its conflicts of laws provisions. Any action to resolve any dispute regarding this Agreement shall be taken in a state court of competent jurisdiction located in Maricopa County, Arizona. The Parties agree to waive all rights to a jury trial.

6.6 **Waiver**. No delay in exercising any right or remedy shall constitute a waiver unless such right or remedy is waived in writing signed by the waiving Party. The waiver by either Party of a breach of any term, covenant, or condition in this Agreement shall not be deemed a waiver of any other term, covenant, or condition of this Agreement.

6.7 **Representations and Covenants.** CAWCD represents and covenants: (i) that it is fully authorized to enter into this Agreement under Title 48 of the Arizona statutes, and (ii) that CAWCD is statutorily authorized to enter a 100-year contract for purchase of Effluent and Long-Term Storage Credits under A.R.S. § 48-3772.

6.8 **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. To the extent any provision of this Agreement is found to be invalid or unenforceable in the future, the Parties agree to negotiate in good faith an alternative and/or replacement provision in accordance with the original intent of the Parties under this Agreement.

6.9 **Future Regulations Prohibiting Recharge of Effluent.** Except as provided in Section 5.1.3 and so long as LIBERTY'S performance under Section 5.1.3 is allowed by law, if new laws or regulations are enacted that prohibit the underground storage of Effluent, or otherwise prevent LIBERTY from satisfying its obligations under this Agreement, the Parties agree to sell the Effluent Recharge Project (not including land containing any additional buildings that may be constructed by LIBERTY for other business purposes under Section 3.1.5 above, unless otherwise agreed by Liberty), and CAWCD shall be entitled to a portion of the proceeds from the sale of the Effluent Recharge Project, subject to regulatory requirements, approvals, decisions and/or orders, including any regulatory decisions issued by the ACC. Subject to any such regulatory decisions, CAWCD shall be entitled to a portion of the proceeds of the sale of the Effluent Recharge Project subject to the condition that such payment must be rate-base neutral for LIBERTY and eliminate any Contributions in Aid of Construction on LIBERTY's utility accounts associated with the Effluent Recharge Project for utility ratemaking purposes. In the event of such sale, this Agreement shall be terminated. The sale proceeds shall be distributed as follows. First, the sale proceeds shall be used to reimburse CAWCD for its initial investment of $6,113,100 as adjusted for inflation and as pro-rated based on the use of the Effluent Recharge Project as measured by the total amount of CAWCD's Effluent Entitlement delivered to the Project as of the sale date divided by 240,000 acre-feet of Effluent. Second, any sale proceeds remaining after repayment of CAWCD's pro-rated investment shall be distributed equally to LIBERTY and CAWCD.

6.10 **Uncontrollable Forces.** No Party shall be considered in default in the performance of any of its obligations under this Agreement (other than obligations of said Party to pay costs and expenses) when a failure of performance is due to Uncontrollable Forces. Under this Agreement, Uncontrollable Forces shall mean any cause beyond the control of the Party affected, including but not limited to, the failure 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 Agreement, 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 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 Agreement by reason of an Uncontrollable Force shall give prompt written notice of such fact to the other Party.

6.11 **Time of the Essence.** Time is of the essence in the performance of this Agreement.

6.12 **Entire Agreement.** This Agreement, together with the Effluent Recharge Project Operating Agreement, constitute the entire agreement between the Parties and no understandings or obligations not expressly set forth in this Agreement are binding upon the Parties.

6.13 **Rules, Regulations and Amendment or Successor Statutes.** All references in this Agreement to the Arizona Revised Statutes include all rules and regulations promulgated by ADWR and/or the ACC under such statutes and all amendment statutes and successor statutes, rules, and regulations to such statutes, rules, and regulations.

6.14 **Notices.**

6.14.1 Notice, demand or request provided for in this Agreement 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:

CAWCD:

For delivery use: c/o General Manager
23636 N. 7th Street
Phoenix, AZ 85024

For U.S. Mail use: c/o General Manager
P.O Box 43020
Phoenix, AZ 85080-3020

LIBERTY:

For delivery and
For U.S. Mail use: c/o General Manager/President
Liberty Utilities

12725 W. Indian School Road, Suite D101
Avondale, AZ 85392

6.14.2 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.

IN WITNESS WHEREOF, the Parties to this Agreement have executed this Agreement as of the date first set forth above.

CENTRAL ARIZONA WATER CONSERVATION DISTRICT

By: Pamela Rickard
President

Attest: Sira A. Athens
Secretary

LIBERTY UTILITIES (LITCHFIELD PARK WATER & SEWER) CORP.,
an Arizona corporation,

By: Ian Robertson
Its:

8722538v1

David Bronichesk

AGREEMENT FOR DEVELOPMENT OF EFFLUENT RECHARGE FACILITY, EFFLUENT DISPOSAL AND PURCHASE AND SALE OF EFFLUENT

Exhibit A

Effluent Recharge Project Operating Agreement

EFFLUENT RECHARGE PROJECT OPERATING AGREEMENT

1. **PARTIES:**

This Effluent Recharge Project Operating Agreement ("Operating Agreement") is made this ____ day of _____, ("Effective Date"), between Liberty Utilities (Litchfield Park Water & Sewer) Corp. ("LIBERTY") and the Central Arizona Water Conservation District, a political subdivision of the State of Arizona, ("CAWCD").

2. **RECITALS:**

2.1 LIBERTY has developed, designed, permitted, and constructed the Effluent Recharge Project (the "Effluent Recharge Project"), an underground storage facility that is located in the Phoenix Active Management Area. More specifically, the Effluent Recharge Project is located within portions of Sections ___, Township __ North, Range __ West, G&SRB&M, Maricopa County, Arizona. (The Effluent Recharge Project is depicted on the site map attached as Figure 1.)

2.2 The Effluent Recharge Project is a constructed underground storage facility pursuant to Arizona Department of Water Resources ("ADWR") permit no. _____, consisting of approximately ___ acres of spreading basins.

2.3 ADWR has issued LIBERTY a Constructed Underground Storage Facility Permit for the Effluent Recharge Project. The Permit authorizes the underground storage of a maximum of ___ acre-feet of Effluent water per year at the Effluent Recharge Project.

2.4 The Effluent Recharge Project has been developed pursuant to the Agreement for Development of Effluent Recharge Facility, Effluent Disposal and Purchase and Sale of Effluent between LIBERTY and CAWCD ("Development Agreement"), dated ____.

2.5 As set forth in the Development Agreement, LIBERTY owns and operates the Effluent Recharge Project, including the Project's storage capacity and associated land. Subject to the terms and conditions set forth in the Development Agreement, CAWCD is entitled to 2,400 acre-feet of the Effluent Recharge Project's Storage Capacity.

3. **AGREEMENT:**

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 to the following terms and conditions relating to operation of the Effluent Recharge Project. This Operating Agreement is subject to the terms and conditions set forth in the Development Agreement and to the extent any conflict exists between the Development Agreement and this Operating Agreement, the terms of the Development Agreement shall take precedence and control.

4. **DEFINITIONS:**

4.1 "ADWR" means the Arizona Department of Water Resources.

4.2 "CAWCD's Storage Capacity Entitlement" is as defined in Section 6.1 below.

4.3 "Delivery Point" means the delivery point interconnecting the Effluent Pipeline with the turnout for the Effluent Recharge Project.

4.4 "Development Agreement" means the Agreement for Development of Effluent Recharge Facility, Effluent Disposal and Purchase and Sale of Effluent between LIBERTY and CAWCD, dated ____.

4.5 "Effective Date" is the date set forth in the introductory paragraph of this Agreement on which this Agreement becomes effective.

4.6 "Effluent" means wastewater that is treated or reclaimed so that it is suitable for underground storage pursuant to A.R.S. Titles 45 and 49. Effluent includes treated wastewater that is produced now or in the future from the PVWRF, including any future expansions thereof, and Effluent produced at any other wastewater treatment plant that may be owned or controlled by LIBERTY.

4.7 "Effluent Pipeline" means the effluent pipeline from the Palm Valley Water Reclamation Facility ("PVWRF") to the boundary of the Effluent Recharge Project that conveys Effluent produced at PVWRF for reuse, disposal and discharge.

4.8 "Extraordinary O&M Costs" means those costs that are not Ordinary O&M Costs, including but not limited to non-routine, major maintenance, repair, replacement and capital improvement costs associated with the Effluent Recharge Project that exceed a cost of $75,000 as set forth in Sections 1.17 and 3.1.8 of the Development Agreement.

4.9 "LIBERTY's Storage Capacity Entitlement" is as defined in Section 6.2 below.

4.10 "Operating Agreement" means this Effluent Recharge Project Operating Agreement.

4.11 "Operating Work" means the furnishing of all labor, materials, equipment, expertise and other incidentals necessary or convenient to the operation, maintenance, monitoring, inspection, repair, replacement, improvement, reconstruction and retirement of the Effluent Recharge Project and to the administration of this Agreement.

4.12 "Ordinary O&M Costs" means the annual labor, overhead, and material costs for the routine operation, maintenance, monitoring and regulatory reporting at the Effluent Recharge Project as set forth in Sections 1.23 and 3.1.7 of the Development Agreement. For purposes of this Operating Agreement, the Parties agree that LIBERTY's overhead costs are equal to 10% of the Ordinary O&M Costs directly charged to this Effluent Recharge Project and shall not represent or include profit earned by LIBERTY, as set forth in paragraph 1.23 of the Development Agreement.

4.13 "Party/Parties" means one or both of the parties to this Operating Agreement.

4.14 "Permit" means the Constructed Underground Storage Facility Permit issued by ADWR for the Effluent Recharge Project, permit no. ____, including any amendments or modifications thereto.

4.15 "PVWRF" means the Palm Valley Wastewater Reclamation Facility owned and operated by LIBERTY at 14222 W. McDowell Road in Goodyear, Arizona.

4.16 "Storage Capacity Entitlement" means a Party's right or entitlement to use of the storage capacity of the Effluent Recharge Project.

4.17 "Uncontrollable Forces" means any cause beyond the control of the Party affected, including but not limited to, the failure 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 Agreement, 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 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 Agreement 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.

5. **TERM:**

Subject to the terms and conditions set forth in the Development Agreement, this Operating Agreement shall become effective when executed by both Parties and shall remain in effect for a period of one-hundred (100) years from the Effective Date, unless sooner terminated pursuant to the provisions of this Operating Agreement or pursuant to the terms of the Development Agreement. In the event that the Development Agreement is terminated for any reason, this Operating Agreement also will terminate and will no longer be in force or effect between the Parties. CAWCD represents and covenants (i) that it is fully authorized to enter into this Agreement under Title 48 of the Arizona statutes, and (ii) that CAWCD is statutorily authorized to enter a 100-year contract for operation of the Effluent Recharge Project.

6. **STORAGE CAPACITY ENTITLEMENTS:**

6.1 Subject to the terms and conditions set forth in Article 3 of the Development Agreement, CAWCD's Storage Capacity Entitlement is equal to 2,400 acre-feet of annual storage capacity of the Effluent Recharge Project.

6.2 Subject to the terms and conditions set forth in Article 3 of the Development Agreement, LIBERTY's Storage Capacity Entitlement shall be the Effluent Recharge Project's total storage capacity minus the CAWCD Storage Capacity Entitlement.

6.3 Subject to the terms and conditions set forth in the Development Agreement, Storage Capacity Entitlement refers to a Party's right or entitlement to use of the Effluent Recharge Project to store Effluent at the Effluent Recharge Project pursuant to its ADWR water storage permit and subject to the terms of the Development Agreement.

7. **WATER STORAGE PERMITS:**

Each Party shall be responsible for obtaining its own water storage permit from ADWR authorizing it to store Effluent at the Effluent Recharge Project.

8. **OPERATION OF THE EFFLUENT RECHARGE PROJECT:**

8.1 The Operator of the Effluent Recharge Project shall be LIBERTY. As set forth in the Development Agreement, LIBERTY shall own and operate the Effluent Recharge Project, including any and all land on which the Project is located.

8.2 LIBERTY shall perform all Operating Work as determined by LIBERTY in its reasonable discretion.

8.3 LIBERTY shall collect, expend and account for all funds required for the Operating Work.

8.4 LIBERTY shall deliver Effluent from the Palm Valley Wastewater Reclamation Facility (or "Replacement Facility" as that term is defined in the Development Agreement) to the Effluent Recharge Project, in accordance with the terms and conditions set forth in the Development Agreement.

8.5 LIBERTY shall annually, upon request by CAWCD, or when otherwise deemed appropriate by LIBERTY, supply CAWCD with information on any matter, which may substantially affect the operation of the Effluent Recharge Project as determined by LIBERTY.

8.6 LIBERTY shall follow generally accepted accounting and engineering practices in performing the Operating Work.

8.7 LIBERTY shall at all times comply with the requirements of the Permit, and shall maintain the accuracy of all measuring devices associated with the Effluent Recharge Project within plus or minus 5%.

9. **STORAGE OF EFFLUENT:**

9.1 In accordance with Article 4 of the Development Agreement, LIBERTY shall deliver 2,400 acre-feet of Effluent annually to the Effluent Recharge Project through the Effluent Pipeline to the Effluent Recharge Project on behalf of CAWCD and LIBERTY shall store such Effluent utilizing CAWCD's Storage Capacity Entitlement, subject to the terms and conditions set forth in the Development Agreement.

9.2 In accordance with Article 5 of the Development Agreement, LIBERTY shall deliver and dispose of treated wastewater discharged from PVWRF that is not reused by LIBERTY customers within or outside LIBERTY's CC&N service area, or delivered to CAWCD pursuant to Article 4 of the Development Agreement and Section 9.1 above, to the Effluent Recharge Project and LIBERTY shall store such Effluent utilizing LIBERTY's Storage Capacity Entitlement.

10. **ORDINARY O&M COSTS:**

10.1 In accordance with Article 3 of the Development Agreement, each Party will be responsible for annual costs for Ordinary O&M Costs at the Effluent Recharge Project based on each Party's proportionate share of storage capacity utilized during the year divided by the total Effluent delivered to the Effluent Recharge Project. By way of example only, if 3,000 acre-feet of Effluent is delivered to the Effluent Recharge Project in a given year, and CAWCD uses 2,400 acre-feet of storage capacity and LIBERTY uses 600 acre-feet of storage capacity, then CAWCD shall be responsible for 80% (2400/3000) of the Ordinary O&M Costs and LIBERTY shall be responsible for 20% (600/3000) of the

Ordinary O&M Costs.

10.2 In accordance with Section 3.1.7 of the Development Agreement, at least six months before the first delivery of Effluent to the Effluent Recharge Project, LIBERTY and CAWCD will jointly develop an estimate of the total annual Ordinary O&M Costs and an estimate of CAWCD's share of annual Ordinary O&M Costs based on CAWCD's proportionate share of storage capacity to be utilized during the following year. The Parties anticipate that the estimated cost will initially be in the range of $20 per acre foot.

10.3 In accordance with Section 3.1.7 of the Development Agreement, on or before November 15th of the initial year of delivery of Effluent to the Effluent Recharge Project and each year thereafter, LIBERTY shall provide to CAWCD an estimate of the total annual Ordinary O&M Costs and an estimate of CAWCD's share of annual Ordinary O&M Costs based on CAWCD's proportionate share of storage capacity to be utilized during the following year. On or before the 15th of each month, LIBERTY will bill CAWCD one-twelfth (1/12) of the annual estimated Ordinary O&M Costs. CAWCD shall pay LIBERTY within thirty days of receipt of the bill. Differences between actual Ordinary O&M Costs and estimated O&M Costs shall be determined by LIBERTY and shall be adjusted in the next succeeding annual estimate of Ordinary O&M Costs.

11. **EXTRAORDINARY O&M COSTS:**

In accordance with Section 3.1.8 of the Development Agreement, LIBERTY and CAWCD shall share Extraordinary O&M Costs related to the Effluent Recharge Project based on each Party's proportionate share of the Effluent Recharge Project's storage capacity. To the extent practicable, before LIBERTY incurs any Extraordinary O&M Costs, the Parties shall meet and confer regarding the need to incur such costs as set forth in the Development Agreement.

12. **WATER MEASUREMENT AND ACCOUNTING:**

12.1 As the Project Operator, LIBERTY shall base its accounting for Effluent delivered to the Effluent Recharge Project on one or more of the following: (i) actual measurements, (ii) methods required by the Permit, and/or (iii) generally accepted accounting and engineering practices.

12.2 In accordance with Section 4.1.2 of the Development Agreement, LIBERTY shall install a metering device ("Metering Device") to measure the quantity of Effluent delivered to the Delivery Point. The Metering Device shall be the basis for determining whether LIBERTY has met its obligation to deliver the Effluent Entitlement in any year during the term of the Development Agreement. LIBERTY shall maintain the accuracy of the Metering Device within plus or minus 5% and shall calibrate the metering device no less frequently than once every year. Any and all costs for the Metering Device shall be included as part of Development Costs under the Development Agreement.

12.3 LIBERTY shall determine evaporation losses representative of the conditions at or near the Effluent Recharge Project using the method indicated in the Permit. Any other losses in the Effluent Recharge Project shall be calculated using generally accepted engineering practices. All losses at the Effluent Recharge Project shall be shared

between CAWCD and LIBERTY in proportion to the amount of storage capacity used by such Party during the month when the loss occurred.

12.4 Effluent delivered to the Effluent Recharge Project for storage, but which exits the facility other than by infiltration and evaporation, will be calculated using generally accepted engineering practices.

12.5 LIBERTY shall prepare a monthly water accounting report of Effluent stored at the Effluent Recharge Project for each Party. The report shall include the daily amount of Effluent delivered to the Effluent Recharge Project, the daily amount of Effluent stored, and the losses calculated as described in this Section.

12.6 LIBERTY shall provide ADWR with water accounting reports for the Effluent Recharge Project as required by the Permit.

12.7 The water accounting reports prepared pursuant to this Section shall be retained by LIBERTY for at least three (3) years and shall be made available for CAWCD's inspection upon written request.

12.8 LIBERTY will provide CAWCD a copy of the annual report submitted by LIBERTY to ADWR for the Effluent Recharge Project.

13. **WATER QUALITY:**

13.1 Each Party shall indemnify and hold harmless the other Party from liability associated with water quality degradation resulting from the indemnifying Party's use of the Effluent Recharge Project, due to the commingling of infiltrating Effluent with groundwater or with water flowing above or below the surface. Further, each Party waives any claim on its own behalf against the other Party for water quality degradation arising from such commingling, unless such claim is intended to enforce the indemnification provision of this Section.

13.2 LIBERTY shall not be responsible to CAWCD for curtailing or stopping flows into the Effluent Recharge Project in the event that LIBERTY determines that significant degradation of water quality in the underlying aquifer, which is likely to result in substantial liability, is occurring or may occur as a result of the introduction of water into the Effluent Recharge Project.

13.3 This Section shall survive expiration or termination of this Agreement, and shall remain in full force and effect.

14. **UNCONTROLLABLE FORCES:**

No Party shall be considered in default in the performance of any of its obligations under the Development Agreement or this Operating Agreement (other than obligations of said Party to pay costs end expenses) when a failure of performance is due to Uncontrollable Forces.

15. **GOVERNING LAW:**

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

16. **NOTICES:**

16.1 Notice, demand or request provided for in this Agreement 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:

CAWCD:

For delivery use: c/o General Manager
23636 N. 7th Street
Phoenix, AZ 85024

For U.S. Mail use: c/o General Manager
P.O Box 43020
Phoenix, AZ 85080-3020

LIBERTY:

For delivery and
For U.S. Mail use: c/o General Manager/President
Liberty Utilities
12725 W. Indian School Road, Suite D101
Avondale, AZ 85392

16.2 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.

17. **THIRD PARTY BENEFICIARIES:**

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

18. **WAIVER:**

The waiver by a Party of a breach of any term, covenant or condition in this Agreement 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 of this Agreement.

19. **HEADINGS:**

Title and paragraph headings are for reference only and are not intended to modify or alter the substance of the underlying provisions.

20. **ENTIRE AGREEMENT:**

This Agreement, together with the Development Agreement, constitute the entire agreement among the Parties and no understandings or agreements 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.

21. **RULES, REGULATIONS AND AMENDMENT OR SUCCESSOR STATUTES:**

All references in this Agreement to the Arizona Revised Statutes include all rules and regulations promulgated by the Arizona Department of Water Resources under such

statutes and all amendment statutes and successor statutes, rules, and regulations to such statutes, rules, and regulations.

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

CENTRAL ARIZONA WATER CONSERVATION DISTRICT

By:_____

Attest:_____

LIBERTY UTILITIES (LITCHFIELD PARK WATER & SEWER) CORP.
an Arizona corporation,

By:_____

Its:_____

AGREEMENT FOR DEVELOPMENT OF EFFLUENT RECHARGE FACILITY, EFFLUENT DISPOSAL AND PURCHASE AND SALE OF EFFLUENT

Exhibit B

Long-Term Storage Credit Transfer Form

ADWR LONG-TERM STORAGE CREDIT TRANSFER FORM A.R.S. § 45-854.01

ARIZONA DEPARTMENT OF WATER RESOURCES
Water Management Section
3550 North Central Ave, Phoenix, Arizona 85012
Telephone (602) 771-8585
Fax (602) 771-8689

LONG-TERM STORAGE CREDIT TRANSFER FORM A.R.S. § 45-854.01

For Official Use Only
DATE RECEIVED: _____

[FOR SELLER]

_____
Name of Seller

_____
Long-Term Storage Account No.

_____
Contact Person/Telephone Number

_____
Facility Permit Number (where source water was stored)

_____
Mailing Address

_____
Water Storage Permit Number (authority to store source water)

_____
City/State/Zip

Number of long-term storage credits (in acre-feet) transferred by type(s) of water and year credits were earned.

Type: _____ acre-feet _____ year earned _____
Type: _____ acre-feet _____ year earned _____

[FOR BUYER]

_____
Name of Buyer

_____
Contact Person/Telephone Number

_____
Mailing Address

_____
City/State/Zip

_____
Long-Term Storage Account No. (if any)

If the transfer includes long-term storage credits earned from the storage of Central Arizona Project (CAP) water in an Active Management Area (AMA), please state:

1. **The date of Buyer's formation (if Buyer is a legal entity):** _____,
2. **The amount of groundwater withdrawn by Buyer in the AMA during the calendar year that the credits were earned:**
   _____.
   a. **The groundwater right number(s) the Buyer withdrew the groundwater pursuant to:**
   _____

Pursuant to A.R.S. § 45-854.01(C), the director of the Arizona Department of Water Resources may reject and invalidate any assignment of long-term storage credits in which the stored water would not have met the requirements for long-term storage credits as prescribed by A.R.S. § 45-852.01 if the assignee had stored the water.

The undersigned hereby certify, under penalty of perjury, that the information contained in this report is, to the best of their knowledge and belief, correct and complete and that they are authorized to sign on behalf of the party for whom their signature appears.

_____
Authorized Signature for Seller DATE

_____
Title

_____
Authorized Signature for Buyer DATE

_____
Title

TWILEY/8729431.1/060199.0021

EXHIBIT
AWC-5
~~ADMITTED~~

AWC -5

BEFORE THE ARIZONA CORPORATION COMMISSION

BOB STUMP, Chairman
GARY PIERCE
BRENDA BURNS
BOB BURNS
SUSAN BITTER SMITH

IN THE MATTER OF THE APPLICATION OF ARIZONA WATER COMPANY TO EXTEND ITS CERTIFICATE OF CONVENIENCE AND NECESSITY IN CASA GRANDE, PINAL COUNTY, ARIZONA	Docket No. W-01445A-03-0559

Direct Testimony of Rita P. Maguire, Esq.

Maguire & Pearce, PLLC

On Behalf of Arizona Water Company

May 30, 2014

Q. Please state your name and employer.

A. My name is Rita Maguire. I am a Member of the law firm of Maguire & Pearce, PLLC.

Q. Please state your business address.

A. 2999 N. 44th Street, Suite 630, Phoenix, Arizona 85018.

Q. Please describe your educational background and work experience.

A. I am a graduate of Arizona State University with a Bachelor of Sciences Degree (1977), a Master of Business Administration (1979) and a Juris Doctorate (1988). From January 1993 through June 2001, I served as the Director of the Arizona Department of Water Resources ("ADWR"). During my tenure at ADWR, I was responsible for all final administrative actions of the agency including those taken pursuant to the 1980 Arizona Groundwater Management Act ("GMA"). This included review and approval of any Designations or Certificates of Assured Water Supply in each of the state's five Active Management Areas ("AMAs"). While serving as Director, the agency promulgated the Assured Water Supply Rules ("AWS Rules"), significantly revised the state's underground recharge statues and established the Arizona Water Bank Authority. I served as its first chairman. In addition, the Third Management Plan was developed and adopted under my direction, which remains in effect in the state's five Active Management Areas ("AMAs") until formal adoption of the Fourth Management Plan, anticipated in 2014. I also served as a Co-Chair of Governor Hull's Water Management Commission which made a number of recommendations concerning the operation of the AWS Rules in the Pinal AMA.

Before serving as ADWR's Director, I was the Environmental Policy Advisor to Governor Symington. Among my responsibilities was to work with the state legislature, stakeholders and the general public regarding the operations of the state's ten natural resource agencies. I advised the Governor with respect to the passage of the Central Arizona Groundwater Replenishment Act, the creation and direction of the Governor's Central Arizona Project ("CAP") Advisory Committee, and interstate negotiations concerning the management and operation of the Lower Colorado River system. I also have extensive professional experience drafting state legislation having served as a Research Analyst for the Arizona Senate Commerce and Labor Committee during four legislative sessions.

My private sector experience includes working as a licensed attorney in the areas of water, environmental, mining, utilities and administrative law. In 2002, I founded and directed the Arizona Center for Public Policy ("ThinkAZ"), a non-partisan research organization that published research on major public policy issues facing Arizona. As the author of numerous studies and publications on surface and groundwater management, including an article published in the Arizona Law Review in Summer 2007, titled *"Patching the Holes in the Bucket: Safe Yield and the Future of Water Management in Arizona."* I am a recognized expert in water policy in the Southwest. My 25-years' experience in public policy development in Arizona, leading the ADWR, and practicing in the private sector as a licensed attorney in the natural resources area, demonstrate a unique level of expertise and practical experience in the field of western water management.

Q. On whose behalf are you testifying in this matter?

A. I have been retained as an Independent Expert by Arizona Water Company.

Q. Have you testified before the Arizona Corporation Commission?

A. Yes.

Q. Have you testified before any other governmental bodies concerning Arizona's water management policies?

A. Yes, before legislative committees of both houses of the Arizona State Legislature, the Governor's Advisory Committees, the Central Arizona Water Conservation District, and federal House and Senate committees and sub-committees.

Q. Please provide a list of relevant publications and studies you have authored.

A. *Challenging Arizona's Biggest Water Myths*, 2011, CLE International, Arizona Water Law Conference, Phoenix, AZ; *Can We Afford To Produce Solar Energy in Arizona?* 2011, CLE International, Law of the Colorado River Conference, Phoenix, AZ; *Transforming the Operation and Management of the Colorado River to Meet the Demands of the 21st Century*, 2010, CLE International, Law of the Colorado River Conference, Reno, NV; *Out-of-the-Box Thinking has become Mainstream on the Mainstem*, 2009, CLE International, Law of the Colorado River Conference, Phoenix, AZ; *Aquifer Storage and Recovery, Opportunities and Challenges*, 2009, American Bar Association, 27th Annual Water Law Conference, San Diego, CA; *Environmental and Economic Pressures on Public Water*

Supplies, 2008, American Bar Association, 26th Annual Water Law Conference, San Diego, CA; *Meeting Water Needs across State Lines*, 2007, Western Water Magazine; *Patching the Holes in the Bucket: Safe Yield and the Future of Water Management in Arizona*, 2007, Arizona Law Review; *An Analysis of the Water Budgets of Buckeye, Payson and Prescott Valley*, 2005, Arizona Center for Public Policy, Study authored by H. Dishlip, R. Maguire, M. Pearce; *How Can Scientific Research be More Effectively Integrated into Public Policymaking?* 2005, U.S. National Academy of Sciences *Strengthening Science-Based Decision-Making for Agricultural Water Management*; The *Effects of Drought on Lower Colorado River Basin Operations*, 2005, Southwest Hydrology, Tucson, AZ: University of Arizona; *Ten Steps to Address a Rural Water Shortage, Based on Chapter Ten, Towards a Sustainable Water Supply: Tools, Opportunities and Considerations*, 2005, Arizona Center for Public Policy, 85th Arizona Town Hall on Arizona's Water Future, Grand Canyon, Arizona; *The Role of Science in Groundwater Management in Arizona*, 2004, The National Academies Press, U.S. National Academies of Sciences, *Strengthening Science-Based Decision Making in Developing Countries; Towards a Sustainable Water Supply: Tools and Opportunities*, 2004, 85th Arizona Town Hall on *Arizona's Water Future: Challenges and Opportunities*, Chapter Ten, Grand Canyon, Arizona; *Surface and Groundwater Management in Arizona, Policy Brief Vol. 2 No. 3*, 2004, Arizona Center for Public Policy.

Q. What is the purpose of your direct testimony in this matter?

A. On Remand, the Commission asked to explore in this proceeding the following question:

> [w]hether a public service corporation, like Arizona Water Company, in this water challenged area and under the circumstances presented in this case, is providing reasonable service if it is not able or not willing to provide integrated water and wastewater service.[1]

The purpose of my testimony is to provide the Commission with insight into the driving principles behind the 1980 GMA and the key regulatory programs promulgated by the ADWR pursuant to the GMA, which are designed to address the critical water needs in the Pinal AMA and the other AMAs in

[1] Procedural Order (2/10/2011) at 2 (quoting the Commission).

the state. My testimony will include a brief history of the state's groundwater management statutes and case law, the state's policy concerning groundwater management, particularly in the AMAs, and a discussion of how these policies apply to the provision of water and wastewater services to municipal water customers in the AMAs. I will also discuss the major water challenges facing Arizona, particularly in the Pinal Active Management Area ("Pinal AMA"), to ensure the long-term availability of high quality, reliable and affordable water supplies for its residents. And finally, I will address some of the business model differences between "developer-owned' utilities and "investor-owned" utilities through the lens of achieving the state's water management and regulatory compliance goals. Applying these analyses, my testimony is intended to assist the Commissioners in determining whether the integration of water and wastewater services through a commonly-owned entity is necessary to achieve the long-term water management goals of the 1980 GMA.

Q. Would you briefly describe the state's policy concerning sustainable management of the state's scarce water resources?

A. Sustainable use of finite groundwater supplies is widely viewed by elected officials and water managers alike as crucial to maintaining economic growth and a high quality of life throughout the state. Responding to this challenge takes extraordinary measures designed to develop and promote the use of renewable water supplies in lieu of groundwater, while implementing mandatory conservation programs to reduce overall per capita water consumption. Arizona has been at the forefront of this effort, first developing statewide water policies and laws in the 1940s to encourage wise and beneficial use of its water resources, and later adopting the 1980 Groundwater Management Act, which limits access to groundwater and promotes the use of Colorado River water transported into central and southern Arizona through the CAP.

Today, groundwater makes up approximately 40% of the state's water budget, surface water about 53%, and effluent[2] the remaining 7%. Because surface water and effluent are renewable supplies, state law and the accompanying regulations promote the use of these supplies over groundwater, and

[2] In this testimony, the term "effluent" is used interchangeably with the term "reclaimed water" and refers to the byproduct of a wastewater treatment plant including the various grades of reclaimed water, all of which are subject to regulation by the Arizona Department of Environmental Quality.

promote saving groundwater for times when surface water availability is reduced due to drought conditions.

Q. Could you describe the need for sustainable groundwater management in Arizona, particularly in the state's five AMAs?

A. Starting in the 1930s, groundwater was being withdrawn from local aquifers in the major population centers at a faster rate than it was naturally or artificially replenished, creating a hydrologic condition known as "overdraft." Concern over the rapid depletion of these aquifers was one of the main reasons for the passage of the GMA in 1980 with the Legislature declaring that:

> "... [I]n many basins and sub-basins withdrawal of groundwater is greatly in excess of the safe annual yield and that this...is threatening to do substantial injury to the general economy and welfare of this state and its citizens...It is therefore declared to be the public policy of this state...to provide a framework for the comprehensive management and regulation of ...groundwater in this state."[3]

Development of surface water supplies delivered by the CAP and the Salt River Project, water conservation, and increased use of effluent have helped to reduce reliance on groundwater in the Phoenix and Tucson AMAs. Unfortunately, continued agricultural activity and new subdivision growth on raw desert land in the Pinal AMA have increased the demand for groundwater there. The use of groundwater in the state's five AMAs (Prescott, Phoenix, Pinal, Tucson and Santa Cruz) is dictated by the statutory goal of achieving "Safe Yield" of diminishing groundwater supplies in the AMAs by 2025. "Safe Yield" is defined in the GMA as a "groundwater management goal that attempts to achieve, and thereafter maintain, a long-term balance between the annual amount of groundwater withdrawn in an [AMA] and the annual amount of natural and artificial recharge in the [AMA].[4]

Q. Please describe the key provisions in the GMA that restricts groundwater use in the AMAs.

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[3] A.R.S. § 45-101(B).

[4] A.R.S. § 45-561(12).

A. Some of the more significant restrictions on groundwater use in the AMAs include:

- Prohibition of new irrigated agricultural land, regardless of the source of water. Thus, in the AMAs, the irrigated land base was permanently fixed as of 1980 and, as those lands develop for residential and industrial use, they cannot be replaced by other agricultural lands.
- Mandatory conservation requirements adopted through a series of 10-year Management Plans, which incrementally increase conservation requirements on all municipal, industrial, and agricultural water users in the AMAs. Arizona is currently operating in the Third Management Period, and ADWR expects to release the Fourth Management Plan later this year. The mandatory conservation requirements have resulted in irrigated agriculture operating at 80% efficiency or above in the AMAs. Importantly, municipal per capita water consumption in the AMAs has decreased significantly since 1980. For example, the per capita use rate by the City of Phoenix has declined 13% since the adoption of the Management Plans, while the City of Buckeye's per capita use rate has declined by 50%.[5] The per capita use rate of Arizona Water Company's Casa Grande service area, now part of its Pinal Valley service area, has declined 32% to 192 gallons per capita per day since the implementation of the First Management Plan.[6] That decline includes large industrial users that employ a sizeable number of employees in the Casa Grande area. Extensive reductions in water use in the industrial sector have also been achieved, particularly in the golf course industry. Golf courses are subject to strict turf limitations, water features are limited in size, and the use of reclaimed water to irrigate golf courses is promoted through state and local water policies. Significant regulatory incentives are applied if these facilities exclusively rely on reclaimed water to meet their irrigation needs.

[5] Per capita water use data provided by ADWR to the author, November 2013.
[6] Information provided by Arizona Water Company Staff on May 27, 2014.

- Water use and withdrawals throughout the state must be reported annually to ADWR. Routine audits are conducted by the agency to determine if water users are in compliance with the state's conservation requirements. Failure to meet the requirements can result in enforcement actions and fines.

Q. Please explain how the Assured Water Supply ("AWS") Program and its Rules Work.

A. The AWS provisions of the GMA, and the related AWS Rules promulgated by the ADWR in 1995, require all new subdivisions in an AMA to demonstrate that sufficient water supplies of adequate quality are legally, physically, and continuously available for at least 100 years. In addition to these consumer protections, the AWS Rules require substantial use of renewable supplies, such as CAP water and effluent, and permit only minimal use of mined groundwater in order to achieve the GMA goal of safe yield of groundwater in the AMAs. This program has often been referred to as the state's insurance policy against drought conditions. Minimizing the use of finite groundwater supplies and emphasizing the use of renewable surface water, reclaimed water and effluent promotes efficient use of scarce resources and provides greater assurance that water will be available even when drought conditions substantially reduce the state's surface water. It also provides assurance to the business community contemplating making large capital investments here that there are adequate long-term water supplies available in a region known for the scarcity of its water supplies.

Q. If groundwater is the only source of water available for residential development and the safe yield goal of the GMA restricts access to groundwater, will municipal growth be prevented in the future?

A. As the population continues to grow within the AMAs, there is increasing pressure to modify, even postpone the safe yield goal, or to create new programs that balance the pressure to build more subdivisions and related amenities with the need to protect our limited groundwater supplies. The Central Arizona Groundwater Replenishment District ("CAGRD") was created in 1993 in response to developers' concerns that access to renewable surface water supplies, as well as affordability, would limit future residential growth in Maricopa, Pinal, and Pima counties. The CAGRD is a state authorized program, managed by the Central Arizona Water Conservation District ("CAWCD") that allows

developers to build subdivisions dependent on excess groundwater pumping as long as they enroll the subdivision's lands (known as Member Lands) in the CAGRD. Although the program has been extremely successful in allowing new subdivisions to be built on local groundwater supplies, it has done so at the expense of local water management concerns. Once a developer enrolls the subdivision land in the CAGRD, the concerns over strained groundwater supplies in a particular basin or sub-basin must compete with the groundwater concerns in other basins served by the CAGRD. While each acre foot of groundwater pumped to serve a Member Land must be replenished, planning for the long-term water demands of the Member Lands is simply a matter of paying for the water supplies rather than asking whether the proposed subdivision amenities make sense in a water strained basin.

Q. Are there recent concerns about groundwater management in the Pinal AMA?

A. The Pinal AMA is largely an agricultural region located between the Phoenix and Tucson AMAs. In recognition of the significant economic impact of agriculture in the AMA, it has a slightly different groundwater management goal from the other AMAs, which is to preserve existing agricultural economies for as long as feasible while preserving future water supplies for non-irrigation uses. A.R.S. § 45-462(B). However, when Pinal County was the "fastest growing county in the State of Arizona and one of the fastest in the country,"[7] the emphasis on preserving future water supplies for non-irrigation purposes became critical. Economic forecasters have projected that the Phoenix and Tucson metropolitan areas will continue to grow along Interstate 10, eventually merging in Pinal County.[8] Before the economic recession hit in 2008, this regional metropolitan area was projected to have a population of more than 10 million by 2040. Today, the area is still expected to experience rapid population growth, albeit at a somewhat slower rate, as long as sustainable water supplies are available for the region.

In response to concerns about the impact of rapid population growth on finite groundwater supplies, a citizen's advisory council recommended that future municipal growth in the Pinal AMA occur largely on CAP water and reclaimed water, like the communities in the Phoenix and Tucson

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[7] Alan Levine, *Pinal Planning for Future*, Casa Grande Dispatch, Aug. 20, 2005, at A1, quoting Pinal County Manager.

[8] Marshall Vest, Univ. of Ariz. Eller Coll. Of Mgmt., Forecast Update, 3d Quarter 2006 (Aug. 30, 2006).

AMAs. This was achieved in 2007 pursuant to the recommendations of the Pinal Groundwater Users Advisory Council ("GUAC").[9] The GUAC concluded that it simply was not possible to preserve a long-term reliable supply of groundwater for future municipal uses under the original AWS Rules because they seriously over-allocated local groundwater supplies for future municipal growth. The liberal availability of groundwater caused little of the renewable water supplies from the CAP and/or the CAGRD to be brought into the AMA to support subdivision growth.[10] Following the GUAC's recommendations, the AWS Rules were modified to place additional restrictions on subdivision access to groundwater. It should be noted here that Mr. Garfield was chairman of the GUAC subcommittee that proposed the revisions to the AWS Rules.

But the ability of cities and towns in the Pinal AMA and elsewhere to grow on renewable water supplies may be in jeopardy if the cost differential between Colorado River water, imported into the AMA via the CAP canal, and groundwater is too great. This is because new communities have small population bases against which to spread the cost of the more expensive renewable water supplies. However, a large regional provider like Arizona Water Company ("AWC") can afford to make such investments because they are able to spread the high cost of CAP water over a larger regional customer base.

The initial financial investment to acquire a CAP subcontract effectively deters locally elected officials from adopting the increased water rates required to enable its purchase, and deters developers from making the capital outlays required prior to the construction and sale of homes. Instead, they opt to allow growth to occur in wildcat subdivisions (five lots or less) that are exempt from the requirements of the AWS Rules, or look to residential developers to acquire Certificates of Assured Water Supply based on available groundwater supplies to meet the needs of individual subdivisions within their municipal boundaries. This piecemeal approach to securing water supplies leads to greater reliance on groundwater and a "balkanized" approach to providing water and wastewater services.

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[9] In 2007, ADWR modified the rule applicable to new assured water supply applications in the Pinal AMA to further restrict the use of mined groundwater for assured water supply purposes. See A.A.C. R12-15-725.

[10] *Assured Water Supply Rules Modification Concepts*, Final Subcommittee Draft of the Pinal Groundwater Users Advisory Council, February 23, 2006.

AWC is a municipal water provider in the Pinal AMA that holds two subcontracts for municipal priority ("M&I") CAP water totaling 10,884 acre-feet per year ("afy") (8,884 afy for Casa Grande and 2,000 afy for Coolidge). These CAP M&I Subcontracts represent the vast majority (70%) of municipal and industrial surface water deliveries in the Pinal AMA.[11] AWC is planning to construct an underground storage facility on a 66-acre site adjacent to the CAP canal near Wheeler and Storey Roads and use this facility to recharge and recover its two M&I CAP allocations.[12] The storage and delivery of this renewable water supply will significantly reduce the demand for groundwater in the subdivisions within AWC's CC&Ns in Pinal County. Recent groundwater modelling performed by the ADWR in the Pinal AMA indicates that the long-term physical availability of groundwater in the Maricopa-Stanfield and Eloy sub-basins are in jeopardy.[13] AWC CC&N's are located in both sub-basins, as is the CC&N of Picacho Water Company. But unlike AWC, Picacho Water Company does not hold an M&I CAP subcontract. Recharge of AWC's CAP subcontracts in these sub-basins is a critical step to alleviating the rapid drawdown of groundwater supplies in these aquifers.

Q. What about the impacts of non-Indian agriculture on the available groundwater in the Pinal AMA, even with adoption of the safe yield goal?

A. There is little doubt that increased groundwater irrigation of farmland in lieu of CAP supplies will place a significant strain on the long-term availability of groundwater in the Pinal AMA. It will also significantly reduce annual recharge in the basin because less imported surface water supplies will infiltrate the aquifer. Even if the Pinal AMA adopts a safe yield goal for its municipal sector, non-Indian agriculture ("NIA") will still be allowed to pump significant quantities of groundwater without the limitations of safe yield. Today, non-Indian agriculture in the AMA is largely dependent upon renewable CAP water to irrigate their lands; however, this is likely to change in the future because CAP NIA-priority water is the first to be reduced during shortage periods on the Colorado River. Given the extended drought conditions occurring in the Colorado River Basin today, it is very possible that NIA

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[11] Letter from Fredrick K. Schneider, PE, Vice President — Engineering, Arizona Water Company to Ms. Laura Grignano, Central Arizona Project, dated March 14, 2014.

[12] William M. Garfield Deposition on August 30, 2013, pgs. 114, lines 1-25 and p. 115, lines 1-25.

[13] *Regional Groundwater flow Model of the Pinal AMA, Arizona*, ADWR Modelling Report No. 26 (2014).

CAP deliveries in Pinal County will be significantly cut-back, if not eliminated entirely in the near-term.[14] As less Colorado River water is available to the agricultural sector in the Pinal AMA, rather than go out of business they are likely to return to pumping groundwater to irrigate their fields. If so, it will be critically important to maximize the delivery of CAP supplies from local municipal water providers.

Q. Is there a water management advantage to having a single company provide the water and wastewater services to a municipal service area?

A. Intuitively, it may make sense that a single company providing both water and wastewater services would lead to more efficient use of both supplies, however, experience suggests otherwise.[15] As indicated above, the principal goal of the state's water management programs in the AMAs is to ensure that sufficient water supplies of adequate quality are available for residential and commercial use for at least 100 years.[16] The ability to make that commitment to the public is perhaps the state's best economic development tool. In an effort to stretch the state's scarce groundwater resources, the ADWR, the ACC, and cities and towns across the state have adopted a variety of regulations and policies designed to encourage water conservation and the use of surface water and effluent. For example, starting in 2006, the ACC began including in its Opinions and Orders to grant or extend CC&Ns, language prohibiting the sale of groundwater by a private water utility for use on golf courses, ornamental lakes or other water features in the common areas of new developments.[17] These prohibitions were imposed on utilities doing business in some of the most threatened groundwater basins

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[14] *See* CAP General Manager David Modeer's presentation to the CAP Board of Directors, May 1, 2014. http://www.cap-az.com/documents/meetings/05-01-2014/9.%20Colorado%20River%20Report%20May%201%20Board.pdf

[15] Robson Attorney Jeff Crockett defined integration as "[A] parent company, either single ownership of the water and wastewater or two subsidiaries of a parent company working together and providing water and wastewater." William M. Garfield Deposition, August 30, 2013, at P. 11, lines 2-5.

[16] Over 80% of the state's population resides in the AMAs.

[17] *See* ACC Decision No. 68919, Extension of CC&N to Arizona Water Company's Superstition System, August 29, 2006; ACC Decision No. 69174, Extension of Picacho Water Utility and Pichaco Sewer Company in Pinal AMA, December 5, 2006; ACC Decision No. 69206, Extension of CC&N to Diablo Village Water Company in Tucson AMA, December 21, 2006; ACC Decision No. 69243, Extension of CC&N to Beaver Dam Water Company in Mohave County, AZ, January 19, 2007; ACC Decision 69256, Application for new CC&N to Green Acres Water Company and Green Acres Sewer Company in Phoenix AMA, January 19, 2007; ACC Decision No. 70663, Application for new CC&N to Perkins Mountain Water Company and Perkins Mountain Utility in Mohave County, AZ, December 24, 2008.

in the state, including areas outside of the state's five AMAs.[18] But despite such prohibitions, water providers have found ways to circumvent compliance with applicable water conservation requirements. In 2000, the Ridgeview Utility Company was created for the sole purpose of serving Phase III of the Saddlebrooke master-planned community in the Tucson AMA. However, Phase I and Phase II were already being served by Lago Del Oro ("Lago") Water Company and until then, Phase III was to be served by Lago as well. Lago could not provide service to Phase III without violating the water conservation requirements in ADWR's Third Management Plan, and thus in the same proceeding that granted Ridgeview a new CC&N to serve Phase III, Lago applied to delete a portion of its CC&N covering this land.[19] Lago elected to give up its service area right rather than be subject to ADWR's Non Per-Capita program, which would have required the company to enroll into the CAGRD as a Member Service Area. Enrollment in the CAGRD would have significantly increased costs to the existing ratepayers through higher water rates in Phase I and II and required implementation of Best Management Practices for all of its service area. Today, Ridgeview Utility Company serves groundwater to its customers and has yet to deliver surface water or effluent except for a token amount of effluent to the golf course according to its 2013 Annual Water Use Report to ADWR.

Q. Is there a common type of water and wastewater delivery model in the Pinal AMA?

In the Pinal AMA, there are four different approaches to the delivery of water and wastewater services. They include exclusive provision of water and wastewater from the local municipality. An example of this "public utility" model is found in the Town of Florence. A second model is water service from a private utility and sewer service from a municipal water provider. One such example of this approach is found in the City of Casa Grande where AWC provides the water service and the City provides the wastewater utility service. The third model occurs when two independent private water utilities provide water and wastewater services to a single subdivision. An example of this model can be found at Saddlebrooke Ranch in southeastern Pinal County. In this master-planned subdivision, AWC

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[18] The Detrital, Hualapai, and Sacramento Valley Groundwater Basins in Mohave County where the Perkins Mountain Water and Sewer Companies operate, have seen significant groundwater declines in the last two decades. As a result, there is growing interest in the County to adopt an AMA-type approach to groundwater use in these basins.

[19] ACC Decision No. 62861, August 24, 2000.

provides the water service and Robson Communities through its Mountain Pass Utility Company provides the sewer service. The fourth model in the Pinal AMA is one in which a commonly-owned private entity provides both water and wastewater service to a subdivision built by the same entity. This approach is often referred to as the "developer-owned utility model." An example of this model is found at Johnson Ranch in northeastern Pinal County, where the subdivision developer and utility provider share common ownership and management. Although this model can be successful from a water management point of view, in the case of Johnson Ranch, it has become the poster child for how not to run a water and sewer utility.[20]

Each approach represents a fundamentally different means of providing water and wastewater services to a community. While it is tempting to distinguish the different models based on the ownership interest of the entities, it may not be the best indicator of the preferred method of providing such service from a water management perspective.

Since the passage of the GMA in 1980, the state's water management policies implemented and enforced by ADWR through statute and regulation have continued to evolve. The result is a series of complicated programs governing the use of water in the AMAs. These programs vary by AMA and in many cases, become more stringent over time. They include such things as water conservation by use sector, transfer and sale of groundwater rights, extinguishment of grandfathered irrigation rights, recharge and recovery of stored water, the use and storage of effluent, and obtaining determinations of physical availability, analyses of AWS, certificates and designations of AWS. Each program has its own nomenclature and a unique set of criteria that governs its operation. Understanding these programs requires active and on-going participation in the water community. This kind of on-going participation is not typically seen from developer-owned utilities that often have a much shorter view of compliance with water management programs.

There may also be a conflict between the dual goals of building subdivisions and operating an integrated water and wastewater utility. Often developers build the infrastructure and treatment

[20] According to records at ADEQ, Johnson Utilities (Pinal and Phoenix operations) have received more water quality and water quantity violations than any other utility (both public and private) in the State of Arizona.

facilities only to sell them to the municipality after the subdivision or master planned community is substantially built-out, but by then, the residential population is left reliant on groundwater. If problems arise with the operation of these facilities, as has occurred in the past, the municipalities are stuck with repairing/retrofitting the inadequate infrastructure at a greater cost than if the facilities were constructed appropriately at the outset.[21] Developers are immediately interested in marketing their subdivision to future homebuyers and investors. To accomplish this goal they must build the subdivision amenities first to attract the homebuyers they seek. These amenities typically include water features and golf courses that under the GMA, must use reclaimed water or effluent, however, until enough homes are sold and occupied these supplies simply aren't available. This leads to the developer asking to fill the artificial lakes and irrigate the golf courses with groundwater until enough homes have been built to generate a legally acceptable supply. Unfortunately, this approach has led to a variety of water management problems, including substantial delays in replacing excess groundwater pumping with reclaimed water or effluent, or in the worst case scenario, never making the substitution.[22]

Another issue of concern is the scale of the water and wastewater operations. Whether it is a developer or small municipal provider, if the business is too small, it may be difficult to recruit, hire, and retain well-trained system operators or to maintain the infrastructure to meet applicable water quality standards and water use requirements. The value of an integrated water and wastewater system will be lost if it is not properly operated and maintained.

Finally, as in any industry, relationships matter. There are dozens of examples around the state of the partnership between a private water utility and a public wastewater utility providing service to the same community. The City of Casa Grande and AWC is one example of such a partnership. AWC has similar partnerships with others, including Global Water, the City of Coolidge and the Gold Canyon Sewer Company. Other examples can be found in Tucson, Scottsdale, Goodyear, Buckeye, Fountain Hills, and so on. In each case, the private and public water providers have developed efficient and

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[21] *See* ADEQ Consent Order with the Town of Sahuarita due to inadequate capacity of Wastewater Treatment Plant built by Rancho Sahuarita Management Co., December 31, 2007.

[22] Concern over limited groundwater supplies in the western portion of the Phoenix AMA led the ACC in its Decision and Order No. 69256 (January 19, 2007), to prohibit Green Acres Water Company from delivering groundwater to any future golf courses within its CC&N, instead requiring that no golf course be built until sufficient supplies of reclaimed water was produced to irrigate them.

effective tools to work together to better manage water resources, maximize service to their customers and compliance with state regulations.

Q. Can you cite another example where a water provider or developer found ways to circumvent either compliance with conservation requirements or the use of surface water or reclaimed water on golf courses, ornamental lakes, or other water features?

A. Yes. One such example is a development in the Tucson AMA called Quail Creek, which is a Robson Communities development. There are currently three 9-hole golf courses within Quail Creek and although the developer has an agreement with Pima County Water Reclamation ("PCWR") to receive reclaimed water, the golf courses are served entirely with groundwater.[23] According to records at ADWR, although the developer receives nearly 1,300 acre feet of reclaimed water annually from PCWR, it has been stored in an underground storage facility and used to accrue long-term storage credits, instead of being delivered to irrigate the golf courses to replace the use of groundwater.

Q. Do you agree that integrated water and wastewater systems are needed to help advance water sustainability in Arizona?

A. Not necessarily. It is much more important how the water (including reclaimed water) is put to use. Let's use Sun Lakes, a Robson Communities development in the Phoenix AMA, as an example. Sun Lakes includes five adult country club communities, including several golf courses, common areas, artificial lakes and fountains, and walking paths with green grass. The development of these master-planned communities occurred in the 1980s and was actively marketed to retirees from much wetter parts of the country. The consequence of marketing to homebuyers that are used to more verdant water-intensive environments than typically occur in a desert setting is the inclusion of water features, grass covered common areas, and golf courses that do not reflect the native surroundings. With the adoption of the AWS rules in 1995, new subdivisions are subject to conservation requirements that limit the installation of such water-dependent amenities. However, the water demand from these earlier developments continue irrespective of the integrated nature of the water and wastewater systems.

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[23] *See* Steve Soriano Deposition, June 22, 2012, at P. 142, lines 15-18; P. 144, lines 12-15.

Q. Does the available evidence show that Robson Communities' water resources management practices have evolved at the same pace as Arizona water law and policies?

A. Not necessarily. For example, in its Analyses of AWS, Robson Ranch Arizona, located in the City of Eloy and the Eloy sub-basin, indicates that no less than four golf courses will exist at build-out and the water utility will rely predominantly on groundwater to serve the courses. As a result, these courses could present a serious water management concern based upon the findings of ADWR's recently released groundwater model for the Pinal AMA, which predicts that the physical availability of groundwater is severely constrained in the Eloy and Maricopa-Stanfield sub-basins of the Pinal AMA. If so, future residential and commercial development in Eloy and other communities in the region may face some significant supply challenges.[24] Golf courses may be a luxury the community can no longer afford.

Q. In your opinion, are developments that rely on turf and other water-intensive features, like those of Robson Communities, sustainable over the long-term in the Pinal and other AMAs?

A. No. The southwest region of the U.S. has been in a severe and prolonged drought for over ten years. It is inconsistent with sound water management practices to use groundwater to irrigate turf when that water supply will likely be needed to meet potable water needs.[25] The use of groundwater to irrigate four golf courses in Robson Ranch also conflicts with recent Commission CC&N decisions prohibiting the use of groundwater for turf or water intensive features.[26]

Q. Does this conclude your testimony?

A. Yes it does.

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[24] http://www.azwater.gov/azdwr/Hydrology/Modeling/Pinal_Home.htm.

[25] In Clark County, NV for example, customers of Southern Nevada Water Authority are paid $1.50 per square foot of turf removed, up to 5,000 square feet of turf.

[26] See citations at FN 16.

EXHIBIT
AWC-6
ADMITTED

AWC -6

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

DOUG LITTLE – Chairman
BOB STUMP
BOB BURNS
TOM FORESE
ANDREW TOBIN

IN THE MATTER OF THE APPLICATION OF ARIZONA WATER COMPANY FOR AN EXTENSION OF ITS CERTIFICATE OF CONVENIENCE AND NECESSITY AT CASA GRANDE, PINAL COUNTY, ARIZONA	**DOCKET NO. W-01445A-03-0559**

Surrebuttal Testimony of Rita P. Maguire, Esq.

Remand Proceeding II

Docket W-01445A-03-0559

On behalf of Arizona Water Company

January 11, 2016

MAGUIRE, PEARCE & STOREY
A Professional Limited Liability Company

I. Introduction and Background.

Q. Please State your Name and Business Address.

A. My name is Rita P. Maguire. My business address is 2999 N. 44th Street, Suite 650, Phoenix, Arizona 85018.

Q. Are you the same Rita P. Maguire who previously provided testimony in this docket?

A. Yes, I am.

Q. Have you reviewed the rebuttal testimony of Steven Soriano (Hearing on Remand Proceeding II)?

A. Yes, I have.

Q. Are you adopting any of your earlier prefiled testimony at this time?

A. Yes, I am adopting all of my previous testimony in this matter.

Q. What is the purpose of your surrebuttal testimony?

A. The purpose of my surrebuttal testimony is to respond to certain statements made by Steven Soriano in his rebuttal testimony dated July 18, 2014.

Q. In his rebuttal testimony, Mr. Soriano states that "[a]n integrated utility recognizes that groundwater is a scarce resource and that the efficient use of reclaimed water for turf/landscape irrigation and recharge of the aquifer are critical to the long-term sustainable provision of water and wastewater services to its customers." Mr. Soriano then cites Robson's Pima Utility Company as an example of an integrated water company that recognizes groundwater is a scarce resource. (Soriano Rebuttal Testimony, p. 4, lines 25-27 and p. 5, lines 1 – 4.) Do you agree with this statement?

A. No, I do not agree with his statement. Unfortunately, the Pima Utility Company relies exclusively on groundwater for its initial water supply. (Soriano Rebuttal Testimony, p. 5,

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line 4). This means that the effluent the company uses to recharge the aquifer replaces some, but not all, of the groundwater initially withdrawn to serve its customers. This business model does not stop the decline of the water table in an over-subscribed basin. The only way to ensure a long-term sustainable supply of water in a declining aquifer, which is the case in the Phoenix, Tucson and Pinal AMAs, is to import a new source of water for use in the basin. That is why the 1980 Groundwater Management Code and related Assured Water Supply Rules create incentives to use renewable supplies, such as Colorado River water imported through the Central Arizona Project ("CAP"), in lieu of pumping groundwater.

Q. To your knowledge, do any of the Robson utility companies hold a CAP subcontract in the Pinal AMA or for that matter, in any AMA?

A. No. To my knowledge, no CAP subcontracts are held by any Robson utility. This includes Municipal and Industrial ("M&I") CAP subcontracts and Non-Indian Agriculture ("NIA") CAP subcontracts, which were recently made available to municipal water providers within the three-county CAP service area. In contrast, the Arizona Water Company holds two long-standing CAP M&I subcontracts in the Pinal AMA alone. Arizona Water Company's Casa Grande System has an M&I subcontract for 8,884 acre-feet per year ("afy") and the Company's Coolidge System has an M&I subcontract for 2,000 afy. In addition, the Arizona Water Company holds two other M&I CAP subcontracts in the Phoenix AMA.

Q. How is Arizona Water Company using its CAP supplies in the Pinal AMA?

A. In late 2014, Arizona Water Company obtained three Water Storage Permits from the Arizona Department of Water Resources ("ADWR") to store its CAP water at Groundwater Savings Facilities in the Pinal AMA. In 2015, Arizona Water stored 5,000 af of CAP water in the Pinal AMA at these facilities. In addition, Arizona Water Company

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delivered 1,928 af of CAP water to its customers for non-potable use in 2014, and delivered another 2,389 af for non-potable use in 2015. The Company also received an Underground Storage Facility Permit and a Water Storage Permit from ADWR to construct and store additional CAP water in the Pinal AMA, which is projected to reduce the amount of mined groundwater in the AMA by Arizona Water Company by 50% each year. None of these actions were required by state law or regulation. They are, however, good examples of best management practices by a public service corporation water utility using its capital for conservation efforts in water challenged AMAs without being compelled by law to do so.

It should be noted that the Pinal AMA has a much more generous groundwater allowance than the Tucson and Phoenix AMAs, which substantially reduces any groundwater replenishment obligation there. Not only is a groundwater allowance given for residential development on retired farmland, until recently, a generous groundwater allowance was available on all lands in the Pinal AMA, including raw desert based on a groundwater allowance of 125 gallons per capita per day ("gpcd"). This approach effectively removed any incentive for new subdivision development to use renewable water supplies in lieu of pumping groundwater. The result is heavy reliance by new residential growth in the Pinal AMA on cheaper groundwater supplies. And, unlike the Phoenix and Tucson AMAs, little or no groundwater replenishment is required in the Pinal AMA for new subdivisions. Without the importation of CAP water into the AMA and a commensurate replenishment obligation to replace pumped groundwater supplies with renewable water supplies, very real concerns exist that "physically available groundwater" as defined by the Assured Water Supply ("AWS") program will soon be exhausted in parts of the Pinal AMA. This situation is likely to be compounded when the irrigation districts in the AMA increase their groundwater pumping because the CAP Agricultural Pool will

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be reduced beginning in 2019 and ultimately, terminated in 2030. And, if the long-term drought conditions continue throughout the Colorado River Basin, the drawdown of finite groundwater supplies in the Pinal AMA is likely to be exacerbated by cutbacks in lower priority CAP deliveries.

Q. Mr. Soriano "strongly disagrees" with your testimony that the severance of Phase III of SaddleBrooke from Robson's Lago Del Oro Water Company's CC&N and the formation of a new Robson water utility known as Ridgeview Utility Company in 2001 to provide water service was not done to conserve water. (Soriano Rebuttal Testimony, p. 6, line 11). How do you respond?

A. I think Mr. Soriano's rebuttal testimony proves my point. Mr. Soriano states that "[i]n order for Lago Del Oro Water company to serve Phase III, it would have had to opt out of the GPCD program and participate in ADWR's Non Per Capita Conservation Program ("NPCCP") of the Third Management Plan. That would have resulted in *significantly increased costs* (emphasis added) from enrolling in the Central Arizona Groundwater Replenishment District ("CAGRD"), which costs would have been passed on to the utility's customers." It is apparent from Mr. Soriano's testimony that the decision to create Ridgeview, a new water utility to serve Phase III of SaddleBrooke, was a financial decision, not a decision driven by good water management considerations. Ridgeview was enrolled in the CAGRD, however, had the customers within the new CCN remained with Lago del Oro, Lago would have been required to reduce its GPCD rate or employ additional conservation methods under ADWR's NPCCP.

Q. How does Arizona Water Company's investment in renewable water supplies in the Pinal AMA factor into the question of whether it is providing "reasonable service" in its Pinal Valley water service area?"

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A. It is clear that Arizona Water Company has chosen to exceed the bare minimum legal requirements of the state's Groundwater Management Code by committing to the use of CAP water in an area where it really makes a difference. Arizona Water's track record of water supply stewardship in its Pinal Valley service area is consistent with the state's best water conservation policies. From what I have researched, the same cannot be said of the Robson-owned water utilities, even if the bare minimum legal requirements are being met as Mr. Soriano has testified.

Q. Does this conclude your testimony?

A. Yes, it does.

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A Professional Limited Liability Company

EXHIBIT
AWC-7
ADMITTED

AWC -7

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

BOB STUMP - Chairman
GARY PIERCE
BRENDA BURNS
BOB BURNS
SUSAN BITTER SMITH

IN THE MATTER OF THE APPLICATION OF ARIZONA WATER COMPANY FOR AN EXTENSION OF ITS CERTIFICATE OF CONVENIENCE AND NECESSITY AT CASA GRANDE, PINAL COUNTY, ARIZONA	**DOCKET NO. W-01445A-03-0559**

Direct Testimony

of

Paul Walker

(Hearing on Remand - Phase 2)

ARIZONA WATER COMPANY

Direct Testimony of

Paul Walker

I. <u>Introduction and Background</u>.

Q. PLEASE STATE YOUR NAME, EMPLOYER AND OCCUPATION.

A. My name is Paul Walker. My business address is 334 West Georgia Avenue, Phoenix, Arizona, 85013.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. My firm is Insight Consulting, LLC. I am the owner and sole proprietor.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE ARIZONA CORPORATION COMMISSION ("COMMISSION"), AND IF SO, IN WHAT MATTERS AND ON WHAT SUBJECTS?

A. I have testified as a witness for Global Water Resources, LLC ("Global") and Responsible Water. I testified in Global's most recent rate case, Docket No. W-01212A-12-0309; and in Arizona Water Company's Eastern Group Rate Case, Phases 2 and 3, Docket No. W-01445A-11-0310. For Global, I testified on the regulatory treatment of utility acquisitions and consolidations and their financial impacts. In Arizona Water Company's Eastern Group case, I testified on the public benefits resulting from the Commission's adoption of the System Improvement Benefits Mechanism. I have also presented before the Commission on numerous issues related to water and energy over the past decade.

Q. CAN YOU PROVIDE A SUMMARY OF YOUR TESTIMONY?

A. I address the ramifications of the Commission adopting a new standard for the deletion of a utility's Certificate of Convenience and Necessity ("CCN") because that utility does not

provide both water and wastewater utility service. I conclude that it would be bad public policy for the Commission to delete a utility's CCN to provide water utility service solely because it did not also hold the CCN to provide wastewater service.

Q. FROM YOUR EXPERIENCE, WHAT FACTORS DOES THE COMMISSION CONSIDER WHEN ISSUING CCNs?

A. ~~The Commission is aware that~~ Granting a CCN conveys significant, lasting, and material economic benefits, as well as responsibilities, on a utility company. Therefore, the Commission and its Staff spend many hours considering a comprehensive list of factors when considering an application for a CCN. They have a very holistic and long-term view of the issues involved.

Q. DOES ARIZONA WATER COMPANY CURRENTLY HOLD THE CCN FOR THE CORNMAN TWEEDY PROPERTY?

A. Yes. ~~As explained by Mr. Garfield in his pre-filed testimony, the Commission has unconditionally granted Arizona Water Company the CCN to provide water utility service to the Cornman Tweedy property.~~ The property is now included in Arizona Water Company's vast Pinal Valley water system, which serves nearly 30,000 customers.

Q. WHAT IS YOUR UNDERSTANDING OF THE ISSUE FACING THE COMMISSION IN THIS PROCEEDING?

A. My understanding is that this is a CCN deletion proceeding.

Q. ARE YOU FAMILIAR WITH THE IMPACTS AND POLICY ISSUES ARISING FROM CCN DELETIONS?

A. Yes. I have been familiar with CCN-related issues since serving as a Policy Advisor to then-Commissioner Marc Spitzer. CCN deletions are rare, and my understanding is that before deleting a utility's CCN, the Commission must find that the certificate holder is either unable or unwilling to provide adequate service at reasonable rates.

Q. ARE YOU AWARE OF WHETHER THE COMMISSION HAS DELETED CCNs IN THE PAST?

A. Yes. As mentioned earlier, I have worked for, and at, the Commission in various capacities since 2001. During that time, the Commission deleted a number of utility CCNs because of the utilities' inability or unwillingness to provide reasonable service, and as a result of condemnation by a municipality. Additionally, the Commission has deleted CCNs at the request of the utility.

Q. CAN YOU PROVIDE AN EXAMPLE OF THE COMMISSION DELETING A UTILITY'S CCN BECAUSE IT WAS UNABLE OR UNWILLING TO PROVIDE REASONABLE SERVICE?

A. Yes. In 2007, the Commission deleted Golden Corridor Water Company's ("Golden Corridor") CCN for failing to provide potable water to its customers, failing to maintain a satisfactory and continuous level of service, serving customers outside its certificated area, and delivering water at pressures lower than applicable standards. In addition to being chronically out of compliance with the Commission's performance requirements and Safe Drinking Water rules, Golden Corridor's ongoing failures created a clear and present public health and safety hazard for its customers. At the Commission's request, Arizona Water Company agreed to become the interim manager of Golden Corridor and went so far as to interconnect the system with its own Pinal Valley water system. Arizona Water Company still provides water service to the customers of Golden Corridor to this day.[1]

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[1] Incidentally, the principal of Golden Corridor stated before the Commission that she approached Picacho Water Company, a Robson utility, to see if they would be willing to interconnect to the Golden Corridor system for the purpose of blending water and reducing nitrate levels. However, Picacho Water Company reportedly refused to interconnect with the Golden Corridor system. (*See* Decision No. 69723, dated July 30, 2007)

Another CCN deletion involved Hacienda Acres, a small utility southwest of the City of Maricopa. The Commission revoked Hacienda Acres' CCN as a result of its willful failure to comply with EPA, ADEQ, and Commission orders. In the end, the company's principal destroyed the wellhead, leaving approximately 60 customers stranded and without water. The Commission appointed an interim manager, Global Water, which continues to serve the area to this day.

The McLain system located in Cochise County also had a history of failing to provide safe, adequate, and reliable service to its customers, but the Commission did not revoke its CCN, despite overwhelming evidence of the utility's failures. Rather, a Responsible company, Liberty Utilities, purchased the McLain system and incorporated it into Liberty's Sunrise systems.

Q. ARE YOU AWARE OF A ROBSON AFFILIATED UTILITY EVER STEPPING UP TO COME TO THE AID OF THE CUSTOMERS OF A SMALL, DISTRESSED WATER OR WASTEWATER UTILITY?

A. No. Not in my experience at the Commission or working closely with Responsible Water utilities.

Q. HAS THE COMMISSION DELETED A UTILITY'S CCN UNDER ANY OTHER CIRCUMSTANCES?

A. Yes. I am aware of cases where the Commission has deleted a utility's CCN because of condemnation by a municipality and where a utility has requested deletion because of a sale of assets.

Q. TO YOUR KNOWLEDGE, HAS ANYONE ARGUED THAT ARIZONA WATER COMPANY IS UNABLE, UNWILLING, OR HAS FAILED TO PROVIDE SAFE, ADEQUATE, AND RELIABLE WATER SERVICE?

A. No. To the contrary, all of the evidence shows that Arizona Water Company is committed to provide safe, adequate, and reliable water service at the lowest possible rates.

Q. TO YOUR KNOWLEDGE, HAS ANYONE ARGUED THAT ARIZONA WATER COMPANY IS WILLFULLY OR INTENTIONALLY FAILING TO COMPLY WITH ANY EPA, ADEQ, ADWR, OR COMMISSION RULES OR ORDERS?

A. No.

Q. HAS ANYONE RAISED THE QUESTION OF WHETHER ARIZONA WATER COMPANY IS A FIT AND PROPER ENTITY, OR IS OTHERWISE NOT ABLE OR WILLING TO PROVIDE SAFE, ADEQUATE, AND RELIABLE WATER SERVICE IN THIS CASE?

A. No. In fact, Arizona Water Company has demonstrated a track record of providing safe, adequate, and reliable water service to the customers of other troubled water utilities. I believe the only question that has been raised in this case is whether a utility is providing "adequate service" if it is unable or unwilling to provide both water and wastewater service to the same area. This issue has never been raised in regard to an existing CCN holder; and would set quite a bad precedent if adopted. As it stands now, as Mr. Garfield testifies, Arizona Water Company is ready, willing, and able to provide water utility service within its CCN, including the Cornman Tweedy property. Arizona Water Company is also able and willing to provide integrated wastewater utility service within its CCN, if asked to do so (but Picacho Sewer Company currently holds the sewer CCN) by doing so itself or coordinating and cooperating with a separate qualified wastewater utility in the area. I can personally attest that Arizona Water has such an accord with Global Water in the Maricopa area. ~~Given the Commission's standard for deletion of a CCN, there are no grounds to delete Arizona Water Company's CCN in this proceeding~~. If the Commission wishes to have a coordinated approach between the water and the wastewater providers, it needs only

to direct the entities to develop and deliver such an approach, and the Commission need not threaten to, or even consider, deleting a utility's CCN.

Q. ARE YOU AWARE OF ANY CASE WHERE THE COMMISSION HAS DELETED A UTILITY'S CCN ON THE GROUNDS THAT IT WAS NOT PROVIDING REASONABLE SERVICE BECAUSE IT ONLY PROVIDED WATER OR WASTEWATER SERVICE, AND NOT BOTH, TO A SINGLE AREA?

A. No. I examined all of the deletion proceedings I could find in the Commission's records for the past eight years and could not find any instance of such a deletion.

Q. IF THE COMMISSION DELETES THE CCN OF A WATER UTILITY THAT IS ABLE AND WILLING TO PROVIDE SAFE, ADEQUATE, AND RELIABLE SERVICE, WHAT IMPACT WILL THAT DECISION HAVE ON OTHER WATER AND WASTEWATER PROVIDERS IN ARIZONA?

A. Such a decision ~~will~~ would likely alarm ~~every~~ other water and wastewater ~~utility~~ utilities in the state, the vast majority of which provide only one type of utility service. The Commission will destabilize the entire industry if it sets the precedent that a single utility must provide *both* water and wastewater service in a given area in order to *retain* its CCN. The repercussions would also be far-reaching. For example, if a municipality wanted to acquire a privately-owned utility located within its borders, it could seek to drive down just compensation and create substantial pressure on the public service corporation by asserting that the Commission should delete that utility's CCN on the grounds that it did not hold the CCN to provide both water and wastewater services.

Additionally, ~~a new standard for~~ deletion under the circumstances of this case would discourage investment in Arizona's utility infrastructure and increase the risk of such an investment because a utility's CCN would

perpetually be at risk of deletion, despite the fact that the utility is providing safe, adequate and reliable service.

Q. DO YOU AGREE WITH THE PREMISE THAT A UTILITY IS NOT PROVIDING REASONABLE SERVICE IF IT ONLY PROVIDES WATER SERVICE AND NOT WASTEWATER SERVICE?

A. I do not agree. I believe deleting a CCN because the regulator decided after the CCN is granted that a utility should be "integrated" and provide some other form of utility service is bad policy, increases investment risk and discourages investments by utilities, which will increase the cost of service that customers ultimately pay in utility rates.

Q. DOES THAT CONCLUDE YOUR TESTIMONY?

A. Yes.

EXHIBIT
AWC-8
ADMITTED

AWC -8

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
DOUG LITTLE - CHAIRMAN
BOB STUMP
BOB BURNS
TOM FORESE

IN THE MATTER OF THE JOINT APPLICATION OF ARIZONA WATER COMPANY TO EXTEND ITS CERTIFICATE OF CONVENIENCE AND NECESSITY AT CASA GRANDE AND PINAL COUNTY, ARIZONA.	)	DOCKET NO. W-01445A-03-0559

Surrebuttal Testimony of

Paul Walker

on Behalf of

Arizona Water Company

January 11, 2016

I. Introduction.

Q. Please state your name and business address.

A. My name is Paul Walker. My business address is 330 East Thomas Road, Phoenix, Arizona 85012.

Q. By whom are you employed and what is your position?

A. I am the founder, owner and President of Insight Consulting, LLC.

Q. Please describe your education.

A. I have a Master's Degree in Business Administration from the Thunderbird School of Global Management. I have a Bachelor's Degree in Business Management from the University of Phoenix. I am a graduate of numerous U.S. Army schools, including the U.S. Army War College's Combined Arms and Service School, the U.S. Army Officer Advanced Course (Transportation), and the U.S. Army Officer Basic Course (Military Police).

Q. Please describe your professional background and experience.

A. From 2004 to present I have worked as a lobbyist and regulatory consultant for clients in the utility and energy sectors. I worked with Wall Street investment firms from 2004 to 2009, conducting regulatory analysis of federal and state matters ranging from rate cases in numerous states, and evaluating liquefied natural gas export terminal feasibility. I have worked with several Arizona utilities, including Arizona Public Service, Tucson Electric Power, Arizona Water Company, Liberty Utilities, and, of course, Global Water Resources.

Prior to that, I served as advisor to Commissioner Marc Spitzer at the Arizona Corporation Commission, and on Governor Jane Dee Hull's Indian Gaming compact negotiation team. I have also served on the Commission's Power Plant and Line Siting Committee.

Additionally, I am the vice-chairman of ConservAmerica, a national Republican organization focused on federal energy policy and legislation; I chair an independent expenditure committee that spends and coordinates advertising and election support for Republican congressional candidates throughout the United States; and I am the chairman of the Arizona Security and Prosperity Project, a 501(c)4 organization focused on improving Arizona's border security and economic development. I also served as the Chairman of Arizonans for Responsible Water Policy, a non-profit entity that focused on improving the regulatory climate for water and wastewater companies in Arizona. I also serve as an advisor and equity holder in a financial services firm that is focused on serving the unbanked population in the United States and Africa.

Q. Have you previously testified before the Commission?

A. Yes, I have provided testimony in a number of Commission proceedings on issues such as regulatory policy, water utility acquisitions, utility financial issues, the System Improvement Benefit ("SIB") mechanism, and other topics. Dockets where I have testified or submitted written testimony include:

- Arizona Water Company's SIB proceeding (Docket No. W-01445A-11-0310);
- Global Water's last rate case (Docket No. W-01212A-12-0309 et al.);
- EPCOR and Global Water's Application for Approval of Sale and Transfer of Assets of Willow Valley Water Company (W-01732A-15-0131 and W-01303A-15-0131); and
- Arizona Water Company's Application to Extend its CC&N (Docket No. W-01445A-03-0559).

I have also given numerous presentations at regulatory workshops and industry meetings, on issues ranging from industry consolidation, acquisitions, alternative financing mechanisms, environmental issues and concerns, the energy-water nexus, and return on equity issues. I have co-authored white papers on distribution system improvement charges, and strengthening and consolidating the Arizona water industry.

Q. Have you reviewed the rebuttal testimony of Ernest G. Johnson (Hearing on Remand – Phase 2)?

A. Yes, I reviewed a version of that testimony following the rulings by the Commission striking significant portions of the original rebuttal testimony provided by Mr. Johnson.

Q. Please provide an overview of your surrebuttal testimony.

A. I will respond to Mr. Johnson's rebuttal testimony, testifying on behalf of Cornman Tweedy 560, LLC. Mr. Johnson characterized my position as "based on an unsuitable premise", "not responsive to the Commission's examination of the questions posed in the procedural order', "arguing in favor of regulatory entitlements", and wholly wrong on the public interest. Each of his characterizations is incorrect.

Q. What is the premise of your argument in favor of the Commission rejecting Cornman Tweedy's request to delete a portion of Arizona Water Company's CC&N?

A. The Commission should uphold Arizona Water Company's CC&N because doing so best serves the public interest. It is indisputably true that CC&Ns serve the public interest by establishing the obligation to serve a certificated area with essential public services – in this case, water utility service. This is part of the "regulatory compact" recognized in Arizona, providing generally that in exchange for the obligation to serve an exclusive area, a utility is provided with protection from challenges to its CC&N area and an opportunity to earn a return on its investment. A CC&N is not a "regulatory entitlement" it is instead a

regulatory obligation, and that obligation comes with both costs and potential future benefits. A CC&N is akin to a contract between the utility and the public, a contract established, overseen and monitored by the Commission. Cornman Tweedy 560, LLC wants the Commission to revoke that contract so that its parent company can instead have it. That's what this case is actually about – an entity trying to revoke a CC&N so that its parent company can have an affiliate take the CC&N for itself.

Q. Has the Arizona Supreme Court evaluated the question of CC&Ns in the light of the public interest?

A. Yes, in the case of *James P. Paul Water Co., v. Arizona Corporation Commission*, 137 Ariz. 426, 671 P.2d 404 (1983) the Court evaluated whether the Commission can delete a portion of a CC&N. The Court concluded that the CC&N "gave Paul the exclusive right to supply domestic water service to several sections of relatively undeveloped land", and, citing its decision in Application of Trico Electric Cooperative, Inc. and *Davis v. Corporation Commission*, 96 Ariz. 215, 393 P.2d 909) (1964) stated that the CC&N should not be deleted absent a finding that the certificate holder "failed to render satisfactory and adequate service therein, at reasonable rates."

The Court further stated that "the public interest is the controlling factor in decisions concerning service of water by water companies" and that "a certificate holder was entitled to an opportunity to provide adequate service at a reasonable rate before a portion of its certificate could be deleted. A certificate holder is entitled to that opportunity because providing it with that opportunity serves the public interest."

Q. Do you believe that Cornman Tweedy has the right to delete a portion of Arizona Water Company's CC&N in this proceeding?

A. No, I do not. Contrary to Mr. Johnson's characterization, I do not misunderstand the scope of this proceeding. My position is not "unresponsive", as Mr. Johnson asserts, because it

differs from his. Mr. Johnson believes that the public interest is only served by allowing integrated water and wastewater providers to serve new growth; my view is that the public interest is not best served by a "one size fits all" approach. Instead, the Commission's job is much more complex – and it requires, always, balancing many competing legal, financial, environmental, and engineering questions.

Q. But you have, many times in the past, argued for integrated water and wastewater service, have you not?

A. I have made that argument in appropriate circumstances because integrated water and wastewater service can, as Mr. Johnson recognizes, provide benefits – addressing each of the questions the Commission must balance. It can provide financial, environmental, and engineering benefits. However, just because a particular integrated company may offer those benefits does not mean that stand-alone companies cannot.

Nor does it mean that stand-alone water companies cannot adopt and implement comprehensive plans to include and use reclaimed water. Bear in mind that certain integrated developer-controlled entities, like Robson's Picacho Sewer Company, and its separate affiliate, Picacho Water Company, have divided loyalties. Such a captive developer-owned utility could, and sometimes does, manipulate and divert those benefits to its proprietary homebuilding interests instead of flowing those benefits through to the ratepayers of its captive water and sewer companies. Arizona Water Company President William Garfield provides examples in his direct and Surrebuttal testimony in this proceeding. Also, as Mr. Garfield testifies, Arizona Water Company is ready, willing and able to provide wastewater utility service together with water service in those parts of its Pinal Valley CC&N where wastewater is not already provided. This could include the Cornman Tweedy area, although Robson's Picacho Sewer Company holds the wastewater CC&N there but has no operating wastewater facilities in or near that area.

Instead, Arizona's water future and current water challenges (we are in a situation of much

decreased surface water and precipitation that appears to be "the new normal")[1] require stand-alone water companies to develop more innovative and collaborative arrangements with wastewater companies.

Vitally, we are in a statewide situation in which the Commission needs more and more to work with Arizona's water companies to develop innovative and collaborative policies, improved regulatory tools, and approaches to manage that future.[2]

Q. Are you aware of whether Arizona Water Company has developed "more innovative and collaborative arrangements with wastewater companies"?

A. I am. I worked with Global Water Resources during its litigation with Arizona Water Company concerning the extension of Global's CC&N area in western Pinal County last decade. After a lengthy, contentious, and costly litigation, the two companies reached a settlement that provided for cooperation in Global's efforts to provide wastewater service in areas where Arizona Water Company was granted a water service CC&N, and importantly, provided Arizona Water Company with access to reclaimed water provided from Global Water's wastewater treatment system for Arizona Water Company's use in its newly-certificated areas.[3]

As a result, Arizona Water became able to offer domestic water service to homes and businesses, and to provide reclaimed water for use on turf irrigation areas.

I am also aware that Arizona Water Company has been working with the City of Casa Grande to allow reclaimed water service (provided by Casa Grande's wastewater system) in Arizona Water Company's certificated areas, both for direct delivery of reclaimed water and for recharge to offset the use of groundwater.

In both these instances, Arizona Water Company worked with the wastewater provider to

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[1] See, e.g., "The Energy-Water Nexus, From a Private Water Perspective" presentation I made at the VerdeXchange Conference earlier this year; see also "Responsible Water letter RE Water Future" to the Commissioners earlier this year, at Attachments A and B.

[2] See, e.g., "RUCO RW Filed White Paper from ACC Docket"; and "Beyond Rate Shock-Regulatory Lag-Responsible Water- Oct 2012"at Attachment C.

[3] See, Global Water – Arizona Water Company Settlement, at Attachment D

develop comprehensive plans to maximize the beneficial use of reclaimed water within the communities and areas Arizona Water Company serves, and will serve in the future. The Commission should encourage more of that approach, rather than reaching a conclusion that stand-alone water service is no longer "in the public interest".

Q. Mr. Johnson states that he believes "integrated water and wastewater systems are essential in order to advance water sustainability"[4], how do you respond?

A. I disagree. Again, the Commission will not, has not, and cannot address the water and economic challenges this state faces by adopting simplistic solutions to complex problems. There are 282 regulated water utilities in Arizona; the concept of "one size fits all" has not been effective in practice.

Q. What is, in your opinion, the public interest in this case?

A. It is what it always is, as Professor James C. Bonbright wrote in what I consider the essential, unequivocally best, book ever written on the challenge of utility regulation, "Principles of Public Utility Rates". There, he called "the public interest" a phrase "almost unique in its extreme vagueness… One is tempted to say that the so called standard of public interest is not a real standard at all; that instead it is a mere form of words of highly emotional content, invoked as an instrument of persuasion by people who have at heart much more immediate interests… interests often, but not always, of a self-seeking nature."[5]

Because I deeply agree with Professor Bonbright's view of that phrase, I try very hard to avoid using it at all – instead I prefer the view he provides in his preface to that work: "[T]o a substantial extent, sound ratemaking policy is a policy of reasonable compromise among partly conflicting objectives."

[4] Rebuttal Testimony of Ernest G. Johnson, Sr., Esq. at Page 15, Lines 9-10

[5] Principles of Public Utility Rates, James C. Bonbright, 1961 (Part One – Basic Standards, Chapter II, The Public Interest As the Assumed Goal of Rate Making, Section "Public Interest or Social-Welfare Criteria of Reasonable Rates")

This case provides the Commission with the choice between affirming the fact that CC&N holders bear obligations and costs to serve areas – and those costs are real, and have been borne by Arizona Water Company; or agreeing with the sentiments expressed during the Chairman Mayes era Commission that: "stand-alone water companies may no longer be in the public interest."

Q. Mr. Johnson repeatedly claims that stand-alone water companies are not troubled by that proposition at all because they haven't intervened in this case. Do you think that's a fair assumption?

A. I don't think it's correct at all, and I think it belies an unfamiliarity with the life of a water company. It is true that the larger companies have not intervened in this case – but there are six large water companies in Arizona; EPCOR, Robson Utilities, Johnson Utilities, Global Water, Liberty Utilities, and Arizona Water Company. Half of those companies are clients of mine; and I can assure you that Liberty and Global are aware of this case. It appears that Mr. Johnson wants companies to weigh in on behalf of Arizona Water Company, and I believe they would be willing to do so and strongly support Arizona Water Company's position in this case.

As to the 276 companies that are smaller – they don't have staffs anything like the electric utilities. Mr. Johnson is used to seeing APS, Tucson Electric/Unisource, and Salt River Project intervening and tracking each other's cases; what he doesn't point out is that each of those companies has billion-dollar plus annual revenues. They have lots of analysts, attorneys and lobbyists on staff and on contract to track the Legislature, County and City Governments, Federal legislation, rules, and agency proceedings, and of course, the Commission. Those costs are largely recovered through rates paid by their customers. Water companies throughout Arizona, all combined, don't have the annual revenues of any one of those entities – and are incapable of tracking and intervening in each other's cases.

Q. What was your role with Windsong Water Company, in Sanders, Arizona?

A. In my capacity as chairman of Arizonans for Responsible Water Policy, I was called by Staff to ask for help with this very small system. It had a host of regulatory and operational challenges, hadn't filed a rate case in over 20 years, hadn't filed annual reports in over a decade, and in fact had its CC&N administratively revoked. Yet it was providing water service to between 55 and 60 homes (during my work with the company) in the small community of Sanders, Arizona.

Q. What steps did Responsible Water take to assist Windsong Water?

A. The members of Responsible Water, including Arizona Water Company, donated time and Resources to make Windsong Water fully operational and establish regulatory compliance. Arizona Public Service company provided $15,000 in funding to resolve serious and dangerous electrical problems. All told, about $90,000 of work, infrastructure, and support was provided over a two-year period.

Q. What is the current status of Windsong Water?

A. Despite our efforts, ADEQ and the EPA found Windsong Water to be out of compliance on uranium contamination (caused by Federal uranium mining in the 1950s); and Windsong Water is currently being forced to surrender its CC&N so that Navajo Tribal Utility Authority (NTUA) can take the system over without compensating the owner. NTUA refused to negotiate an interconnect agreement under which our group would have borne all the costs of interconnection, refused to even consider a purchased water agreement, and instead worked with the regulators to strip the CC&N from Windsong Water.

Q. What's the moral of the story with Windsong Water?

A. The moral of the story is that even when outside entities step in, and spend years and large sums of money to help a struggling company, and even when the record clearly shows dramatic improvements, a collateral attack on the CC&N is the cheapest way to take over a utility.

Q. Are you familiar with any other situations that would be affected by a Commission precedent finding that a water-only company is not providing reasonable service if it doesn't provide integrated water and wastewater service?

A. Yes, Global Water acquired West Maricopa Combine a decade ago. One of the systems involved in that acquisition was the Valencia Water Company. Earlier this year, Global Water and the City of Buckeye agreed to a stipulated condemnation of Valencia. Under the stipulated condemnation, Buckeye acquired the approximately 7,000 connection system for $55 million, and Buckeye agreed to pay a $3,000 per connection growth premium for the next 20 years to compensate Global Water for the lost opportunity to serve its CC&N.

If the precedent that Cornman Tweedy seeks here had been in place, it is very possible that Buckeye would simply have requested that the Commission delete the CC&N of Valencia because Valencia Water was a stand-alone water company, and Buckeye was providing integrated water and wastewater service in every area surrounding Valencia, and was the wastewater provider for Valencia's customers. Such decision, contrary to the public interest, would allow a municipal condemnor to potentially avoid payment of constitutionally-guaranteed just compensation by arguing the water-only company was not providing "reasonable service" and their CC&N should be revoked or deleted. I believe it is very likely that had this precedent been in place, Buckeye would have likely made that argument for the CC&N areas covered in the growth premium. So we are talking about a very significant change to the value of CC&Ns; and the precedent would create a very high degree of leverage for municipalities, or larger, integrated companies, to use to strip

CC&N from water-only companies.

Q. Mr. Johnson thinks those fears are unfounded, doesn't he?

A. Yes, he clearly does – but I have spent 12 years in the private sector working on acquisitions, sales, and condemnations in the water industry. And my experiences lead me to conclude that this is a profound change we are considering.

Q. If the Commission deletes the CC&N of Arizona Water Company on the grounds that water-only utility service is not reasonable service, what should the Commission expect as a result of establishing that new precedent?

A. More cases like this one. Windsong Water writ large – integrated municipal providers will target unserved CC&N areas for deletion; developers with plans in water-only CC&N will also likely do the same; and, frankly, integrated providers will likely start looking at CC&N areas bordering theirs, served by water-only providers, and seriously considering making similar filings. The result will be, I'm afraid, a host of cases like this one; all probably heading to the Supreme Court – a vast waste of Commission time, resources, and its credibility as an entity turning its focus to addressing water issues under the new Chairman's direction.

Q. But under Mr. Johnson's regulatory model, customers would receive integrated water and wastewater service, and that would be a benefit, wouldn't it?

A. One of my favorite economists of all time is Frederic Bastiat. He constantly cautioned that what we have to do is look beyond what is seen to that which is unseen. In fact, one of his more famous pieces of writing is "What Is Seen and What Is Not Seen". In that paper, he wrote,

> "In the economic sphere an act, a habit, an institution, a law produces not only one effect, but a series of effects. Of these effects, the first alone is immediate; it

appears simultaneously with its cause; it is seen. The other effects emerge only subsequently; they are not seen; we are fortunate if we foresee them. There is only one difference between a bad economist and a good one; the bad economist confines himself to the visible effect; the good economist takes into account both the effect that can be seen and those effects that must be foreseen. Yet this difference is tremendous; for it almost always happens that when the immediate consequence is favorable, the later consequences are disastrous, and vice versa."

Here, Mr. Johnson is attempting to argue that what is seen will be customers receiving integrated water and wastewater service from integrated providers offering regional reclamation, reuse, and recharge. What is unseen is that the vast majority of Arizona's 282 water companies are providing more than reasonable service. What is unseen being that the precedent Mr. Johnson and Cornman Tweedy are asking this Commission to establish puts water-utility CC&N assets, and the costs they incurred in attaining those CC&Ns, permitting and planning those CC&N areas, and their infrastructure investment decisions made in anticipation of one day serving their entire CC&N at risk. It fundamentally changes how they will view and plan for service in the CC&N areas that they currently hold.

There are two ramifications to that; one a justice concern, the other an economic and operational concern.

Q. What is the "justice concern" raised by a Commission decision finding that a water company is not providing reasonable service unless it provides integrated water and wastewater service?

A. Again, Mr. Bastiat provides a concise statement, "But how is this legal plunder to be identified? Quite simply. See if the law takes from some persons what belongs to them and gives it to other persons to whom it does not belong. See if the law benefits one citizen at the expense of another by doing what the citizen himself cannot do without

committing a crime."

In this case, the Robson entities acquired a development, the Comman Tweedy 560 LLC *after* it had asked for service from Arizona Water Company and *after* the Commission had granted a CC&N to Arizona Water Company to serve the area, and *after* Arizona Water Company had incurred significant costs in planning to serve that area.

No one can dispute that Arizona Water Company has incurred significant legal, planning, and permitting costs to serve the area. Or that it holds the CC&N to serve the area. The question here is whether that asset can now be taken from Arizona Water Company under the guise of what one entity calls "the public interest."

The rationale for Mr. Johnson's position is based on an extremely vague notion, couched in emotional words, backed by the unsupportable innuendo that Arizona Water Company does not, cannot, and will not emplace reclaimed water use – despite Arizona Water Company's efforts and proven ability to do so with a competitor, Global Water, and a municipality, Casa Grande.

But it is exactly this sort of "philanthropic" "public interest" that Mr. Bastiat was most wary of, I agree with Mr. Bastiat's assertion that "[t]he mission of law is not to oppress persons and plunder of them their property, even though the law may be acting in a philanthropic spirit. Its mission is to protect property."

If one does not like to rely upon Mr. Bastiat[6], one can then consider the words of the Arizona Supreme Court in the James P. Paul case, in which the Court wrote:

> "If a certificate of convenience and necessity within our system of regulated monopoly means anything, it means that its holder has the right to an opportunity to adequately provide the service it was certified to provide. Only upon a showing that a certificate holder, presented with a demand for service which is reasonable in light of projected need, has failed to supply such service at a reasonable cost to

[6] Frederic Bastiat is still renowned, 165 years after his death, for his ability to explain economic concepts in terms that non-economists could understand. In "The Parable of the Broken Window", M. Bastiat launched the entire concept of "opportunity cost" – a pivotal development in free market economic theory.

customers, can the Commission alter its certificate. Only then would it be in the public interest to do so... Where a public service corporation holds a certificate for a given area, the public interest requires that that corporation be allowed to retain its certificate until it is unable or unwilling to provide needed service at a reasonable rate."

Q. Your second concern was, you said, an economic and operational concern. What is that concern?

A. If the Commission upholds Mr. Johnson's theory – and determines that "reasonable service" from a water company is not provided unless it offers integrated water and wastewater service, the entire economics of Arizona's water industry will change dramatically.

Many permutations become possible: Perhaps water companies will begin developing wastewater systems and attempting to emplace them throughout the state to ensure that they don't lose their CC&N. Yes, that would create more reclaimed water, but it would also be an extremely costly endeavor. And water companies would have to expand their staff and operational expertise to provide wastewater service – and to reuse or recharge the water, will have to emplace reclaimed water distribution infrastructure, build recharge projects, or get AzPDES permits.

Large, integrated providers, like two of my clients, would be able to target water-only companies that hold CC&Ns and argue that any unserved CC&N areas should be deleted and granted to the integrated company. This would create a sort of civil war between water-only and integrated companies.

Developers could leverage water-only companies by threatening to file deletion applications to remove their areas from the water company unless the water company agrees to the developer's terms.

Municipalities that have water-only companies in their planning areas could file to strip

any unserved but certificated area from those companies, and may go further and begin any acquisition or condemnation activity by filing an application to delete CC&N from a water-only company under the grounds that the company is not providing "reasonable service" and that "the public interest" would be better met if the municipality took over the area and offered integrated service instead.

Operationally, water companies would have to seriously consider extending infrastructure into currently unserved areas, while those assets would be economically stranded (i.e., not emplaced into rate base or recovered upon) they would at least bolster the company's claim that it is willing and able to provide water service. But, again, under Mr. Johnson's theory that is insufficient – so they would be placed somewhere between the devil and the deep blue sea. Their plans, their sunk costs of attaining, planning, and permitting CC&N areas, their economic hopes of growing their companies would all be in peril. None of these results would further the real interests of the public of Arizona.

Mr. Johnson is right, Arizona does face significant water challenges; but what we need from the Commission is leadership to bring together a holistic reform that strengthens the industry by providing more reasonable regulatory processes, more fair and investment-encouraging policies and decisions, and a program of consolidation that relies on negotiated, amicable transactions instead of regulatory and court battles. The future challenges we face will not be made lesser, or more manageable by creating the future that this precedent will create. That's my point.

Q. Does this conclude your testimony?

A. It does.

Attach.

A

Paul Walker Surrebuttal Testimony

January 11, 2016

ATTACHMENT A

The Energy-Water Nexus, From a Private Water Perspective

Energy Water Nexus, What is it?

Water Demand (Electric Utilities)

- Thermal-power generation
- Hydroelectric facilities
- Thermal desalination

Energy Demand (Water Utilities)

- Water pumping
- Water treatment
- Water distribution
- Wastewater lift stations
- Wastewater treatment
- Effluent distribution

Cost Recognition for Electric Side of the Energy-Water Nexus

Power Supply Costs (Electric)

- Thermal-power generation
- Hydroelectric facilities

Related Adjustor Mechanisms

- Fuel Cost Adjustors
- Purchased Power Cost Adjustors
- Transmission Cost Adjustors

Cost Recognition for the Private Water side of the Energy-Water nexus

Power Demand Costs (Water)

- Water pumping
- Water treatment
- Water distribution
- Wastewater lift stations
- Wastewater treatment
- Effluent distribution

Related Adjustor Mechanisms

- Purchased Water Adjustors
- Purchased Power Adjustors
- (Both are very uncommon in Arizona)

A Key Difference?

- Water utilities use electricity to pump groundwater (or buy transported CAP water), treat it (e.g., Cl, As), and distribute drinking water.
- Wastewater utilities use electricity to recover, treat and clean wastewater, and to distribute the reclaimed water.
- When electric utilities purchase power to serve their customers, the power is, obviously, directly provided to customers as the end product.
- However, when electric Utilities use purchased fuel as an input to their end product – e.g., natural gas to fire a turbine, or coal to boil water and produce steam – their fuel use is akin to water's use of electricity.

Energy Costs for Water Utilities

- **The lifecycle energy consumption of 1 million gallons of water can reach up to 25,000 kWh**
  - (CEC, 2005, as cited in DOE Dec. 2006 Report to Congress)
- Low-end is ~ 10,000 kWh if surface water is directly fed from source to utility.
- Obviously the CAP, a 334-mile canal is not the low-end; nor is groundwater pumping
- There is no private water company in Arizona that isn't relying on pumped groundwater or transported CAP water.
  - **Thus Arizona water providers are on the high end of the power consumption curve**
- Water/Wastewater Operations comprise nearly 4% of U.S. electricity consumption (EPRI, 2002b; EIA, 1998, as cited Ibid.)

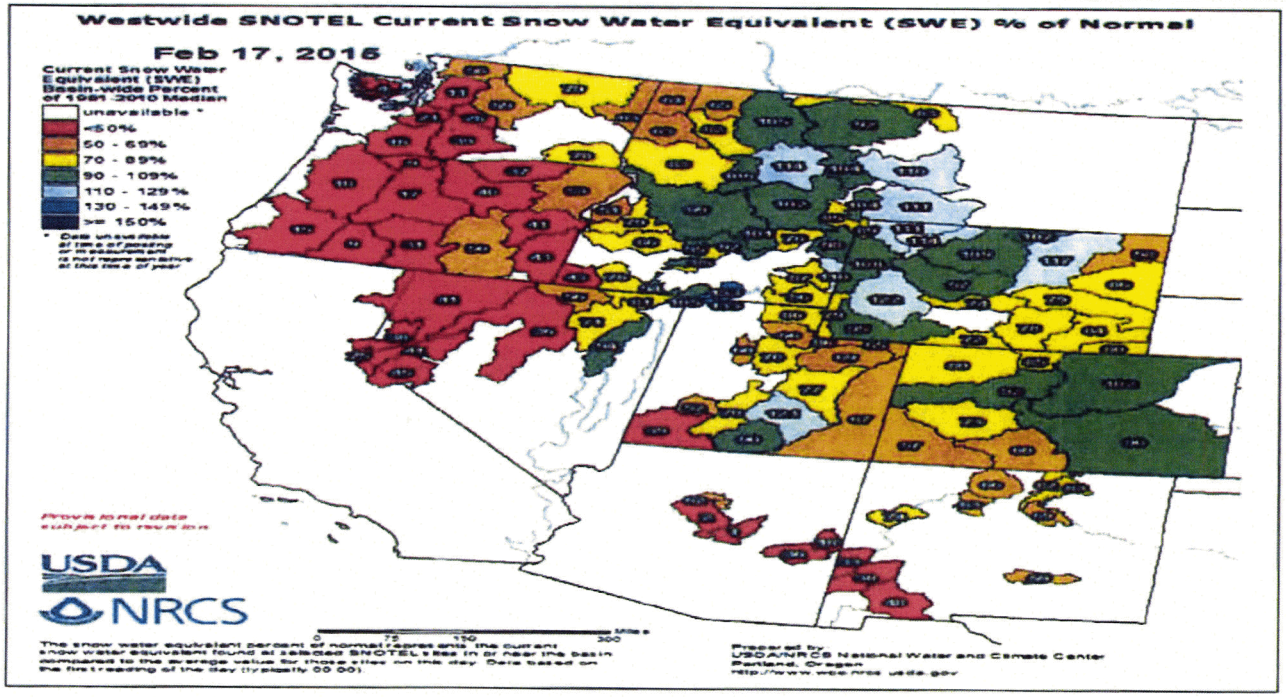
Kilowatt-Hours to Pump One Million Gallons of Groundwater

- From 120' depth — 540 kWh
- **From 400' ---- 2000 kWh**
- A 333% increase in depth to water leads to a 370% increase in power costs to lift the water.
  - See, e.g., Cohen, 2004 (as cited in DOE Report to Congress, Dec. 2006)
- **If every 1% change in depth = a 1.11% increase in power demand; then groundwater models showing continuing declines are particularly troubling.**

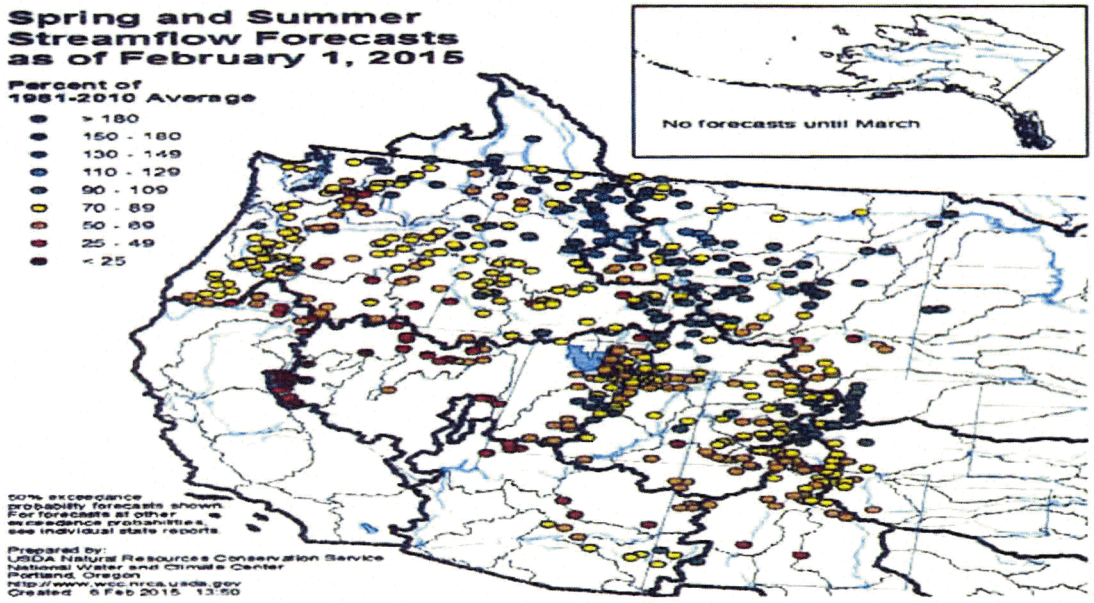
Water Customers face high energy price risks

- **If / When the Colorado River becomes curtailed, groundwater pumping will increase and declines will accelerate.**
  - Water's 4% consumption of electric supply will quickly soar.
- Water pumping tariffs have been very highly priced by the ACC – past RUCO directors supported double-digit hikes to water companies while keeping residential rates flat.
- Dramatically increasing power costs will quickly force many small water utilities into rate cases and power supply adjustor mechanisms.
- Retaining the high water pumping tariffs will only exacerbate the rate impact on water customers.

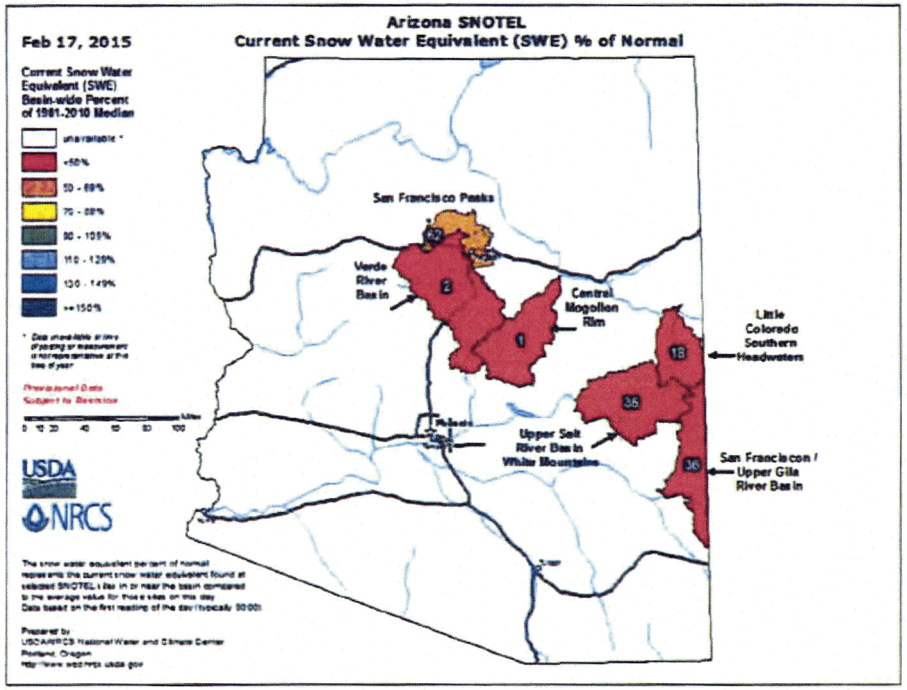
Is Water becoming more scarce?



Is Water becoming more scarce?



Is Water becoming more scarce?



NASA's Megadrought Model

Published February 2015

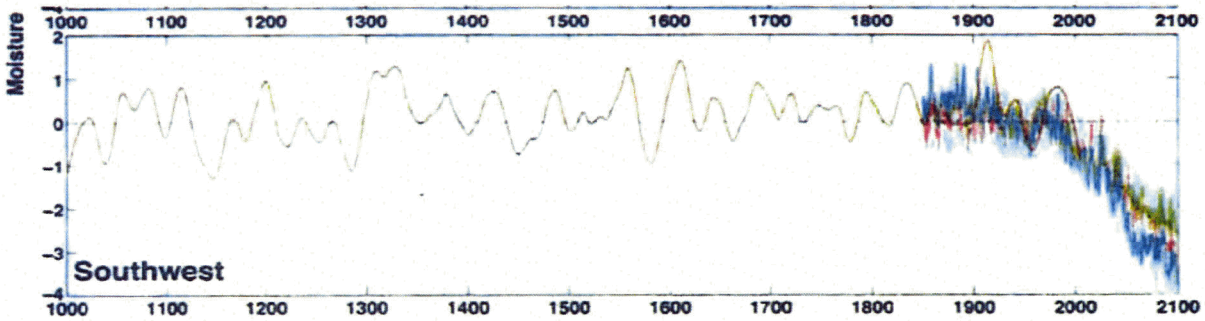


Fig. 1. Top: Multimodel mean summer (JJA) PDSI and standardized soil moisture (SM-30cm and SM-2m) over North America for 2050–2099 from 17 CMIP5 model projections using the RCP 8.5 emissions scenario. SM-30cm and SM-2m are standardized to the same mean and variance as the model PDSI over the calibration interval from the associated historical scenario (1931–1990). Dashed boxes represent the regions of in- (125°W–105°W, 32°N–41°N). Bottom: Regional average time series of the summer season moisture balance metrics from the NADA and CMIP5 models. The observational NADA PDSI series (brown) is smoothed using a 50-year loess spline to emphasize the low-frequency variability in the paleo-record. Model time series (PDSI, SM-30cm, and SM-2m) are the multimodel means averaged across the 17 CMIP5 models, and the gray shaded area is the multi-

The Scope of the Threat

- Arizona has 282 private water companies serving over 500,000 connections.
- **There is not sufficient economic scale to deal with the water challenges we currently face, and If/When 1075' at Lake Mead occurs, the following WILL happen:**
  - Water curtailments reduce agriculture's CAP supplies by over 300,000 af/year;
  - Leading to groundwater declines as agriculture is forced to pump groundwater to keep producing food for us.
  - Power cost escalations as hydro goes offline, combined with
  - Increasing power demands by water suppliers as the result of groundwater declines.
- **Groundwater declines + Higher power costs = Extreme price escalation & Financial crises for small water providers.**
- **Groundwater declines will, inexorably, run wells dry in many communities.**

What Has to Happen… Now, actually.

- **Consolidation of the private water industry on a massive and unprecedented scale and at a nearly breakneck pace.**
- **Large entities can emplace:**
  - Regional infrastructure solutions,
  - Reclamation & Reuse,
  - AMI technology,
  - Centralized, 21st Century AMI and SCADA-reliant control architecture,
    - Manages water and, vitally, manages power consumption and timing.
  - Large-scale recharge (e.g., the Liberty-CAGRD "Luke Sink" 100-year project,
  - System Improvement Plans to identify and repair or replace ALL leaking and failing water mains.
- **The vast majority of the companies that need to be consolidated into a larger entity are very rural, very small, and cannot be acquired without a new regulatory paradigm.**

Attach.
B

Paul Walker Surrebuttal Testimony

January 11, 2016

ATTACHMENT B

ARIZONANS FOR RESPONSIBLE WATER POLICY

April 1, 2015

Chairman Susan Bitter Smith
Commissioner Bob Stump
Commissioner Bob Burns
Commissioner Doug Little
Commissioner Tom Forese
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

In Re: Docket No. WS-00000A-14-0198

Dear Commissioners:

A few weeks ago I spoke at the Verde XChange Conference in Phoenix on a panel addressing the energy water nexus. My presentation was focused on the challenges I expect Arizona to confront over the next decade as the Colorado River supplies continue to dwindle, the Western drought continues unabated, and Lake Mead rapidly approaches the 1075' elevation at which the Secretary of the Interior will declare a shortage and issue a curtailment order.[1]

Obviously, those are major problems facing Arizona's water supplies – and we do have reason to be at least concerned, if not alarmed. One thing we do not need to do, however, is panic. Arizona has built the best in the nation approach to water management – our canals, recharge operations, rate design, and conservation measures were all designed to provide a "soft landing" in the event of major and prolonged drought.

However, I believe there are facets to this coming challenge that present a clear and pressing need for the Commission to embark on an unprecedented consolidation effort to ensure that Arizona's water systems quickly gain the size and financial strength they will need in the next decade and beyond.

The attached presentation goes into a fair amount of detail on the challenges created by our continued Western drought; but a large reason for my concern is that NASA published a study in February 2015 that evaluated the four strongest climate models and what they portend for water supplies in the West.[2]

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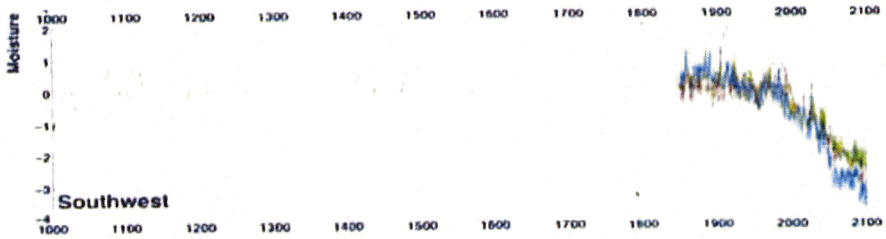
[1] See Attachment A, "The Energy Water Nexus from a Private Water Perspective"; Paul Walker presentation at Verde XChange Conference.

[2] See Attachment B, "Unprecedented 21st century drought risk in the American Southwest and Central Plains"; Authors Cook, Ault and Smerdon, published by the American Association for the Advancement of Science.

This graphic tells the tale:



From Page 2 of Attachment B

The X-axis running along the bottom of the chart shows the years, AD. The Y-axis shows the moisture content in the soil using the Palmer Drought Severity Index ("PDSI). A 0-rating on PDSI indicates normal levels of moisture; negative numbers indicate drought conditions, positive numbers indicate wet conditions.[3]

The real problem that we face is driven by the NASA conclusions in three vital ways:

1) All four leading models were stress-tested by NASA and all four agree,
2) The PDSI "bottoms out" at -4. A -4 on the PDSI indicates extreme and prolonged drought, all four models show the West "bottoming out",
3) Thus, the West is going into a drought situation that is unprecedented in our recorded history.[4]

At this point, one sees the primary challenges: Reduced water supplies and prolonged drought put significant pressure on water and energy prices and economic growth. It is the next level of problem that my presentation attempts to address: What does all this mean for the hundreds of small, rural water companies in Arizona?

Without giving away the entirety of the presentation, the problems are these:

1) The Colorado River will soon go into curtailment and agriculture will see its CAP supplies cut by over 140,000 acre-feet a year,
2) People still want to eat food (as will cattle and dairy cows), thus agriculture has to revert to groundwater pumping,
3) Aquifers begin to decline due to the agricultural demand shifting from CAP-reliance to aquifer-reliance *at the same time* as a massive drought continues to reduce natural aquifer recharge,
4) Groundwater declines increase pumping costs, well pumps need to be lowered, many wells need to be drilled deeper, and some wells simply run dry,
5) The restrictions on the Colorado River dramatically reduce the role of hydropower as a "safety valve" to high electric pricing,[5] driving electric costs up *at the same time* that water pumping becomes more expensive due to "depth to water",

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[3] For more information on the PDSI, please see: http://drought.unl.edu/Planning/Monitoring/ComparisonofIndicesintro/PDSI.aspx

[4] The reason the X-axis "only" goes back 1,000 years is simply that we do not have the ability to evaluate farther back. Universities throughout the West, notably the University of Arizona, have built data records relying heavily on dendrochronological studies (tree rings). For more information on dendrochronology (tree rings), please see: http://ltrr.arizona.edu/about/treerings

[5] Hydropower is not a large resource in Arizona, however it serves a vital economic function. It is relied upon to provide what it provides, i.e., incredibly low-cost power that is rapidly available, when power costs become extremely high. In short, by putting cheap, instantly available,

6) Many, many rural water systems will begin failing operationally and financially.

One hopes that the reader who has been patient enough to bear with the length of this letter thus far will be (if not bored) concerned.

But the history of Arizona is not one of ignorance, fear, or timidity in the face of a challenge. Our state was founded, planned, developed, and led by people of vision who recognized instantly that water was "going to be an issue."

This Commission is comprised of leaders up to the challenge: Each of you has addressed water issues directly – whether as Legislators, Commissioners, City Councilmembers, Members of the Central Arizona Water Conservation District; or one who has years of actual, real-world, experience operating a water system in the desert. Without any attempt at flattery, let me simply state the uncontestable truth: The Corporation Commission has never in history had a team of Commissioners so uniquely qualified to lead on water issues.

Furthermore, the Commission itself is staffed by people who have spent decades working on water issues. We can act now to avoid the worst effects of the drought we continue to endure, and that will continue to challenge us for the future.

I believe that the fundamental first step is embarking on an unprecedented effort to strengthen and consolidate Arizona's 282 water companies so that they achieve the size they will need to interconnect systems; emplace reclamation, reuse, and recharge; and invest in conservation, efficiency, and resiliency. Without question, there are many other things to be done, but the reality is that not many of the next steps can be done by small and financially challenged utilities.

The attached presentation graphically makes these points.

Thank you for your constant attention to Arizona's water challenges; I and the members of Responsible Water are available at any time to discuss this issue in more depth.

Sincerely,

Paul Walker
Chairman
Arizonans for Responsible Water Policy

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hydropower into the market at times of high pricing, hydropower "takes the top off" the market and holds prices down. For more information on hydropower's ability to reduce the marginal price of power in peak pricing conditions, please see: www.usbr.gov/nmis/economics/reports/TMEC0603.pdf

Attach.
C

Paul Walker Surrebuttal Testimony

January 11, 2016

ATTACHMENT C

ORIGINAL

RESPONSIBLE WATER RESIDENTIAL CONSUMER

U05-00000A-14-0198

2014 JUN 20 P 3

May 8, 2014

Arizona Corporation Commission
DOCKETED
JUN 20 2014
DOCKETED BY ne

Commissioner Susan Bitter Smith
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

In Re: Acquisitions and Consolidations in Arizona's Water & Wastewater Industry

Dear Commissioner Bitter Smith:

Thank you for asking us to begin evaluating the need to consolidate Arizona's water and wastewater industry; the Arizona Residential Utility Consumer Office and Arizonans for Responsible Water Policy have begun a series of discussions on the issue and look forward to working with your office, and the Commission as a whole, on this issue.

The idea of incenting and encouraging consolidation in the Arizona private water and wastewater sector dates back to, at least, the late 1990s. On April 24, 1998 the Corporation Commission voted to establish "The Commission's Water Task Force" with the stated intent of "develop[ing] policies to address a wide variety of problems that private water companies and their customers face."[1] The Task Force conducted numerous meetings and issued a series of recommendations, including:

> "Reduce the number of small, non-viable water systems through new rules and procedures."[2]

The Water Task Force wrote, as justification for its recommendation to begin consolidating the industry:

> "Many of Arizona's water companies are quite small; the majority of them have less than $250,000 in annual revenues... many of these small companies are quite problematic. Most of the "problem" companies that the Commission must deal with are quite small. Because of their small base of customers, even quality managers of small companies may find it difficult to raise sufficient revenues to make needed capital investments."[3]

The Task Force concluded that "because of economies of scale, larger companies are likely to be more efficient. A larger company can consolidate the administrative aspects of many smaller "systems" thereby significantly reducing the overall cost of service. For these reasons, the Task Force agrees that reducing the number of small non-viable water systems is a desirable goal."[4]

The Water Task Force's report and recommendations were never acted upon by the Commission.

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[1] Interim Report of the Arizona Corporation Commission's Water Task Force, October 28, 1999, Page 3 [Docket No. W-00000C-98-0153]
[2] Ibid, Page 3
[3] Ibid, Page 4
[4] Ibid, Page 4

A decade later, in 2010, the Commission directed Commission Staff to open a "generic investigation which looks at how best to achieve the Commission's objectives with regard to encouraging the acquisition of troubled water companies".[5] Throughout 2011, the Commission hosted water workshops that explored the numerous issues facing Arizona's water industry. The 2011 workshop process led to no final report, no final recommendations, and no final decision by the Commission.

Which all begs the question: If, for over a decade, every interested person has concluded that Arizona needs to incent "the acquisition of troubled water companies", why has nothing been implemented?

The answer, we believe, is that no coalition has formed to evaluate, address, and mitigate the real and complex challenges that come with consolidating an industry. Those challenges are complex, and must be understood before one sets out to "find the right path" toward consolidating an industry with over 300 companies scattered throughout Arizona.

We shall endeavor to do so in this paper.

Pat Quinn
Director, Residential Utilities
Consumers Office

Paul Walker
Chairman, Arizonans for Responsible Water

Paul Walker served as advisor to Chairman Marc Spitzer at the ACC; worked on Governor Jane Dee Hull's negotiating and lobbying team during the Indian Gaming Compacts; and was on the staff of U.S. Congressman John J. Rhodes, III. Paul specializes in regulatory analysis, lobbying, and consulting. In addition, Paul was elected to the national board of directors of ConservAmerica – a 6,000 member Republican organization working to improve the environment through market-based policies at the national level. He chairs Arizonans for Responsible Water Policy – a trade group comprised of large water companies advocating for long-term water policy changes; and serves on the Arizona Power Plant and Line Siting Committee, a statutory board comprised of elected and appointed officials that determines the environmental and economic compatibility of power plant and electric transmission line applications. He served as a Captain in the Arizona Army National Guard and completed numerous military schools and courses; and he holds a Masters in Business Administration from Thunderbird – The American Graduate School of International Management.

Pat Quinn spent over 30 years working in the telecommunications industry before retiring as President of Qwest Arizona in 2008; prior to that position he had served as Vice President of Corporate Policy and Law, Director of Regional Regulatory Affairs, and Finance Director. Qwest was the regional operating company formed after the breakup of the AT&T system in 1984 and provided telecommunication services to the vast majority of Arizona residents. Pat is a veteran who served in the U.S. Navy, and has long been involved in a host of Arizona organizations, including: Greater Phoenix Leadership, the Homebuilders Association of Arizona; Arizona Town Hall; Tee AA and Phoenix Community Alliance. He earned his Master of Business Administration and Bachelor's degree in mathematics from the University of South Dakota. He was appointed as Director of the Arizona Residential Utility Consumers Office in January of 2013.

[5] Decision No. 71878, Finding of Fact 84, Page 84 [Docket No. SW-20445A-09-0077, et.al.]

RESPONSIBLE WATER RESIDENTIAL UTILITY CONSUMER OFFICE

About Responsible Water: Responsible Water is a trade group comprised of Arizona Water Company, Global Water, and Liberty Utilities. Together, our companies own and operate water and wastewater systems that serve over approximately 500,000 people in communities across Arizona.

Responsible Water is committed to working to make Arizona's water future more secure and more sustainable by working cooperatively with Arizona policy leaders to identify and implement new practices and approaches that strengthen the water industry – and thus, Arizona's ability to manage its water resources. By conducting no-cost seminars for small water companies, developing white papers and studies that explore water management and innovative approaches to regulation, and by providing free technical assistance to troubled utilities, Responsible Water is committed to improving the entire water industry so that Arizona can continue to be a growing, vibrant, and sustainable home for generations.

About the Residential Utility Consumer Office ("RUCO"): RUCO is a legislatively established governmental agency dedicated to representing the interests of residential utility ratepayers in matters before the Arizona Corporation Commission ("ACC" or "Commission").

Since establishment in 1983, RUCO has been actively involved in rate-related proceedings involving public service corporations providing electric, gas, telecommunications, water and waste water services. As a matter of policy, RUCO always intervenes and participates in rate cases involving Arizona's largest utilities. Intervention in the cases of smaller companies is decided on a case-by-case basis, with particular attention to the size of the increase sought, the rate history of the utility, and the availability of resources at RUCO. In addition to RUCO staff, consultants may assist in analyzing utilities' requests for changes in rates and preparing testimony

In addition to specific rate proceedings, RUCO is also heavily involved in high level policy decisions made at the ACC. RUCO approaches topics such as industry regulation, renewable energy, and cost recovery mechanisms with a balanced view that weighs near terms considerations and long-term outcomes. RUCO prides itself on being a thoughtful stakeholder that can guide the development of smart policies in a way that maximizes benefits to residential ratepayers and the utility system as a whole.

Definitions.

Acquisition Adjustment: An increase to utility rate base which reflects the cost of the purchase of the utility or the asset.

Regional Consolidation; The ability for the acquiring company to consolidate companies into regional or utility groups for purposes of having common rates, operations and management.

Integrated Consolidation: The ability for the acquiring company to consolidate all of their companies into a parent company with common rates, operations and management

ROE Premium: An. increase to the allowed return on equity as an incentive for certain investments. The theory is to provide a return *above the market level* in order to attract investment.

AUTHORIZED ROE + ROE PREMIUM = COST OF EQUITY

The Challenges of Consolidating an Industry

Pat Quinn, BS, MS, Mathematics
Paul Walker, BS, MBA, Business Administration

There are serious economic and regulatory issues that have to be addressed and evaluated before Arizona decides to move forward with consolidating its highly fragmented private water and wastewater industry. We will discuss different aspects of acquisition and consolidation later. The only way to address these issues is to go through them, one by one. This will require the Commission to develop a holistic policy framework that transitions rate setting from a model just based on cost causation to one that includes the enabling of consolidation.

We apologize, in advance, for the fact that many of these issues are only fascinating to people like the authors – we will try our best to avoid making the economic theories too dull or esoteric, but we must emphasize that the reality of Arizona's challenge necessitates a comprehensive understanding of the difficulty of meeting that challenge. The reader should bear in mind that because some of these issues are dull, complex, and esoteric, Arizona has not acted to address this challenge; only with understanding can Arizona solve this issue.

To begin the discussion we need to define the different types of consolidation. Generally we are talking about consolidation as meaning the acquisition of a smaller water or wastewater company by a larger water or wastewater company. This implies the mere acquisition, but not necessarily the incorporation of the smaller company into the large company, i.e., the smaller company still maintains much of its operational autonomy. The other type of consolidation is what we call "integrated consolidation"; with integrated consolidation, the smaller company is fully absorbed into the large company's operation. This can be done at a regional or total company level. This will be discussed more later.

This paper is divided into five sections:

1. The Policy and Factual Landscape of Arizona Water, **Page 5**
2. A Clear and Compelling Public Interest, **Page 14**
3. Path to Consolidation, **Page 16**
4. Consolidation Opportunities, **Page 24**
5. Summary and Recommendations, **Page 25**

Additionally, there are four attachments to this paper:

Attachment 1 – "Arizona's Next Century: A Strategic Vision for Water Supply Sustainability", Arizona Department of Water Resources, January 2014, **Page 26**

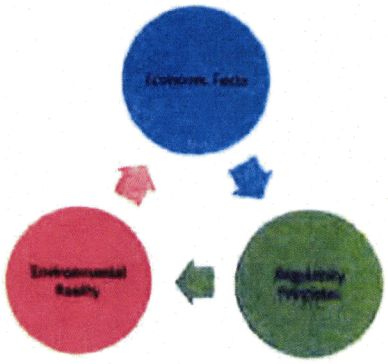
Attachment 2 – Rate of Return and Operating Margin Policy, California Public Utility Commission, March 2013, **Page 40**

Attachment 3 – Pennsylvania Public Utility Commission Policy on Water Acquisitions, **Page 43**

Attachment 4 – "Water Utility Risk and Return", California Public Utilities Commission, 1990, **Page 49**

SECTION ONE: THE POLICY AND FACTUAL LANDSCAPE OF ARIZONA WATER

There are three major forces one confronts in the Arizona water industry:



Economic facts must be clearly understood, regulatory principles must be adhered to, and policies must address the environmental reality of Arizona's water supply. The economic fact that Economies of Scale exist provides an opportunity to better control costs and incent investment. This fact is well explained in a 1990 publication of the California Public Utility Commission: "Water Utility Risk and Return."

> "[S]mall water companies have special problems created by their lack of economies of scale and inaccessibility to external financing. The number of economic dichotomies between large and small water utilities warrant separate analyses and, ultimately, different ratemaking treatments."[6]

The economic fact that small companies face greater challenges in attracting capital creates a challenge for Arizona's water future; the fact is that most small Arizona water utilities rely on Contributions In Aid of Construction (CIAC) and Advances In Aid to Construction (AIAC) – and wind up with very little rate base, and very few options to access the investment market. As explained in Attachment 4, "Water Utility Risk and Return":

> "[T]he stability of the water utility business should provide comfort to creditors and equity investors seeking attractive investment opportunities with relatively low risk. However the small size of water utility offerings, relative to other utilities, tend not to generate interest among investment bankers. Consequently, most water utilities remain unknown except to a subset of the financial community such as insurance companies. Virtually all external financing is accomplished through private placement directly with investors, without use of an underwriter."[7]

The regulatory principles of "Cost Causation, Equity, and Sustainability" can be adhered to in an acquisition and consolidation policy. This will require the Commission to modify the current policy to encourage smart consolidation. Finally, the "Environmental Reality" of Arizona's water situation today, and all water forecasts for Arizona, provide a clear and compelling public interest in strengthening and consolidating this industry. We shall explore each of those issues in this section.

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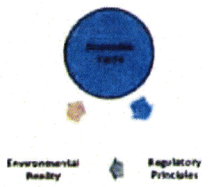
[6] "Water Utility Risk and Return", California Public Utilities Commission, April 1990, Page 1
[7] Ibid, Page 3



Economic Facts

One economic fact directly correlates to the question and benefits of consolidating the Arizona private water and wastewater industry: Economies of Scale. This term is fairly common, but it is important to ensure that it is understood at the outset.

Economies of Scale: Economies of scale mean that a firm's average cost decreases as its output rises.

Example: The fixed costs of owning and operating a small water system include: the costs of the well and the pipes that deliver the water. Once those are in place, the costs are spread over the customer base. If the customer base grows, there are more people paying those fixed costs and they will each pay less.

Example: The costs of running a customer call center include the cost of the building, the telecommunications services, and the employees. Once those are in place, the costs are spread over the customer base. If one company owns and operates numerous utilities, it can use the same call center to support each utility – rather than building and financing a call center for each utility on its own.

Example: A utility requires not just the day-to-day operational staff; it also requires a management team to oversee the accounting, capital improvement plans, financing, environmental compliance and reporting, human resources, and investor relations. However, the management team that provides those services to a utility can provide those services to more than one utility – when it does so, it takes advantage of economies of scale because the incremental costs of providing that management to a second, third, or tenth utility are less than the costs of having each of those other utilities having its own, independent management team.

Thus, economies of scale means that "large water utilities are able to provide professional management and lower cost service because they spread the fixed costs of operations over more customers."[8] However, as we move forward in this paper the reader should bear in mind that the looming investments in water infrastructure, sustainability, and increased water supplies will exert dramatic upward pressure on rates. Thus, while economies of scale provide downward pressure on rates, Arizona's future is one of increasing investments, increasing costs, and thus, increasing rates for water customers.

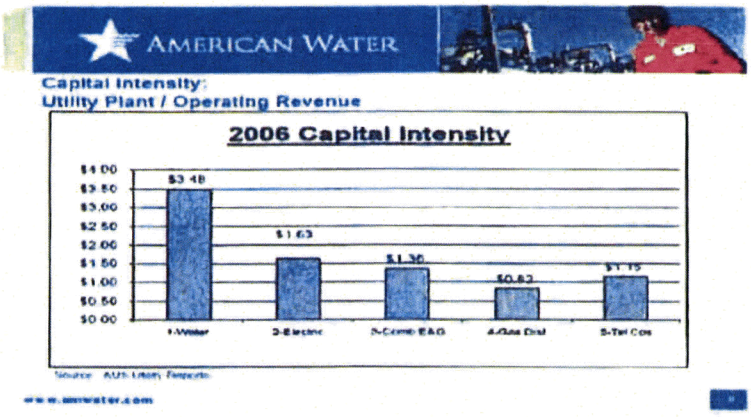
Small Firm Capital Attraction Challenges: Smaller entities have fewer opportunities to access the investment market.

As CPUC explained, small firms "tend not to generate interest among investment bankers" therefore the majority of their financing comes from the owners and from any developers who build in the service area (through CIAC and AIAC.) The resultant capital structure from such an approach winds up producing very

[8] Ibid, Page 19

little rate base – it is startlingly common in Arizona to find small water utilities with little to no rate base. That we have become accustomed to it is more alarming than the very fact itself. Arizona needs to realize, literally right away, that: "The financial structure of the company to a great extent determines financial risk."[9]

Many companies with little to no rate base face extreme financial risk – they have no rate base to produce a return on equity, and are simply operating margin entities in a business that faces significant environmental challenges and very high capital intensity. Capital intensity is the measure of: How much investment in plant is required to produce $1 in additional operating revenue.



To summarize then, economies of scale can reduce the average cost per customer; but many small water utilities in Arizona have very challenging financial profiles that make them hard to invest in, and make it hard for their current owners to attract needed investment. Because of the latter challenge, owners rely on developers to fund their utility needs – thus further weakening their financial structure:

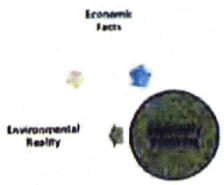
> "Advances and contributions spread out the utility's funding requirements for growth and development in the service territory. These sources of funds are not included in utility rate of return calculations because these sources of capital are not provided by company investors. Nonetheless, operational risks increase as the percentage of contributions increase for the utility. For example, assuming a 10% return on rate base, a utility with $100,000 in plant, of which 40% is contributed, can only generate a return on investment of $6,000. If the utility had used debt and equity capital, it would be able to earn $10,000. The operational risk is highlighted when revenues change due to voluntary conservation and/or mandatory rationing."[10]

In fact, in many cases in Arizona the CIAC (or the AIAC that reverts to CIAC due to lack of growth) becomes so large that it subsumes the owners' investment. Building on the CPUC example above, if the utility had received $40,000 in Advances, but the growth didn't occur as expected and thus only $10,000 of the AIAC was repaid, $30,000 in "CIAC" would be assigned to the rate base – cutting the rate base from $60,000 in the CPUC example, to $30,000; and cutting the return from $6,000 to $3,000. This example is not hypothetical, in fact it is commonplace among small Arizona water utilities – thus further worsening their capital structure, increasing their risk, and making their acquisition more difficult for potential buyers.

[9] Ibid, Page 2
[10] Ibid, Page 13

Regulatory Principles

There are three key regulatory principles that must be strictly adhered to should Arizona move forward with a policy and incentives to encourage consolidation of the Arizona water and wastewater industry: Cost Causation, the Equity Principle, and Sustainability. Cost Causation and the Equity Principle will be the most complex issues to explain to customers. This is why criteria for when and how to consolidate must be developed.



The reality is this: Consolidations and Acquisitions come with costs – and those costs must be recovered in a fair and manageable manner. However, there will be some cost savings that come from economies of scale that may reduce or mitigate these increased costs. Investors and customers are, quite literally, in the same position here: Both can benefit from a stronger, more consolidated industry, the key is to understand how to balance the costs.

Principle 1: Cost Causation – the customer who causes a cost should pay the cost.

Equality vs. Efficiency: Cost causation involves one of the most complex issues in economics, what Arthur Okun called "the big tradeoff". Economic equality means that no one gets an unfair advantage over another – which is obviously subjective because everyone has an opinion on what constitutes "fair and unfair." Economic efficiency means that correct pricing signals are sent, and those incentives correlate to desired outcomes.

Principle 2: Equity Principle – no customer should be forced to pay more than what is reasonable.

Rate Design: Cost allocation is the purpose of rate design – it is the process of determining how many dollars to collect from various customer classes for various utility services.

Just and Reasonable Rates: The rates set by the Commission must not be unduly discriminatory between customers or services. "Unduly discriminatory" means that the discrimination in pricing or incentives is tied to and supports some public interest, e.g., tiered water rates charge exorbitantly high rates for high use of water – much more than the incremental cost of providing high amounts of water – but those high rates are justified because they support the public interest of conserving water.

Subsidies: Generally, Commissions avoid providing subsidies ("subsidies" are defined here as: charging less than the incremental cost of the service to one group of customers, while charging more than the stand alone cost to another group of customers.)

Efficiency: Commission rates and incentives should give correct signals to customers and investors ("correct signals" are defined here as: promoting the efficient use of resources, and allowing customers and investors to manage and plan their budgets.)

Principle 3: Sustainability – the utility must receive enough money to stay in business and continue providing safe, adequate, and reliable service.

Sufficiency: Utility rates and incentives should be sufficient to allow the utility to collect its legitimate costs. At the same time, decreases or increases in risk should be recognized and applied in a symmetric manner to the company's authorized rate of return in order to establish fair compensation to shareholders.

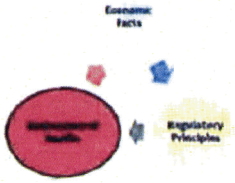
Transparency: Commission rates and incentives should be understandable to customers and the utility.

Stability: Commission rates and incentives should avoid rate shock to customers, and should promote revenue stability to the utility. Commission rates and decisions must provide price and investment signals and the Commission must recognize that those signals will affect behavior, but it may take some time to do so.

If done correctly, establishing a consolidation enabling framework for Arizona water companies will integrate these three principles in a more holistic way. First, the true cost of one's water system may be hidden from customers if needed upgrades are not made or systems are neglected. Second, equity is a principle that is dependent on one's time horizon. In the medium to long run, the consolidation of two water systems may bring resiliencies and efficiencies that overcome short run inequities. Third, sustainability comes when the true long run costs of operating a successful water system are recovered and allocated within a system that is resilient and efficient. Smart consolidation between companies should leverage all three of these principles in a way that delivers long-term net benefits to all ratepayers involved.

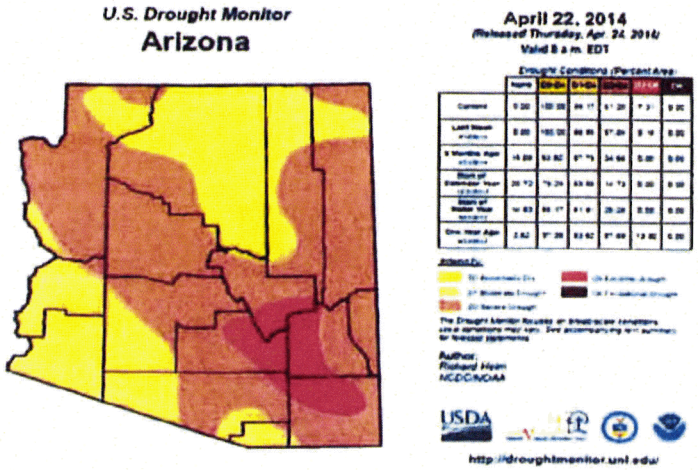
Environmental Reality

All of the economic facts and regulatory principles must, in the end, deal with and address reality. And Arizona's water reality is complicated. Arizona water leaders have worked hard on water management since the 1922 Colorado River Compact. The Central Arizona Project, the 1980 Groundwater Management Act, the Central Arizona Groundwater Replenishment District, Commission-sanctioned Tiered Rates, Water Banking, and more environmentally sound development have created a vast network of infrastructure and programs to better manage Arizona's water supplies; but ongoing drought combined with population growth will continue to demand larger and larger investments and increasingly sophisticated water monitoring and management.

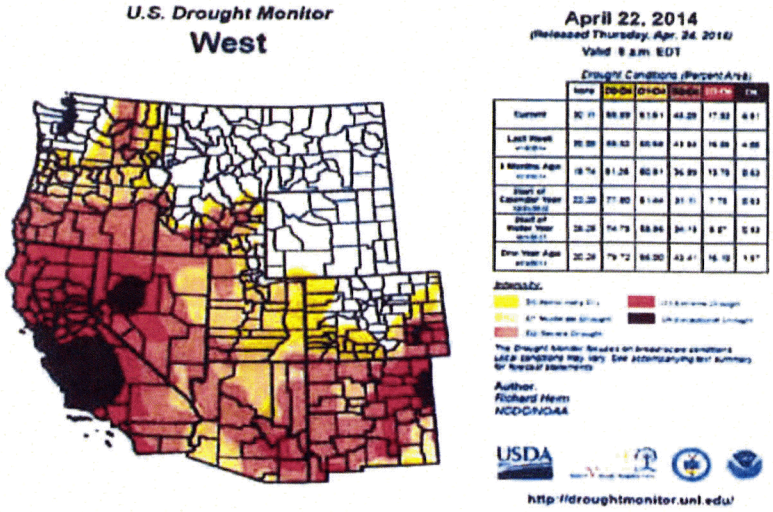


Arizona has relied for decades on affordable CAP water – which provides water for agriculture and communities, and the Colorado River dams which provide affordable hydropower that both offsets CAP costs, and provides reliable and affordable power to rural Arizona. But Arizona remains mired in drought, and the drought goes beyond the Colorado River – it covers nearly all of Arizona and droughts are very hard on small water companies – pumping costs increase, CAGRD costs increase, development gets more costly and complex. Drought can be managed – but at a high cost financially, managerially, and technically.

Arizona Remains in a statewide drought

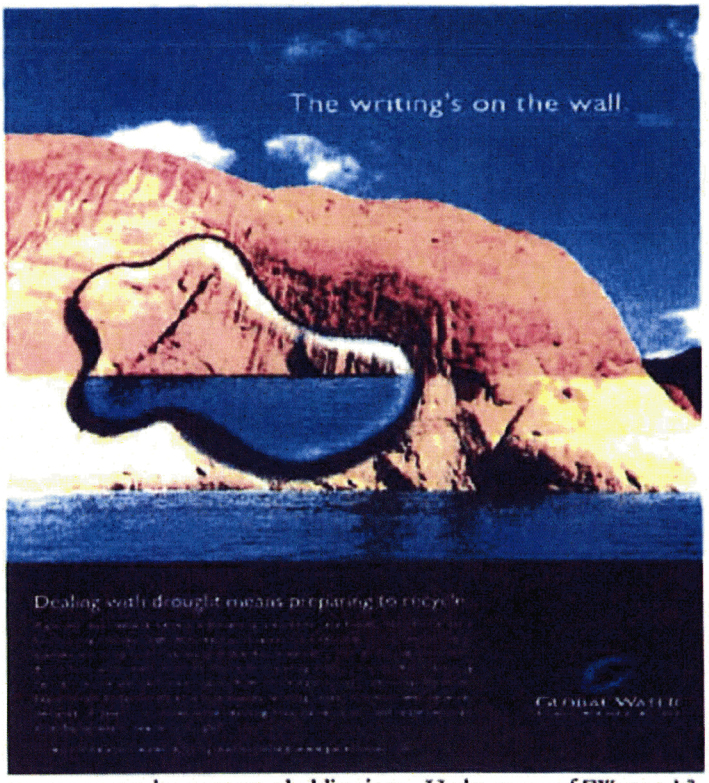


The drought affects not only Arizona – in fact, the entire west is gripped in a historic drought. Today, four of the seven Colorado River states are covered, 100%, in drought conditions, and Utah is almost entirely in drought. The Colorado River is in a historic drought and curtailment of the water deliveries that Arizona relies on for CAP, agriculture, and groundwater recharge seems likely to occur sooner, rather than later.



Most experts agree that the [Colorado River] basin will get even drier

"Already, the drought is upending many of the assumptions on which water barons relied when they tamed the Colorado in the 1990s... Lake Mead currently stands about 1,106 feet above sea level, and is expected to drop 20 feet in 2014. A continued decline would introduce a new set of problems: At 1,075 feet, rationing begins; at 1,050 feet, a more drastic rationing regime kicks in... Should Mead continue to fall, Arizona would lose more than half of its Colorado River water... That would have a cascading effect. The Central Arizona Project would lose revenue it gets from selling water, which would raise the price of water to remaining customers, leading farmers to return to pumping groundwater for irrigation – exactly what the Central Arizona Project was supposed to prevent."[11]



The Colorado River drought also affects the Glen Canyon and Hoover Dams

"At Glen Canyon Dam, the Bureau of Reclamation plans to reduce releases by 750,000 acre-feet for the coming year, a historic low. The iconic Hoover Dam is experiencing a 14-year drought, the worst in the last 100 years... For Western [Area Power Administration], insufficient water results in not having sufficient hydropower to meet its contractual obligations. Under many of [Western's] contracts, [it] must purchase more expensive power on the market to meet [its] obligations."[12]

[11] The New York Times, "Colorado River Drought Forces a Painful Reckoning for States", January 5, 2014
[12] EnergyBiz Magazine, "Powering a New Frontier", January/February 2014

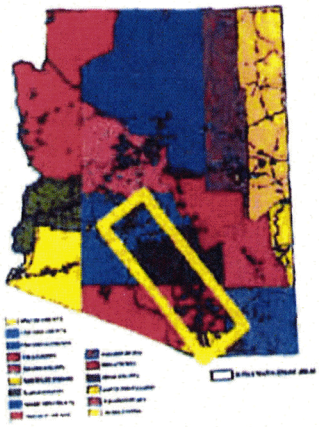
Arizona's "growth corridor" has an unmistakable correlation to Arizona's private water industry

The best estimates of Arizona's likely future growth are unmistakably correlated to the areas served by Arizona's private water industry – the reason is simple: Most private water companies exist outside of town and city limits, because towns and cities usually have their own, municipal water system. Many people choose to live outside of towns and cities, when growth moves beyond an existing town or city limit, it invariably runs into areas served by private water companies.

Arizona's Growth Corridor and Arizona's Private Water Utilities

Arizona Population c. 2000

Arizona Population c. 2050 Estimated by Maricopa Association of Governments



Map of Arizona's Private Water Companies

The Arizona Department of Water Resources (ADWR) issued a milestone assessment of Arizona's water situation in January of 2014, "Arizona's Next Century: A Strategic Vision for Water Supply Sustainability." We are pleased that ADWR's Director, Michael Lacey, asked us to attach Arizona's Next Century to this white paper – Attachment 1 is that report's Executive Summary. The entire report, 60.58 MB, can be found on ADWR's website at this URL:

http://www.azwater.gov/AzDWR/Arizonas_Strategic_Vision/documents/ArizonaStrategicVisionforWaterResourcesSustainability.pdf

In Arizona's Next Century, ADWR highlights several "strategic priorities" for Arizona:

1. Resolution of Indian and Non-Indian Water Rights Claims
2. Continued Commitment to Conservation and Expand Reuse of Reclaimed Water
3. Expanded Monitoring and Reporting of Water Use
4. Identifying the Role of In-State Water Transfers
5. Supply Importation – Desalination
6. Develop Financing Mechanism to Support Water Supply Resiliency

Clearly, a consolidated, strong water industry in Arizona would be able to address Points 2, 3, and 6. And a consolidated, strong water industry could play a key role in financing and supporting Points 4 and 5.

Because of Arizona's water challenge, ADWR states that: "The current challenge facing Arizona is that although the State has an existing solid water management foundation, water demands driven by future economic development are anticipated to outstrip existing supplies. Additionally, the availability of surface water supplies have been reduced in recent years as drought conditions have been experienced locally and throughout the Colorado River Basin."

Summary

The growing, and worsening, drought in the U.S. west will require vast investments in Arizona's water infrastructure. It has been known for some time that the 1922 Colorado River Compact allocated the River's water supplies based on abnormally high River flows – there is not 15 million acre-feet per year in that River, it's more like 13 million but even that flow is highly volatile as the West is now, painfully, realizing.

ADWR's strategic priorities for the 21st Century make it very clear that Arizona is facing a high-cost future: Desalination will be a multi-billion dollar effort, and Arizona's private water industry will need to be large enough and strong enough to contribute hundreds of millions of dollars to that 21st Century effort.

ADWR's final strategic priority, "develop funding mechanisms to support water supply resiliency" is not only essential to desalination but also to ADWR's other strategic priorities. Expanding the use of reclaimed water, increasing water monitoring and conservation, and in-state water transfers all will come at great cost. Thus it is imperative for Arizona and all Arizona residents, that the Commission strengthen and consolidate the private water sector to meet the 21st Century water challenges we face as a state.

While economies of scaled will provide downward pressure on prices and rates, it must be clearly understood that consolidating and strengthening Arizona's water infrastructure will be a massively expensive effort that will take decades. So, economies of scale and consolidation will not result in decreasing rates in the near term – they will only provide downward pressure as Arizona deals with, and invests in, its 21st Century water challenge. Drought, volatile and diminished Colorado River supplies, desalination, reclaimed water and increased monitoring and conservation efforts are each costly, and all necessary and prudent to secure Arizona's water future.

SECTION TWO: A CLEAR AND COMPELLING PUBLIC INTEREST

Because Arizona faces significant, increasing, and costly environmental challenges due to water scarcity, it must evaluate the ability of the private water and wastewater industry to meet those challenges over the long-term and to do so in an affordable way for utility customers. Arizona's private water industry lies in the path of Arizona's future growth, therefore the Commission must play an active role in planning for Arizona's water future.

Economies of scale and future water scarcity and increasingly strained sources are critical factors that support the consolidation of the highly fragmented Arizona water industry. There are over 300 firms providing private water and wastewater services in Arizona – and as the environmental challenges and costs mount, more and more of those firms will become non-viable and more and more will descend into economic crisis. The Commission has, since 1998, been concerned with the viability of small water systems; and with the drought and the long-term change in Colorado River supplies, the time has come to address consolidation of the industry.

At the outset, it is imperative to recognize that not all small systems have to be consolidated – the Commission's interest is simply in ensuring that each water and wastewater system has adequate financial, managerial, and technical ability to provide safe, adequate, and reliable service both today, and into the future. To that end, the Commission should amend its Annual Report rule to also require water and wastewater systems to include the following data and any other information the Commission deems necessary:

- Regulatory compliance currently (ADWR, ADEQ, ACC, ADOR, and County and City compliance).
- Regulatory issues the company foresees in the next five years.
- Basic Financial Ratios: DSC and TIER, which measure liquidity and viability.
- One year Capital Improvement Plans that estimate:
    - the capital improvements (for repair and replacement of existing infrastructure), and
    - development that the utility believes will occur in that timeframe (with the utility's plan to cover those costs through MXAs, HUFs, and/or debt and equity financing.)

The Commission needs to also establish and levee sanctions and fines for willful failure to comply with regulatory requirements and standards. This will help encourage companies to establish adequate financial, managerial, and technical ability to meet the challenges of today and tomorrow.

However, simply relying on the "stick" of regulatory oversight is not likely to be sufficient. The Commission should focus on improving the regulatory and financial climate for small water companies to ensure they are filing frequent rate cases, building their financial strength, and preparing for a more challenging water future.

Responsible Water has launched efforts to aid small, troubled water companies to assist them with regulatory compliance and financial challenges. Additionally, Responsible Water is launching a free water seminar series to provide small water companies with detailed briefings on regulatory issues, compliance, and financing. The Commission and the Department of Water Resources are also participating in the seminar series – thus tying outreach and information to the "carrot" and "stick" and increasing the ability of small water companies to meet Arizona's 21st Century water challenge.

The public interest is well outlined in a memorandum provided to us from Steve Olea, Director of the Commission's Utility Division:

> "Unfortunately, it is not uncommon for small, troubled water systems to develop compliance issues with federal, state, or local requirements. Very often, these troubled systems lack the financial capacity or the technical expertise to correct these issues. When such a small, troubled system is acquired by a large, well operated, and well financed water system, the potential for significant benefits to ratepayers is obvious. This is the type of consolidation that should be encouraged, and the Commission's acquisition policy should be tailored to these types of situations."

SECTION THREE: PATH TO CONSOLIDATION

Consolidation is often used to define many different types of outcomes. To begin the discussion we need to define the different progressions of consolidation. The first and most typical consolidation is a simple acquisition - where a larger company simply acquires a smaller company. This may bring some economies of scale to the acquired company.[13] However, for the most part the smaller company is still largely autonomous with its own rates and operations.

The next progression of consolidation occurs when the smaller acquired company is merged with other regional holdings of the large company. This "regional consolidation" can result in more economies of scale. This is accomplished through geographically combined rates, operations and management. The final progression is when the larger company is allowed to merge all of their holdings into one company and establish rates that apply to all their customers. This "integrated consolidation" allows for the greatest economies of scale (and scope.) To allow for this consolidation to progress in the public interest of ratepayers, a strong set of criteria needs to be developed to intelligently transition from small acquisitions to regional consolidation, and then, if justified, full integrated consolidation.

The process leading to full scale consolidation is a long one and it fundamentally starts with the basic acquisition. Therefore, the key to realizing the end goal of large scale integrated consolidation is to first encourage acquisitions.

There are four main enabling policies:

1. Rate base acquisition adjustments
2. Allowance of regional consolidations
3. Rate of return on equity (ROE) premiums
4. Cash flow/operating margin inducements

The first two policies are specific to the situation and company - therefore limiting the scope and the ability to streamline their application. However, ROE premiums and cash flow inducements can be setup for statewide application through sliding scale mechanisms and/or qualifying criteria such as class of company being taken over, water loss thresholds, certain financial metrics, etc. The ability to possess a regulatory toolkit that can be customized when need be or streamlined when the situation calls for it will enable more acquisitions and thus deliver integrated consolidation sooner.

Each policy tool will now be described in detail:

Acquisition Adjustment - <u>Strengthening Viability, Incenting Acquisitions</u>

An "Acquisition Adjustment" is a decision by a public utility commission to include some or all of the acquisition cost of a company into the company's rate base. Most small water companies have very small (and in many cases, non-existent) rate bases.

This occurs because of several factors: First, oftentimes the original plant has simply been fully depreciated over time; Other times, these companies don't have the financial resources to build their infrastructure so

[13] And perhaps also economies of scope if the acquirer is, for example, an integrated water and wastewater company and it acquires a strictly water company.

they rely on developers to build and finance the utility plant – meaning it becomes CIAC and is excluded from rate base; Finally, very frequently the company does invest in plant and repairs, but the developer CIAC is so large that it simply negates the owners' investment. In each of those cases, the company's book value is virtually nothing; but its service area and operating revenues have financial values that support an acquisition price well above book value.

However, the buyer of the company has no way to recover the acquisition price if it is not included in rate base. Sometimes, that sunk cost is adequately compensated by the opportunity to grow the acquired entity or simply through the revenue stream from the acquired company. An example of that sort of acquisition is EPCOR's acquisition of Chaparral Water in Fountain Hills. EPCOR paid an acquisition cost approximately 30% higher than Chaparral's book value, but the economics didn't necessitate an acquisition adjustment.

That example comes with a huge caveat – Chaparral Water was, by all accounts, a successful, capable, well-managed company with more than adequate financial, managerial, and technical ability. What Acquisition Adjustments and a Consolidation policy must address is companies that aren't viable, or are in danger of falling into crisis because they lack the financial, managerial, and technical ability to deal with current and looming issues (such as, e.g., Arizona's drought.)

There are two sources the Commission and the Courts must consider when determining the justness of an acquisition adjustment – Judge Learned Hand, one of America's greatest jurists, in the 1943 *Niagara Falls Power Co.* decision, and Professor James Bonbright, who wrote "Principles of Public Utility Rates".

Judge Learned Hand in *Niagara Falls Power Co. v. Federal Power Commission*[14]

> If the rate base were to be set at the price paid by the new purchaser, then "the [company] who does not sell is confined for [its rate] base to [its] original cost; [the company] who sells can assure the buyer that [it] may use as a base whatever [the buyer] pays in good faith. If the [seller] can persuade the buyer to pay more than the original cost the difference becomes a part of the [rate] base and the public must pay rates computed upon the excess. Surely this is a most undesirable conclusion."
>
> - *Niagara Falls Power Co. v. Federal Power Commission*, 137 F (2d) 787, 793 (1943)

Thus, Judge Learned Hand's view is: If the Commission simply allows any cost above original cost to be included in rate base, the seller will "assure the buyer that [it] may use as a base whatever [the buyer] pays in good faith." This will increase sales, but it will do so by changing the economics so that buyers become more indifferent to the purchase price, and sellers realize that the regulatory price constraint no longer exerts a downward force on the price they ask.

Professor Bonbright, in "Principles of Public Utility Rates"

> "[I]nvestors are not compensated for buying utility enterprises from their previous owners... Instead, they are compensated for devoting capital to the public service."
>
> – *Chapter XII, "Original Cost versus Subsequent Acquisition Cost" section.*

[14] As cited in "Principles of Public Utility Rates" (Chapter XII, "Original Cost versus Subsequent Acquisition Cost" section.)

> "The foregoing conclusion is subject to revision if the transfer of the properties to their present corporate owner was an essential, or at least a desirable, part of a program of integration, justified in the public interest for the purpose of securing operating efficiencies that would offset any unavoidable excess in acquisition costs over original costs. In such a situation... a claim by the [purchasing] company that its purchase of the acquired properties was, in effect, a devotion of capital to the public service, cannot be dismissed as without merit."
>
> - *Ibid*

> [In such a situation, the purchasing] "company may properly receive an opportunity to prove its claims, although difficulties of proof are serious. Proof should be more readily adduced with respect to mergers and acquisitions, the terms of which have first been cleared with the regulating commission after a full public hearing and investigation."
>
> - *Ibid*

Thus, Bonbright's view is the acquisition cost is <u>not</u> a *per se* contribution to the public service warranting a return – <u>unless</u>:

1) The acquisition was justified in the public interest, and
2) The acquisition costs allowed were set after a full public hearing and investigation.

Therefore the Commission should not do what Judge Hand warned about, it should not "simply allow any cost above original cost to be included in rate base". It should follow Professor Bonbright's pathway to consider whether "the transfer of the properties to their present corporate owner was an essential, or at least a desirable, part of a program of integration, justified in the public interest" by evaluating such claims through the hearing process.

This view is also reflected in Mr. Olea's recent memorandum on acquisitions:

> "The Commission should not provide ratemaking incentives for consolidation simply for the sake of consolidation. In order for an incentive to be appropriate, the water company seeking the incentive must show that the consolidation **will provide clear and tangible benefits to ratepayers in an amount that is at least equal to the proposed incentive.** Furthermore, an incentive should not be awarded unless the purchase price is the product of an arm's length negotiation. The fact that a consolidation may provide benefits to the respective systems' shareholders/owners is not a factor that should support award of an incentive." [Emphasis added]

While we wholeheartedly agree with nearly everything Mr. Olea states in that paragraph, we caution the Commission on the highlighted text: Quantifying the benefits of consolidation to determine if they are "at least equal to the proposed incentive" is not possible, and with all due respect to our friend and colleague, that effort does not address the real reasons for consolidation.

The U.S. Drought Monitor shows the severity of the West's and Arizona's drought. It is now known, for certain, that the Colorado River was over-allocated and that the River is more volatile than anyone anticipated. Arizona has been in persistent drought conditions for over a decade and it appears that rain and snowfall are now more volatile and will remain so, whatever the cause.

ADWR is correct in stating the need for significant increases in water monitoring, conservation, reclaimed water reuse, and the need to begin laying the groundwork for desalination. Those are vastly expensive

individual elements – and yet, Arizona needs to take all those steps and begin doing so today, Arizona is at the end of the "cheap water" era and at the forefront of a world in which water is more scarce, more valuable, and more expensive.

Consolidation and economies of scale will not continue the era of cheap water – they will simply smooth the path to the future value and cost of water in Arizona.

Consolidations will be very unlikely to "pencil out" in the near term – because the cheapest course of action in the near term is always to do nothing. But over the longer term, within the next decade and certainly beyond that water is going to become expensive and will require highly sophisticated, financially strong water management companies. That is the true benefit from consolidation – and that should be the test the Commission applies when considering consolidations and acquisition premiums.

The Commission should evaluate applications for acquisition adjustments on a case-by-case basis, but it would be well served by establishing that there is a compelling public interest in seeing the water industry strengthened through a program of acquisitions that lead to consolidation.

The Commission should adopt an acquisition policy similar to those of Pennsylvania's Public Utility Commission.[15] Pennsylvania's policy lays out a few major points:

- The intent of the policy is to increase mergers and acquisitions to achieve regionalization.
- Each acquisition must serve the public interest.
- Acquired systems are below a certain size (3,300 connections), and the acquired systems was:
  - Not viable;
  - In violation of statutory or regulatory standards concerning the safety, adequacy, efficiency or reasonableness of service and facilities;
  - Failing to comply, within a reasonable period of time, with any order of the Department of Environmental Protection or the Commission.

Here we must note that the above criteria from Pennsylvania should *not* be construed as *requiring* each of those elements. To do so would be to instantly create an incredibly perverse and dangerous incentive for small systems to ignore statutes, regulations and orders. The Pennsylvania model simply lays out three criteria, any one of which (combined with the prerequisite limit on system size) can be evidence of "public interest" in the acquisition and thus the awarding of an acquisition adjustment.

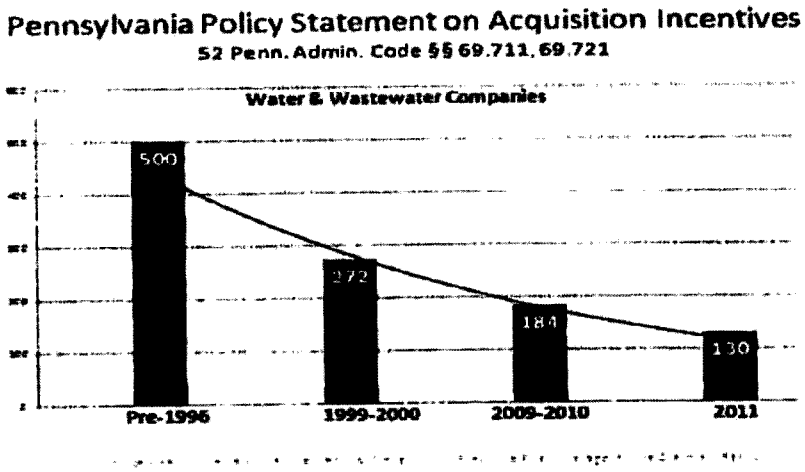
Pennsylvania also allows an ROE premium to be combined with the acquisition to address and incent "associated improvement costs." Meaning that, if the acquired utility has significant investment needs, the Pennsylvania PUC can provide an ROE premium to make the acquisition of the troubled system even more attractive.

In an interview in Arizona Regulatory Reports, Pennsylvania PUC Chairman Robert Powelson explained that Pennsylvania's "policy of encouraging regionalization and consolidation via inter-agency cooperation and acquisition incentives has resulted in improved water quality and service reliability for many customers throughout our state". Such a result is by itself meaningful, but Mr. Powelson also explained that "customers

[15] Attachment 3

who were previously faced with chronically non-compliant service from small, marginally viable providers" were now seeing improved quality, reliability, and safety in their utility service.[16]

That same article provided the following graph which demonstrates exactly how effective the Pennsylvania policy has been in incenting consolidation:



Regional consolidations – authorizing the unification of geographically close systems

It is quite possible that a company could acquire a smaller company that is situated in close proximity to some other companies they own. These companies could for various reasons be consolidated into a regional entity with common rates, operations and management. This could occur if there were common facilities, shared water supply or potential economies of scale. For example, maybe the newly acquired company has a well that can pump more water than is needed and the neighboring company faced a shortage of water. It may be more cost effective to run pipe from the producing well to the other company's system than to drill new wells. There are many other examples of why regional consolidation makes good business sense, most of which are so obvious that they needn't be repeated here.

Rate of return on equity (ROE) premiums

To narrowly tailor the ratemaking incentive to the behavior that the Commission wants to encourage, the Commission could consider specific risk adjustments to the acquiring company's return on equity ("ROE"). The risk adjustment to the ROE could be limited to the system improvements (once completed) that are needed either to bring the acquired water system into compliance or to address quality of service issues, similar to Pennsylvania's "associated improvement costs" reason for an enhanced ROE.

[16] Arizona Regulatory Reports, Issue 11-4, August 2011

Focusing on the ROE in this manner more narrowly tailors the ratemaking incentive to the behavior that the Commission would like to promote: the acquisition of smaller, troubled water companies by larger, well managed companies and the subsequent completion of system improvements.

Under this approach, the purchase price in the acquisition could be irrelevant; i.e., the ROE premium on its own could encourage and incent the acquisition without the need for an acquisition adjustment to rate base. The buyer would retain the incentive to negotiate the best possible purchase price (because he would know that the Commission would not increase the rate base by the acquisition premium), and the seller would have less reason to expect that an inflated purchase price could be simply passed on to ratepayers. At the same time, the buyer would have an incentive to purchase a troubled water company because he would know that the subsequent prudent investments that are necessary to improve the acquired system could be eligible for a higher ROE.

The precise adjustment to ROE would need to be determined in a rate case that is filed after the system improvements have been made. For example, if the ROE analysis in a rate case resulted in an ROE of 9 percent, and if the risk adjustment were 100 basis points, the ROE for the system improvements would be 10 percent, and the ROE for the remainder of the system would be 9 percent. The Commission may also want to consider whether the system improvements would continue to be eligible for an adjusted ROE in subsequent cases.

It is important to recognize that both of the ratemaking mechanisms discussed herein (the acquisition premium and the ROE adjustment) will result in higher rates.

Cash flow/operating margin inducements

The water and wastewater industry can only be consolidated by a) making companies viable, and b) incenting the acquisition of non-viable or challenged utilities. This view was precisely espoused in the Commission's 1999 Water Task Force report, and it was repeatedly stated in the Commission's 2011 Water Workshops. Very often in the review of acquisition policies the former point is forgotten, i.e. that strengthening viability is an essential tool in consolidating the industry.

> "[S]mall water utilities are clearly more risky than large water utilities and theory would support the notion that the required return on investment should be higher for small water than for large water companies."[17]

By strengthening the viability of water and wastewater utilities, the companies become economically attractive without the need for an acquisition adjustment. Encouraging friendly mergers and acquisitions by ensuring financial viability is likely to be a lower cost path toward consolidating the industry and achieving economies of scope and scale.

The Commission's recent decision to consider adjusting utility classification revenue thresholds to account for inflation is likely to be useful in this regard, because it is likely to make rate case filings less costly and simpler for small and medium-sized water and wastewater utilities. A second step the Commission should consider is increasing the operating margin that is provided to utilities that lack rate base, as is the case for most small systems. A range should be established by the Commission after careful consideration. Criteria

[17] "Water Utility Risk and Return", Page 20

should be developed to allow the Commission to have the flexibility to set the percentage on a case by case basis. Currently, the Commission allows operating margins from 5 to 20% (although the authors' experience is that the margin is usually around 10%). By way of comparison, in California, the smallest water utilities there – the Class C and D companies – receive operating margins of 20.73% and 22.08% respectively.[18]

The California position is supported by its determination that "a small water utility's earned rate of return is significantly greater than that of a large water utility. Small water utilities also face greater operating risk and much greater regulatory risks than large water utilities."[19]

The key consideration here is that an operating margin is not the same thing as a rate of return – indeed one look at the California Public Utility Commission's most recent order on rates of return and operating margins shows that the operating margin is about twice as large as the rate of return. To many people that will be bewildering – but what one must remember is that an operating margin is not the "return" for the investors and owners of a utility, it is simply what they have left after paying their operating expenses. Their operating margin is what they have available to deal with any operational or financial challenge – the California PUC explicitly takes "into account the high operational risks faced by Class C and D water utilities" and grants them operating margins nearly twice the size of a traditional rate of return – the reason is that a key "factor contributing to small water utility operating risk is their very high operating expenses to operating revenue factor."[20]

Again, bear in mind that a small system using an operating margin is, by definition, a system without significant rate base – it lacks financeable assets, thus it must operate on a cash flow basis. Any significant operational or financial challenge must be dealt with in cash, not financing. Therefore it is essential that operating margins for small systems be increased to levels at least similar to those in California's regulated industry.

Those first two steps, adjusting utility classifications to account for inflation (thus reducing the time and expense of rate case filings), and providing a healthy operating margin; will dramatically improve the ability of Arizona's small water and wastewater providers to deal with the environmental and regulatory challenges that lay in their near future.

Those steps will incent small water and wastewater utilities to file rate cases – allowing the Commission to begin getting a good look at the industry as it actually exists... Most of these systems haven't filed a rate case in decades, and the Commission frankly has no idea what their situation and strengths may be. By incenting the filing of rate cases, the Commission will get a real look at the small water situation in Arizona.

The effect of those two steps will be to make the industry healthier and more transparent. Both are essential to dealing with Arizona's water challenges, and to beginning to consolidate a highly fragmented industry.

Acquisitions are hampered not only by the lack of an acquisition adjustment incentive and the inability to consolidate rates (more on that later); they are also greatly hampered by the fact that many small systems are financially unhealthy and there is no real way to evaluate a company's position before one makes an offer and gets access to its books and records. Rate cases solve both those challenges and will make it easier for

[18] See Attachment 2
[19] "Water Utility Risk and Return", Page 1
[20] Ibid, Page 16

consolidators to evaluate and identify good acquisition opportunities, and to use real information to evaluate and negotiate a fair price.

Before concluding this section, we must highlight the fact that in Arizona, many small water companies have demonstrated very significant challenges interpreting and navigating the Corporation Commission's rate case process. This is not an indictment of the Arizona Commission, it is a common problem: "Many small water utilities have little or no contact with the Commission until they experience major fiscal or operational difficulties." That quote describes Arizona and many other states, but it is from "Water Utility Risk and Return" published by the California PUC, describing California's regulatory climate.[21]

Therefore we urge the Commission to consider establishing an Ombudsman office – staffed with an accountant, an engineer, and an attorney. The Ombudsman office would have two missions: First, to assist small companies after they file a rate case or a financing application; and second, to conduct outreach to the small water industry and to customers of small water systems to explain the Commission and its processes. They would not be there to represent the company but to assist them through the process. All too often, companies and customers are as confused as anyone by the Commission's work. That is in no one's interest.

Those steps, if combined with a Commission policy allowing rate consolidation, will lead to significant consolidation.

Should the Commission wish to further incent rate case filings, it could consider an incentive along the lines of this, again from "Water Utility Risk and Return":

> "For whatever reason, many small utilities do not come in for needed rate increases. Allowing automatic rate adjustments which could be set to an index would allow the utility to recover those expenses that are out of the control of the utility. Therefore, the recovery of lost or gained revenues are not adjusted when the utility saves or wastes money and the stockholders will bear these gains or costs. Indexing will also preserve the incentives found with test year ratemaking."[22]

An example of such an adjustment would be a power supply adjustor – allowing those, on a case by case basis, but only after the company files a rate case and gets Commission approval, could provide an additional incentive to file rate cases, and could also reduce small water companies operating revenue risk.

[21] "Water Utility Risk and Return", Page 12
[22] Ibid, Page 23

SECTION FOUR: CONSOLIDATION OPPORTUNITIES

To achieve maximum economies of scale will require the Commission to begin consolidating rates within each utility, and consolidating the industry into larger more viable parent companies. These approaches will allow water systems to deal with unexpected costs and to attract capital on more reasonable terms. When one thinks about unexpected costs, most people think of well failures, but it also includes added and changed water quality regulations and standards, increasing costs for CAGRD and CAP water, and increasing power costs. Additionally, changes to water quality standards, as occurred in the case of Arsenic, have significant costs and effects on customer bills. Consolidation of rates among affiliated systems and consolidation of the industry itself can mitigate those impacts.

Rate Consolidation

The first component of consolidation deals with consolidating the rates of affiliated systems. The Commission has consolidated the rates of affiliated systems in the past – notably Liberty Water's McLain and Sunrise systems in Cochise County; and the Commission has also deconsolidated the rates of affiliated systems – notably Anthem and Agua Fria in Maricopa County.[23] . In both cases, the Commission determination centered on customer rate impacts.

The electric, gas and telecommunications industries have long recognized that under rate consolidation more people have better service at a reasonable price. Under rate consolidation the regulatory process is also less cumbersome and expensive to both the public and the company involved. Consolidation avoids multiplicity of rate cases for each individual system, and simplifies the handling of questions and complaints by the regulatory commissions. And it strengthens the ability of utilities to withstand regulatory changes, environmental challenges, and economic challenges by spreading those costs over a larger, common, group of customers, i.e., by taking advantage of the economic fact that economies of scale exist.

One difference between the electric, gas and telecommunications industry and the water companies that must be addressed is that the other utilities customers all share common transmission systems. It would be necessary for the Commission to determine what factors are applicable in the water and wastewater consolidation decision. Factors may include but not be limited to common water resources, i.e., same aquifer, or common utility management, i.e., shared plant, shared services, common management, shared staff or future need for shared water sources, i.e. CAP or other surface water that requires large treatment systems.

As mentioned in the previous section, in order to achieve a wide spread, significant consolidation of the industry, rate base acquisition adjustments, allowance for regional consolidations, rate of return on equity premiums, cash flow and operating margin policies that strengthen small water companies must become tools that the Commission utilizes to encourage regional and integrated consolidation. This would allow the Commission greater flexibility to pick the tool that best fits the situation.

[23] We note that recently, another development, Corte Bella, has petitioned the Commission to deconsolidate themselves from Agua Fria, thus continuing to deconsolidate a once-regional operation.

SECTION FIVE: SUMMARY AND RECOMMENDATIONS

In the final analysis, we believe that Arizona's environmental reality, and its expected population growth in areas served primarily by private water and wastewater utilities are sufficient justification for embarking on a Commission policy supporting and incenting consolidation of the private water industry. Arizona's water situation is not "dire" but it is, as it always has been, complex, challenging, and ever-changing. Knowing that the majority of small water systems lack financial and operational strength and knowing that Arizona's water situation is becoming more difficult is all the evidence the Commission needs to embark on a policy of consolidating and strengthening the industry before Arizona's population doubles in size.

But there are other benefits which we have also established in this paper: Customers will benefit from economies of scope and scale; the Commission will get a firmer grasp of the actual real-world financial and operational situation that small water companies face; the Commission will have greater oversight into the industry – and the industry itself will become much more transparent; and finally, Arizona residents will receive what Pennsylvania's PUC was able to attain for its residents: improved quality, reliability, and safety in their utility service.

Paul Walker
Chairman
Arizonans for Responsible
Water Policy

Pat Quinn
Director
Arizona Residential Utility
Consumers Office

ORIGINAL

OPEN MEETING AGENDA ITEM

[redacted]

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AZ CORP COMMISSION
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October 16, 2012

Arizona Corporation Commission
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OCT 16 2012

DOCKETED BY

Arizona Corporation Commission
Docket Control
1200 West Washington Avenue
Phoenix, AZ 85007

In Re: Docket No. W-00000C-06-0149

Dear Interested Parties:

The attached is a revised version of Responsible Water's paper "Beyond Rate Shock & Regulatory Lag." Subsequent to our initial paper (Sept. 2012) we met and consulted extensively with Arizona Public Service and the attached, revised paper, better explains the decisions and rate treatment APS has received from the Commission over the past several years.

Our intent is not criticism of APS or of the Commission – APS faced a downgrade to "junk" status from its debt ratings agencies, it stock price was faltering, and its customers were faced with the choice between higher rates now, or receiving service from a company on the verge of financial crisis. The Commission worked with APS to resolve the situation – and APS worked with the Commission to achieve the policy goals of the Commission. Today, APS customers have stable rates that won't change much over the next five years. APS has the financial ability to plan and invest in Arizona's future – and that sort of utility strength is a prerequisite to economic growth.

Our point is that if the Commission can find ways to solve APS' situation, and benefit APS customers and Arizona when the numbers involved reached into the billions of dollars, and hundreds of millions of dollars flow through adjustors each and every year – then the Commission can find a way to enact a simple, tried, and proven mechanism that dramatically reduces rate case frequency, the size of rate hikes, and the regulatory lag that undermines water companies' ability to plan and invest in Arizona's future. And the primary beneficiaries of that step are the nearly 90% of Arizonans who told us in a statewide poll that small, annual rate hikes are easier for their family than large, infrequent hikes every few years.

Our customers, and our companies, need consistent regulatory policy – and just as it worked for APS, the Commission, and APS' customers, it will work for ours and for the betterment of Arizona's ability to get its economy back on track.

Sincerely,

Paul Walker
Chairman

Moving Beyond Rate Shock & Regulatory Lag
How Distribution and Collection System Improvement Charges benefit customers, investors, and regulators.

October 2012

Abstract

Arizonans for Responsible Water Policy is a trade group whose members serve nearly one million people in Arizona. Our members operate water and wastewater systems in over 60 communities and have been actively involved in every water commission and study group in the state over the past 30 years.

In this paper, Responsible Water looks at the arguments used against DSICs and the wastewater form, the CSIC. We find that the arguments used against DSICs are often disingenuous, frequently hyperbolic, and in the end do not reflect the simple fact that well-regulated DSIC programs reduce rate case filings, streamline the regulatory process so that utility commissioners can focus on larger policy issues instead of "firefighting", and DSICs provide customers with manageable rate adjustments that almost never exceed a few dollars a month.

We close the paper with a recommended process for implementing and regulating DSICs, and by providing sample schedules for utilities' use in DSIC implementation.

Authors

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Chris Krygier, Manager, Rates & Regulation, Liberty Utilities, MBA, 5 years in utility operations

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Paul Walker, Chairman of Responsible Water, President at Insight Consulting, MBA, 12 years in utility regulation, analysis, and consulting

Note: Throughout the paper we use the DSIC and "Distribution System Improvement Charge" to include the CSIC or "Collection System Improvement Charge" which is the wastewater utility version of the DSIC.

Distribution System Improvement Charges

("DSIC")

For over 13 years, the Arizona Corporation Commission has considered and denied implementing Distribution System Improvement Charges (and the equivalent for sewer utilities, the Collection System Improvement Charge) for the water and wastewater utilities it regulates DSICs and CSICs are used in a dozen other states, from California to Pennsylvania, and time and again have been proven to reduce the frequency of rate cases, lower the size of rate hikes, and incent a smoother and more consistent infrastructure replacement program that deals with aging and failing infrastructure.

Organizations like Food & Water Watch have attacked DSICs. RUCO and others have mischaracterized DSICs. Organizations like NARUC and the Council of State Governments have endorsed DSICs.[1] The Commission has supported the end goals of DSICs for the state's largest utilities while denying them to the water industry.

The end goals of DSICs echo the Commission's support for APS Settlements, i.e., "that APS's customers will have the benefit of rate stability…while also providing the Company with adequate revenue to enable it to provide safe and reliable electric service."[2] The end goals of a DSIC are:

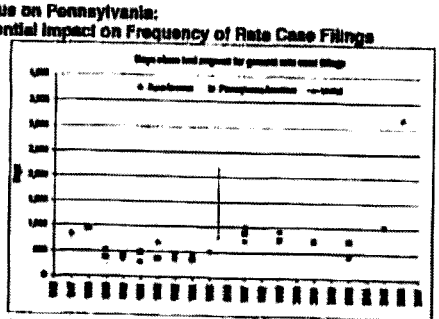
- Reduced rate case frequency and cost,
- Smaller rate hikes and increased rate stability,
- Improved infrastructure, and an
- Improved regulatory climate for investment.

This paper explores the benefits of DSICs and contrasts the Commission's supportive positions with regard to energy utilities against its opposition to DSICs for water utilities and closes by recommending a procedural process for DSICs and a set of 11 schedules that the Commission could easily adopt as a template and begin moving Arizona towards a more reliable and sustainable water future.

It is inarguably true that DSICs reduce the frequency of rate cases, and the size of rate hikes.

The gold vertical arrow in the middle of the graph denotes the start of Pennsylvania's DSIC era – as one can see, rate cases are less frequent. This means less rate case expense for the company, the customers, and the Commission; increased efficiency as the Commission deals with continuing staffing and budget pressures; and ultimately the customers benefit as rates become stable with gradual and manageable increases.

Focus on Pennsylvania:
Potential Impact on Frequency of Rate Case Filings



[1] NARUC Resolution, February 24, 1999; NARUC Best Practice Resolution, July 27, 2005; Council of State Governments, Publications of Suggested State Legislation, 1999.
[2] See, e.g., Staff's Opening Brief, APS Rate Case, 11-0224, Page 12, Lines 14-16

Regulatory lag leads to larger rate hikes and creates "rate shock."

Some argue that regulatory lag is a "benefit" to customers because it provides them the use of infrastructure without them having to pay for that infrastructure. But that is only the 'seen' aspect of the economics of utility investment, the 'unseen' aspect is that there is no such thing as a free lunch: With lag, those assets will go into rate base in one fell swoop – and the customers are always shocked and upset when that bill comes due because it includes several years' of plant investment. How many thousands of water customers have to ask the Commission the same question ("why does my bill have to go up by so much at one time?") before it realizes that the supposed regulatory lag benefit is, in fact, worse for customers.

Under a DSIC approach, plant would not "stack up" for the next rate case – it would incrementally flow into rates, the model used by Arizona's cities and municipal water providers. This incremental approach, which some call rate gradualism, is also the basis for APS, TEP, and Unisource recovering their investment in renewable energy, transmission, and pollution control flow through their adjustor mechanisms – each of which is based on utility plant.

Customers overwhelmingly support small, annual rate adjustments instead of large, infrequent ones.

Responsible Water commissioned a poll of 4,000 Arizonans in September of 2012 – in that poll we asked "when utility rates have to go up, would you prefer: 1) small annual changes, or b) large changes every few years?" **89.4% of Arizonans said they preferred rate gradualism – small annual changes.** This approach has the least impact on their household budget and allows them to adjust to cost increases as they occur instead of bundling several years' of those increases into one large hike.

The impact to customer rates from DSICs is small and manageable for customers, and reduces rate hike request size and frequency. Actual DSIC adjustor surcharges from around the nation:

AMERICAN WATER

DSIC Charges – Examples of Approximate Impact on Typical Customer Bill

State	DSIC MAX (% of revenues)	Typical Avg. Monthly Residential Bill	MAX DSIC Surcharge Per Month	% Current Surcharge	Current Surcharge Per Month
IL	5%	$49.33 (Peoria)	$2.62	0.00%*	$0.00
IN	5%	$39.93	$1.93	2.48%	$0.75
OH	3%/filing; 3 filings between rate cases	$35.07 (Franklin Co)	$1.05 (each yr for 3 yrs)	0.00%*	$0.00
MO (St Louis Co)	10%	$31.50	$3.15	2.10%	$0.65
NY	Capped at $3 million over routine spend	$49.00	X	X	$0.35
PA	7.00%	$42.84	$3.00	2.44%	$1.04

* Surcharges rolled into general rate cases pursuant to general rate cases

www.amwater.com

In particular, let's focus on Pennsylvania; the state most aggressively trying to consolidate and reform its water industry. It has gone from regulating and overseeing 500 water companies to 125 in under a decade and is on its way to 50 companies.[3] In that most pro-investor state, the DSIC surcharge is averaging $1.04 a month.

[3] Arizona Regulatory Reports, Issue 11-4, August 5, 2011, *"Time for Action – Regulatory Leadership Can Create A Better Future"*

DSICs, like other adjustors for known and measurable costs, are not single issue ratemaking.

The other criticism is that while DSICs provide for gradualism, they risk "single issue ratemaking." This is interesting when contrasted with the Commission's support of APS settlements that include a host of adjustor mechanisms, each largely based on ensuring "that APS's customers will have the benefit of rate stability...while also providing the Company with adequate revenue to enable it to provide safe and reliable electric service."[4]

It is worth highlighting that APS' non-fuel and non-power related adjustor-based revenues are nearly two and a half times larger than the DSIC proposal offered by Responsible Water. Arizona Public Service (far and away the largest utility in Arizona) provided Responsible Water with the following information regarding their estimates of bill adjustor amounts (excluding fuel and power costs which we will describe later in the paper.)

APS Adjustors (Excluding Fuel and Power)	% of APS 2011 Revenues [$2.992 BN]	Estimated Annual Impact
Demand Side Management[5]	2.2%	$66 MM
Retail Transmission Cost[6] Adjustor[7]	2.5%	$76 MM
Renewable Energy[8]	2.4%	$71 MM
Lost Fixed Cost Revenue[9]	0.2%	$7 MM
Non-fuel/Non-Power Adjustors	**7.3%**	**$220 MM**

In addition to those adjustors, APS was provided with post-test year plant adjustments to rate base in both its 2009 and 2012 Rate Case Settlements. In dollars, and as a percent of rate base, APS saw significant Commission steps to reduce regulatory lag on its investments into plant:

APS Plant Adjustments	% of APS Rate Base [$8.167 BN]	Rate Base Added
Four Corners[10]	3.4%	$279 MM
2012 Post-TY Plant[11]	1.4%	$116.3 MM
Solar Transfer from Renewable Surcharge to Base Rates[12]	2.8%	$226.7 MM
Total Post-TY Rate Base Adjustments, 2012	**7.6%**	**$622 MM**

[4] Staff's Opening Brief, APS Rate Case, 11-0224, Page 12, Lines 14-16
[5] Data provided to Responsible Water from APS
[6] Data provided to Responsible Water from APS
[7] Data provided to Responsible Water from APS
[8] Data provided to Responsible Water from APS
[9] These numbers were provided to Responsible Water from APS – however, the 2012 APS Settlement allows APS to flow up to 1% of its revenues thru the LFCR, which would raise its annual impact from APS' $7 MM figure, to $29 MM.
[10] Data provided to Responsible Water from APS.
[11] Data provided to Responsible Water from APS.
[12] APS 2012 Settlement, Docket No. 11-0224, "Renewable Energy Projects Transferred from the Renewable Energy Surcharge ('RES') to Base Rates," Attachment D to Settlement, Page 1 of 1.

This of course leaves out the question of the APS power and fuel supply adjustor. The so-called PSA has been supported by many parties, including Commission Staff, RUCO, and APS as being essential given the size and importance of fuel and power supply costs.

The PSA is provided to APS (and other electric utilities in Arizona) despite the fact that those utilities have abilities that no water company has with regard to power costs: Electric utilities can purchase power in a competitive market, we cannot. And electric utilities can sign long-term contracts with different providers, we cannot. Which entirely raises the question of: Why does the Commission deny power supply adjustor requests from water companies while simultaneously: a) approving double-digit price hikes in water pumping tariffs, *and* b) preventing water companies from having electric choice and competition?[13]

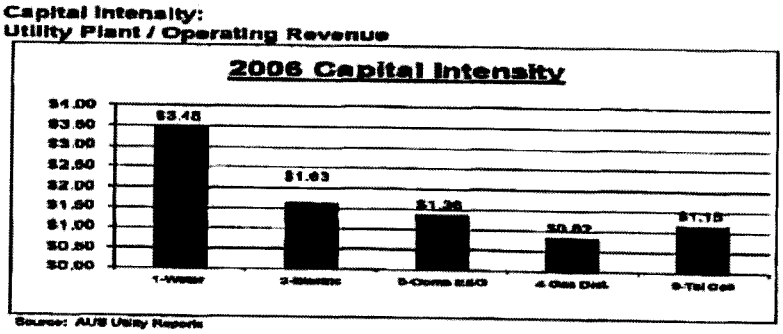
In trying to estimate the "value" of the PSA, there seems to be only one number that is meaningful – APS can pass thru changes in its power and fuel costs of up to $0.004/kWh.[14] APS' retail sales were 28,210,326,000 kWh in 2011.[15]

Therefore, APS' 2012 Settlement provides it with the opportunity to pass thru PSA adjustments of $112MM per year – based on $2.992BN of revenues **APS' PSA alone could add an additional 3.7% per year to customer bills.**[16]

Despite the fact that the DSICs proposed by Responsible Water would be limited to 3% of revenues for normally operating systems, and 7% for systems facing critical infrastructure demands, those who oppose DSICs argue that adjustors that improve investor attitudes are not in the public interest when they apply to water companies. From the bases of consistency and relative impact, opposition to the DSIC cannot be squared with support for the adjustors and post-test year plant adjustments granted to energy companies like APS.

When compared with APS' Commission-approved adjustors and post-test year plant adjustments, the DSIC is miniscule – but relativity and consistency aren't the only reasons to implement a DSIC policy. Water and wastewater utilities face a much higher degree of capital intensity than electric utilities:

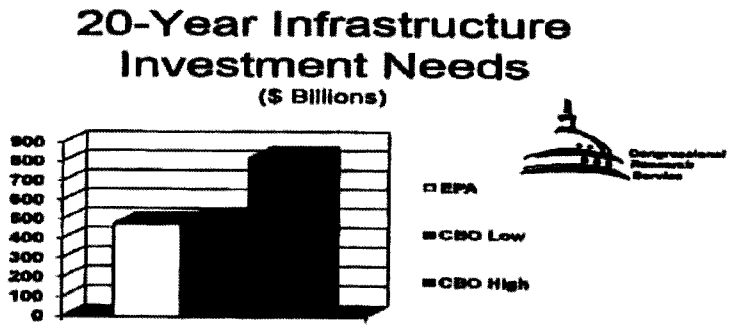
Capital Intensity:
Utility Plant / Operating Revenue



Source: AUS Utility Reports

[13] This is a question that will be explored in future studies by Responsible Water.
[14] APS 2012 Settlement, Docket No. 11-0224, "Power Supply Adjustor Plant of Administration," Attachment C to Settlement, Page 1 of 20, Section 1.
[15] APS' 2011 Renewable Energy Standard Compliance Report dated March 20, 2012, Page 3, Footnote 10 which says "Based on 2011 retail sales of 28,210,326 MWH." Our calculation is as follows: 1,000 kWh = 1 MWH. Thus 28,210,326 MWH = 28,210,326,000 kWh. 28,210,326,000 * $0.004 = $112,842,304.
[16] $112,000,000 / $2,992,000,000 = 3.74%

That increased capital intensity faces a major challenge: the increasing need for capital to repair and replace infrastructure that has been in the ground for decades. **While we often think of Arizona as a young state, it's worth noting that a water main put in the ground when Ronald Reagan took office is now fully depreciated and is entering old age and facing line break and water loss issues.** In fact, across the U.S. the need for water and wastewater investment has been studied by the EPA and the Congressional Budget Office, with each finding at least $25 billion a year in capital needs:



Surcharge mechanisms, like the DSIC, don't guarantee earnings, they encourage investment.

A primary attack on the DSIC is based on the theory that it "ensures" companies earn their ROE. Claiming that a DSIC would "ensure" ROEs in Arizona is simply incorrect; DSICs reduce the amount of ROE under-recovery by reducing regulatory lag. To do that, a DSIC provides a return on invested capital in the form of used and useful plant -- thus while revenues increase under a DSIC, so has investment in used and useful plant and the only return allowed is the rate of return on used and useful plant. It is not mathematically possible to guarantee ROE earnings by allowing rate of return recovery on invested capital.

This opposition to the DSIC stands in contrast to Commission support for APS settlements since 2009 in which the improvement in investor attitudes resulting from adjustors was cited as a public benefit. For example, Commission Staff argued in the APS 2012 rate case that a reason for its support was that "[t]he proposed Settlement Agreement builds on the progress made in APS's last rate case by including provisions designed to improve the Company's financial condition so that it can compete in attracting capital for investments to meet the needs of its customers."[17]

RUCO supported the series of APS Settlements and the adoption of numerous adjustors by arguing that "a stable rate base with the ability for the Company to remain financially healthy through changes in its adjustors is in the public interest."[18] Commission Staff then cited and highlighted that RUCO position as a reason why the Commission should support the APS 2012 Settlement.[19,20]

[17] Staff's Opening Brief, APS Rate Case, 11-0224, Page 10, Lines 19-23
[18] Transcript, APS, 11-0224, at Pg. 130
[19] Staff's Opening Brief, APS Rate Case, 11-0224, Page 12, Lines 9-10
[20] See also, Dec. No. 73183, May 2012, at Page 18, Lines 21.5 thru 25.5

RUCO and Staff's concern should extend to the water industry: For the period, 2006-2010, the average earned ROE of the Class A Responsible Water companies was only 1.96%.[21]

Finally, this argument misstates the very nature of risk: by reducing regulatory lag for used and useful plant investments, the Commission does not reduce risk compensated for in ROE. According to the text books Commission Staff relies upon, risk is related to *variability* of operating income, not the *level* of operating income.[22]

A DSIC increases revenues by an amount that is directly based on additional fixed costs that are actually incurred. A DSIC does not reduce the variability of operating income, which varies mainly as a result of fluctuating sales (e.g. weather) and variable costs (e.g. power, chemicals). Reducing the amount of regulatory lag (and as a result the level of under-recovery) does not equate to a reduction in the variability of operating earnings. And it certainly doesn't reduce the variability of that portion of operating earnings that Staff would claim is "systematic," or "non-diversifiable," and therefore affects the cost of capital.

We are not suggesting that the Commission turn a blind eye to earnings; in fact our proposed DSIC schedules provide explicit data on earnings.

The argument that ROEs must be cut in "exchange" for DSICs is one-sided and asymmetrical.

An ROE is the incentive for an investor to take on risk – the possibility of making a return on her investment impels an investor to put capital at risk. So, it is important to clearly understand what "risk" means from an investment perspective: According to Harry Markowitz, the father of the Efficient Market Hypothesis which led to, among other things, the Capital Asset Pricing Model (CAPM), "Efficient portfolios minimize that 'undesirable thing' called variance while simultaneously maximizing that 'desirable thing' called getting rich… That is what Markowitz meant when he introduced the concept of variance to measure risk, or the uncertainty of return."[23]

But in the past several years, the average return for the class A water companies which comprise Responsible Water has been 1.96% - while allowed ROEs in Arizona over that period averaged 9.60%.[24]

In Arizona, the variance between what water utilities actually earn and what utilities are authorized to earn is staggering. It is that variance, Markowitz's "risk" that has led several investment analysts to rank the state among the worst in the nation for utility investment.[25]

Furthermore, regulatory lag, in an environment of rising infrastructure-related costs, will cause a utility to under-recover its cost of service. The Commission has never added a premium to a utility's authorized ROE to account for regulatory lag (i.e. the fact that the utility likely will not earn its cost of capital under the traditional ratemaking framework in Arizona the "historic test year"). **Mechanisms that are designed to reduce regulatory lag, such as the DSIC, do not warrant a downward adjustment to the authorized ROE, as such a reduction would defeat the purpose of the DSIC (reducing regulatory lag) and render it useless.**

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[21] Data provided by Desert Mountain Analytical Services

[22] See, for example, Emery, Douglas R., Finnerty, John D. *Principles of Corporate Finance with Corporate Applications*, (1991), Pages 157 - 158.

[23] Peter L. Bernstein, *Against the Gods: The Remarkable Story of Risk*, (1998), Page 256

[24] Data provided by Desert Mountain Analytical Services; and Insight Consulting

[25] See, e.g., Janney Montgomery Scott, "Introducing the Janney RCI" (2011); and also, S&P, "Assessment of US Regulatory Climates" (2008, 2010)

Behind all these arguments, there seems to be a general attitude among some parties that if water utilities recover their costs of service (including a return on invested capital), the Commission has somehow failed. This is in contrast with the Commission's decisions to allow APS to recover revenues through adjustors, and over half a billion dollars of post-test year plant adjustments in the explicit interest of minimizing APS' earnings variability and making APS better able to serve customers.

Reducing the ROE in exchange for DSIC approval eliminates the benefit of DSICs and increases "Rate Shock" challenges.

Some suggest that if water companies receive DSICs they should be required to accept lower ROEs – this is premised on a) the misunderstanding of what risk is (i.e., variability in returns), and b) the theory that utility ratemaking is a zero-sum game in which anything improving a utility's financial condition has to be tied to something that harms its financial condition. In the end, the zero-sum approach means that the Commission will never improve financial conditions, because the lost revenue resulting from a reduced ROE in a general rate case could be greater than any potential revenues resulting from a subsequent DSIC filing (depending on the utility's rate base and operating revenues).

A utility in need of a DSIC is likely riskier.

To the extent a utility is faced with an infrastructure crisis (i.e. the need to replace large amounts of infrastructure), and is therefore in need of a DSIC, it is *more* risky, and warrants a higher ROE to enable it to attract capital on reasonable terms for the purpose of replacing such infrastructure. Complicating matters is the fact that the interest coverage requirements required by lenders and contained in bond indentures, which can be as high as 2.5 times total interest expense, are remnants of the days before volumetric and tiered rates were in effect. These coverage requirements and other covenants have not been adjusted to accommodate the newer conservation rate structures with declining revenues over time or the increasing burden of infrastructure replacement programs. (See "The Pendulum Swing of Revenue Stability and Conservation" Journal AWWA, Aug. 2010, p. 26) As a result, potential lenders are less likely to loan significant amounts of money to water utilities with low authorized ROEs, historical test years, and conservation-based rates.

Proposed DSIC Process - Overview.

One of the key challenges in implementing a new policy is the question of how to do so – Responsible Water proposes the following process as a proper beginning for the implementation of DSICs. Without question, over time the Commission, the customers, and the regulated utilities will identify opportunities and ways to improve the process. With biennial workshops on water policy, the Commission should include a review of this and other processes.

Proposed DSIC and CSIC Process

1. Utilities shall apply for and obtain generic approval of a DSIC or CSIC in the context of a rate case.

2. Once approved generically, DSICs and CSICs shall not have annual adjustments greater than either 3% or 7% of annual revenues. Utilities requesting 7% annual caps must show that the infrastructure replacement needs in the affected utility require an investment of greater than 50% of existing rate base in less than a five-year period; or greater than 100% over a ten-year period.

3. Each utility granted a DSIC shall comply with the following process and requirements:
    a. To initiate a DSIC or CSIC adjustment, the utility shall file Schedules (See Attached) which show the following:
        i. DSIC-eligible plant installed through the period for which recovery is sought, by NARUC account type;
        ii. Proposed surcharge for all DSIC-eligible plant;
        iii. Prior year DSIC collections and Over/ Under collected amounts;
        iv. Balance sheet before and after DSIC plant inclusion;
        v. Income statement before and after DSIC surcharge inclusion;
        vi. Revenue requirement calculations;
        vii. Surcharge Calculation;
        viii. Construction Ledger;
        ix. Earnings test;
        x. Typical bill analysis.
    b. As part of its DSIC adjustor filing, the utility shall make readily available documentation which shows the following:
        i. Approval Of Construction and Invoices for DSIC-eligible plant installed;
        ii. DSIC-eligible plant and projects the utility plans to install in the then-current year , by NARUC account type;
        iii. Actual and estimated in-service dates for said plant.
    c. Concurrent with its DSIC adjustor filing, the utility shall notify customers of its proposed DSIC adjustment and its potential impact on rates; the notice shall include information on how to contact the Commission's consumer services section and how to contact the utility for more information.

4. The adjustor is automatically effective within 30 days of receipt of the DSIC adjustor filing, unless Staff notifies the utility whether it believes it needs more time to review or issue a report or if a hearing is required to adjudicate the DSIC proposal.
    a. If a hearing is required, it shall be completed within 45 days, and a ROO shall be issued within 45 days of the conclusion of the hearing(s). The Commission shall issue an order at the next open meeting.

ABLE WATER COMPANY
Docket No. W-XXXXXX-XX-XXXX
Balance Sheet
As of December 31, 20XX

Line No.		PR
1	**ASSETS BUILT BEFORE YEAR BY MAINS ACCOUNT**	**AMOUNT**
2	309 SUPPLY MAINS	
3	Project Name & Location	
4	Gross Utility Plant	
5	Less: Accumulated Depreciation	
6	Net Utility Plant	$ -
7	310 DISTRIBUTION AND TRANSMISSION MAINS	
8	Project Name & Location	
9	Gross Utility Plant	
10	Less: Accumulated Depreciation	
11	Net Utility Plant	$ -
12	333 SERVICES	
13	Project Name & Location	
14	Gross Utility Plant	
15	Less: Accumulated Depreciation	
16	Net Utility Plant	$ -
17	334 METERS	
18	Project Name & Location	
19	Gross Utility Plant	
20	Less: Accumulated Depreciation	
21	Net Utility Plant	$ -
	TOTAL DBID PLANT	$ -
	LESS: ACCUMULATED DEPRECIATION	$ -
22	NET DBID PLANT	$ -
23	AUTHORIZED YRCC, DECISION NO.	
24	DBID SURCHARGE	$ -
	AUTHORIZED ROE, DECISION NO.	
	EARNED ROE WITH SURCHARGE	

ABLE WATER COMPANY
Docket No. W-XXXXX-XX-XXXX
Balance Sheet
As of December 31, 20XX

1-Balance Sht

Line No.		[A] TOTAL COMPANY		[B] REGION		[C] DISTRICT	
1	**ASSETS**						
2							
3	UTILITY PLANT						
4	Gross Utility Plant	$	-				
5	Less: Accumulated Depreciation		-				
6	Net Utility Plant	$	-				
7							
8	CURRENT ASSETS						
9	Cash on Hand and in Banks		-				
10	Investments and Special Deposits		-				
11	Accounts Receivable		-				
12	Materials & Supplies		-				
13	Other		-				
14	Total Current Assets	$	-				
15							
16	DEFERRED DEBITS	$	-				
17							
18	TOTAL ASSETS	$	-				
19							
20							
21	**LIABILITIES**						
22							
23	CAPITALIZATION						
24	Common Stock		-				
25	Capital Surplus		-				
26	Retained Earnings		-				
27	Common Stockholders Equity	$	-	$	-	$	-
28	Long-Term Debt		-		-		-
29	Total Capitalization	$	-	$	-	$	-
30							
31	CURRENT LIABILITIES						
32	Notes Payable		-				
33	Accounts Payable		-				
34	Accrued Expenses		-				
35	Other		-				
36	Total Current Liabilities	$	-				
37							
38	DEFERRED CREDITS						
39	Advances for Construction		-				
40	Contributions In Aid of Construction		-				
41	Deferred Income Taxes		-				
42	Other		-				
43	Total Deferred Credits	$	-				
44							
45	TOTAL CAPITAL AND LIABILITIES	$	-				
46							
47							
48							
49							
50							
51							
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55							

1-Balance Sht

ABLE WATER COMPANY
Docket No. W-XXXXX-XX-XXXX
Income Statement
As of December 31, 20XX

2-Income Stmt

Line No.		(A) TOTAL COMPANY	(B) SYSTEM
1			
2	OPERATING REVENUE	$ -	$ -
3			
4	OPERATING EXPENSES		
5	Operation and Maintenance	-	-
6	Depreciation	-	-
7	Taxes Other than Income	-	-
8	Income Taxes	-	-
9	Total Operating Expenses	$ -	$ -
10			
11	OPERATING INCOME	$ -	$ -
12			
13	OTHER (INCOME) AND DEDUCTIONS		
14	Other (Income) - Net	-	-
15			
16	Interest on Long-Term Debt	-	-
17	Other Interest and Amortization	-	-
18	Total Interest	$ -	$ -
19			
20	Total Other (Income) and Deductions	$ -	$ -
21			
22	NET INCOME	$ -	$ -
23			
24			
25			
26			
27			
28			
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2-Income Stmt

ABLE WATER COMPANY
Docket No. W-XXXXX-XX-XXXX
Earnings Test
As of December 31, 20XX

Line No.		W DISTRICT
1		
2	REVENUE	
3	Total Operating Revenue	$ -
4		
5	OPERATING EXPENSES	
6	Operation and Maintenance	-
7	Depreciation	-
8	Taxes Other than Income	-
9	Income Taxes	-
10	Total Operating Expenses	$ -
11		
12	OPERATING INCOME/(LOSS)	$ -
13		
14	RATE BASE – O.C.L.D. (Includes DSIC Plant)	$
15	(Sch. 7, Ln. 33)	
16		
17	RATE OF RETURN – O.C.L.D	%
18	(Ln. 12 / Ln. 14)	
19		
20	AUTHORIZED RATE OF RETURN	%
21	(Decision No. _____)	
22		
23	OPERATING MARGIN	%
24	(Ln. 12 / Ln. 3)	
25		
26	Interest Expense - Net	$ -
27		
28	INTEREST COVERAGE	
29	[(Ln. 12 + Ln. 9) / Ln. 26]	
30		
31	Other (Income) and Deductions	$ -
32		
33	Equity Ratio	
34	(Decision No. _____)	
35		
36	Allocated Equity	
37	(Ln. 14 x Ln. 33)	
38		
39	RETURN ON EQUITY	%
40	[(Ln. 12 - Ln. 26 - Ln. 31) / Ln. 36]	
41		
42	AUTHORIZED RETURN ON EQUITY	
43	(Decision No. _____)	
44		
45		
46		
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55		

ABLE WATER COMPANY
Docket No. W-XXXXX-XX-XXXX
Rate Review
As of December 31, 20XX

4-Rate Review

W

DISTRICT A

Line No.		Per Dec. No. 20XXX	12 Mos. Ending 12/31/2011	DSIC Increase	Adjusted with DSIC
1					
2	REVENUE				
3	Total Operating Revenue	$ -	$ -	$ -	$ -
4					
5	OPERATING EXPENSES				
6	Operation and Maintenance	-	-	-	-
7	Depreciation	-	-	-	-
8	Taxes Other than Income	-	-	-	-
9	Income Taxes	-	-	-	-
10	Total Operating Expenses	$ -	$ -	$ -	$ -
11					
12	OPERATING INCOME/(LOSS)	$ -	$ -	$ -	$ -
13					
14	RATE BASE - O.C.L.D.	-	-		-
15	(Sch. 7, Ln. 33)				
16					
17	RATE OF RETURN - O.C.L.D				
18	(Ln. 12 / Ln. 14)				
19					
20	AUTHORIZED RATE OF RETURN				
21	(Decision No. 71845)				
22					
23	OPERATING MARGIN				
24	(Ln. 12 / Ln. 3)				
25					
26	Interest Expense - Net	$ -	$ -	$ -	$ -
27					
28	INTEREST COVERAGE				
29	[(Ln. 12 + Ln. 9) / Ln. 26]				
30					
31					
32					
33	Equity Ratio				
34	(Decision 71845)				
35					
36	Allocated Equity	$ -	$ -	$ -	$ -
37	(Ln. 14 x Ln. 33)				
38					
39	RETURN ON EQUITY				
40	[(Ln. 12 - Ln. 26) / Ln. 36]				
41					
42	AUTHORIZED RETURN ON EQUITY				
43	(Decision No. 71845)				
44					
45	THREE FACTOR RATIO	-			
46					
47					
48					
49					
50					
51					
52					
53					
54					
55					

4-Rate Review

ABLE WATER COMPANY
Docket No. W-XXXXX-XX-XXXX
Revenue Requirement
As of December 31, 20XX

5-Revenue Req

Line No.		[A] DISTRICT	[B]	[C]	[D]
1	TEST YEAR DATA				
2					
3	Eligible DSIC Plant in Service				
4	Accumulated Depreciation				
5	(Sch. 6, p. 1)				
6	Eligible DSIC Plant Rate Base	$ -			
7	Required Rate of Return				
8					
9	Required Operating Income	$ -			
10	(Ln 6 x Ln 7)				
11	Revenue Conversion Factor				
12					
13	Revenue Requirement - Return on Eligible DSIC Plant	$ -			
14	(Ln 9 x Ln 11)				
15					
16	Depreciation on Eligible DSIC Plant				
17	(Sch. 6, p. 1)				
18					
19	Total Revenue Requirement	$ -			
20	(Ln 13 + Ln 16)				
21					
22	Total Operating Revenue	$ -			
23					
24	Maximum Increase cap				
25					
26	Maximum Increase	$ -			
27	(Ln 22 X Ln 24)				
28					
29	Total Revenue Requirement lesser of Ln 19 or Ln 26	$ -			
30					
31					
32					
33					
34					
35			DISTRICT		
36		Current Rates			
37			Proposed Rates		
38					
39		Decision No.			Total
40	5/8 X 3/4-INCH RESIDENTIAL METER		DSIC		[B] + [C]
41	Basic Service Charge	$	$		$
42	Commodity Rate (Per M Gallon)	$	$		$
43	0 - X,000 Gallons	$	$		$
44	X,001 - X,000 Gallons	$	$		$
45	Over X,000 Gallons	$	$		$
46					
47					
48					
49					
50	Average Residential Bill (5/8 x 3/4 meter) - (____ gallons of usage)				
51					
52					
53					
54					
55					

5-Revenue Req

ABLE WATER COMPANY
Docket No. W-XXXXX-12-XXXX
Surcharge Calculation
As of December 31, 2011

6-Sizing Calc

Line No.		[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]
						DISTRICT				
1										
2				M Gallons	M Gallons					
3	GROWTH		Customers	Sold	Sold Per Cust.					
4	12/31/2010 (Year 1)									
5	12/31/2011 (Year 2)									
6	Increase/(Decrease)		-	-	-					
7	Percentage Change									
8	Average M Gallons									
9										
10										
11	INCREMENTAL FIXED COSTS TO BE RECOVERED PER BILL									
12										
13				Est. Average			Equivalent	Fixed Increment		
14		Customers by Meter Size		Customers		Basic Service	Meter		Monthly	Annual
15	Size	12/31/2010	12/31/2011	(A + B) / 2		Charge	Multiples	(C X F)	(G/9 X F)	(E X G) X 12
16										
17	5/8"							-		
18	1"							-		
19	1.5"							-		
20	2"							-		
21	3"							-		
22	4"							-		
23	6"							-		
24	8"							-		
25	10"							-		
26	Totals							-		$ -
27										
28										
29	CALCULATION OF SURCHARGE									
30										
31							Minimum Surcharge			
32							(F34)			
33										
34	Total Revenue Requirement of DSIC Eligible Plant Capital Costs					$ -				
35	100% of Total Revenue Requirement on Line 34 Recoverable through Basic Service Charge						$ -			
36										
37										
38	Equivalent Meters (Col. G, Ln. 26 X 12 Mos.)							-		
39	Increment Per Equivalent 5/8" Meter (Col. G, Ln. 35 / Col. G, Ln. 38)									
40										
41	Average M Gallons (Col. C, Ln. 8)									
42	Increment Per M Gallon (Col. H, Ln. 35 / Col. H, Ln. 41)									
43										
44										
45										
46										
47										
48										
49										
50										
51										
52										
53										
54										
55										

6-Sizing Calc

ABLE WATER COMPANY
Docket No. W-XXXXX-XX-XXXX
Rate Base
As of December 31, 20XX

7-Rate Base

Line No.		[A]	[B]	[C]	[D]
			DISTRICT		
		Per Dec. No. ____	DSIC Plant Income	Year End Balance (A + B)	Current Balance 12/31/20XX
1					
2	DSIC Eligible Plant	$ -			$ -
3					
4	Other Utility Plant in Service		-		
5	Total Plant in Service	$ -	$ -		$ -
6	(Ln. 2 + Ln. 4)				
7					
8	Accumulated Depreciation				-
9	Net Utility Plant	$ -	$ -	$ -	$ -
10	(Ln. 5 - Ln. 8)				
11					
12	Advances	-	-		-
13					
14	Contributions - Net	-	-		-
15					
16	Deferred Income Tax	-	-		-
17					
18	Customer Deposits	-			-
19					
20	Working Capital Allowance	-	-		-
21	(Per Decision No. _____)				
22					
23	Net Regulatory Asset/(Liability)	-			
24					
25	Total Rate Base	$ -	$ -	$ -	$ -
26	(Ln. 9 - Ln. 12 - Ln. 14 - Ln. 16 + Ln. 18)				
27					
48					
49					
50					
51					
52					
53					
54					
55					

7-Rate Base

ABLE WATER COMPANY
Docket No. W-XXXXX-XX-XXXX
CWIP Ledger
As of December 31, 20XX

8-CWIP Lgr

Line No.	[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	[J]
1						DISTRICT				
2	W.A. No.	Member	Date	Description	Vendor Name	Invoice No's.	1	2	3	Total
3										
4	X-									
5										-
6										-
7										-
8							$ -	$ -	$ -	$ -
13										
14										
15										
16										
17										
18										
19							$ -	$ -	$ -	$ -	$ -
20										
21						Project Totals	$ -	$ -	$ -	$ -	$ -
22										
23						Depreciation Rate				
24										
25						Annual Depreciation Expense	$ -	$ -	$ -	$ -	$ -
26										
27										
28										
29										
30										
31										
32										
33										
34										
35										
36										
37										
38										
39										
40										
41										
42										
43										
44										
45										
46										
47										
48										
49										
50										
51										
52										
53										
54										
55										

8-CWIP Lgr

ABLE WATER COMPANY
Docket No. W-XXXXX-XX-XXXX
Three Factor Calculation
As of December 31, 20XX

9-Three Fac

Line No.	System	20XX Customers	20XX Gross Plant Less Intangibles	20XX Gross Payroll	Rates Customers	Rates Gross Plant Less Intangibles	Rates Gross Payroll	Total
1								
2								-
3								-
4								-
5								-
6								-
7								-
8								-
9								-
10								-
11								-
12								-
13								-
14								-
15								-
16								-
17								-
18								-
19								-
20								
21	Totals	-	$ -	$ -		$ -	$ -	-
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
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42								
43								
44								
45								
46								
47								
48								
49								
50								
51								
52								
53								
54								
55								

9-Three Fac

ABLE WATER COMPANY
Docket No. W-XXXXX-XX-XXXX
Typical Bill Analysis
As of December 31, 20XX

10-Typical Bill

Line No.	Gallons Consumption	[A] Present Rates	[B] Proposed DSIC Surcharge	[C] New Rates	[D] Percent Increase
		DISTRICT			
1					
2	-	$	$	$	
3	1,000				
4	2,000				
5	3,000				
6	4,000				
7	5,000				
8	6,000				
9	7,000				
10	8,000				
11	9,000				
12	10,000				
13	11,000			-	
14	12,000			-	
15	13,000			-	
16	14,000			-	
17	15,000			-	
18	20,000			-	
19	25,000			-	
20					
21					
22	Average Residential Consumption				
23					
24	Residential Bill at Average Consumption	$	$	$	
25					
26					
27					
28					
29					
30	Basic Service Charge	$	$		
31					
32	Commodity Rate (per M Gallon)				
33	0 - 3,000 Gallons	$	$		
34	3,001 - 10,000 Gallons	$	$		
35	Over 10,000 Gallons	$	$		
36					
37					
38					
39					
40					
41					
42					
43					
44					
45					
46					
47					
48					
49					
50					
51					
52					
53					
54					
55					

10-Typical Bill

EXHIBIT

AWC-9

ADMITTED

AWC -9

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
DOUG LITTLE - CHAIRMAN
BOB STUMP
BOB BURNS
TOM FORESE

IN THE MATTER OF THE JOINT APPLICATION OF ARIZONA WATER COMPANY TO EXTEND ITS CERTIFICATE OF CONVENIENCE AND NECESSITY AT CASA GRANDE AND PINAL COUNTY, ARIZONA.	)	DOCKET NO. W-01445A-03-0559

Supplemental Surrebuttal Testimony

of Paul Walker

Related to January 6, 2016 Staff Testimony

on Behalf of

Arizona Water Company

February 1, 2016

I. Introduction.

Q. Please state your name and business address.

A. My name is Paul Walker. My business address is 330 East Thomas Road, Phoenix, Arizona 85012.

Q. Have any of your qualifications changed since the surrebuttal testimony you submitted on January 11, 2016?

A. No. I incorporate my prior testimony as to my qualifications for this additional testimony.

Q. Have you reviewed the rebuttal testimony of Vicki Wallace (Hearing on Remand – Phase 2)?

A. Yes, I have.

Q. Do you have any response to Ms. Wallace's testimony?

A. I do. On Page 3, lines 1 through 7, Ms. Wallace explains that Staff does not have "any actual performance-related data comparing integrated water and wastewater utilities," and further that Staff does not have "any actual compliance-related data comparing integrated water and wastewater utilities." To me, this testimony defeats the entire premise of the argument that the "public interest" supports the deletion of Arizona Water Company's CC&N in the area now owned by Cornman Tweedy 560 LLC.

Q. Why is that the case?

A. Because I believe that the Commission should, in all areas, act upon evidence and fact. John Lubbock put it best: "Our duty is to believe that for which we have sufficient

evidence, and to suspend our judgment when we have not."[1]

Staff has now made it crystal clear that the Commission has no evidence to show any compliance or performance distinctions between integrated water-wastewater providers and stand-alone water companies. In the absence of any evidence on those points, it would be exceedingly unwise of the Commission to issue an order deleting a water CC&N on this basis, which would destabilize the water utility industry in the myriad ways I addressed in my Surrebuttal Testimony of January 11, 2016.

Q. Is there anything else about Staff's Testimony that causes you to wish to amend or change your surrebuttal testimony?

A. No. As mentioned above, the Staff Testimony affirms my opinions in every way.

Q. Does this conclude your supplemental testimony?

A. Yes.

[1] John Lubbock, 1st Baron Avebury, was the first president of the Institute of Bankers, which was created by Royal Charter in Britain in the late 19th Century and continues in existence to this very day.

EXHIBIT

tabbies

Awc-11

ADMITTED

AWC -11

DOUGLAS A. DUCEY
Governor

THOMAS BUSCHATZKE
Director

ARIZONA DEPARTMENT of WATER RESOURCES
3550 North Central Avenue, Second Floor
Phoenix, Arizona 85012-2105
602.771.8500
azwater.gov

EXTENSION OF AN ANALYSIS OF ASSURED WATER SUPPLY

Extension Date: January 27, 2015

Original Effective Date: March 2, 2005

File Number:	42-401544.0001
Development:	EJR Ranch
Location:	Township 6 South, Range 7 East, Sections 26, 27, 28, 32, 33 & 34, and Township 7 South, Range 7 East, Sections 1, 2 & 3 Pinal County, Arizona Pinal AMA
Land Owner:	Cornman Tweedy 560, LLC, a Delaware limited liability company

On March 2, 2005, the Arizona Department of Water Resources (Department) issued Analysis of Assured Water Supply No. 28-401544.0000. The term of the Analysis was ten years from March 2, 2005. On January 21, 2015, Cornman Tweedy 560, LLC, a Delaware limited liability company, the current owner of the property, applied for an extension of the Analysis term. A copy of the original Analysis is attached.

Pursuant to A.A.C. R12-15-703(H), the Department has reviewed the application for extension and has determined that the Analysis holder has made material progress in developing the land included in the Analysis as demonstrated by Attachment 1 to this letter.

The term of the Analysis is extended for an additional five years and will expire on March 2, 2020. This term may be extended for additional five-year periods as provided in A.A.C. R12-15-703(H) and (I). Throughout the term of the Analysis, the estimated water demand of this development that will be met with groundwater be considered when reviewing other requests for physical availability determinations and determinations of assured water supply in the area. The volume of groundwater remaining available for purposes of future applications for Certificates of Assured Water Supply as of the date of this letter is 2858.5 acre-feet per year. See A.A.C. R12-15-703(F)(2). All other conditions of the original Analysis continue to apply.

Prior to obtaining plat approval by the local platting authority and approval of the public report by the Department of Real Estate, a Certificate of Assured Water Supply must be obtained for each subdivision plat. The findings of the Analysis may be used to demonstrate that certain requirements for a Certificate of Assured Water Supply have been met. This determination may be invalidated if the development plan or other conditions considered at the time the Analysis was originally issued change prior to filing for a Certificate of Assured Water Supply.

Questions regarding this letter may be addressed to the Office of Assured and Adequate Water Supply at (602)771-8599.

Andrew J Craddock, Manager
Recharge, Assured & Adequate Water Supply Programs
AJC/jmk

Cc: Annie M Stewart, Fennemore Craig, P.C.

Attachments: 1-Detail of Substantial Capital Investment & Material Progress
2- copy of Original Analysis of Assured Water Supply

ATTACHMENT I

TO

EXTENSION OF ANALYSIS OF ASSURED WATER SUPPLY APPLICATION

ANALYSIS No. 28-401544.0000

EJR Ranch

General Description of Substantial Capital Investment

The land included in Analysis No. 28-401544.0000 will be developed for the proposed EJR Ranch Community ("EJR Ranch"). The owners of EJR Ranch have invested in excess of $2.4 million towards development of the subject property. This amount does not include the purchase price of the land at EJR Ranch. This capital investment includes, but is not limited to, permitting activities, engineering costs, environmental studies, surveying, field consultants, and other expenses as shown on Attachment 2.

The investment by the applicant/owners of in excess of $2.4 million constitutes a substantial capital investment.

Capital Investment/Development EJR Ranch

Description	Category		Estimated Cost
Attorney Fees	Legal Fees	$	154,185.00
Misc. Consultants	Consultant Fees	$	3,245.00
Architectural	Planning, Engineering & Architectural Design	$	5,700.00
Permits & Government	Assured Water/Master Plan/Water & Sewer Co	$	282,543.00
Improvement District	Planning Engineering & Architectural Design	$	4,923.00
Hydrology Study	404, water, and wastewater permit activities	$	17,448.00
Engineering/Master Plan/preliminary plat	Planning, Engineering & Architectural Design	$	1,225,055.00
Surveying	Planning, Engineering & Architectural Design	$	12,181.00
Structual/Building	Demolition/construction/earthwork	$	58,853.00
Water Company/Well/Permitting	Planning, Engineering & Consultant	$	658,877.00
Soil Engineering	Geotechnical & Environmental	$	4,717.00
TOTAL		**$**	**2,427,727.00**

General Description of Material Progress in Developing the Land

Corman Tweedy 560, LLC has applied for and received a Certificate of Assured Water Supply covering 3,640 lots at EJR Ranch, DWR No. 27-402076.0000, issued July 12, 2006. The Certificate of Assured Water Supply was reissued on March 9, 2007, DWR No. 31-402076.0001, to add effluent supplies as an additional source of supply. A second Certificate of Assured Water Supply, DWR 27-401775.0000, was issued November 18, 2005 for 255 lots. Issuance of these Certificates constitutes material progress in the developing the Analysis lands.

ARIZONA DEPARTMENT OF WATER RESOURCES
Office of Assured and Adequate Water Supply
500 North Third Street, Phoenix, Arizona 85004
Telephone (602) 417-2465
Fax (602) 417-2467

JANET NAPOLITANO
Governor

HERB GUENTHER
Director

ANALYSIS OF ASSURED WATER SUPPLY

March 2, 2005

File Number:	28-401544.0000
Development:	EJR Ranch
Location:	Township 6 South, Range 7 East, Sections 26, 27, 28, 32, 33 & 34, and Township 7 South, Range 7 East, Sections 1, 2 & 3 Pinal County, Arizona Pinal AMA
Land Owner:	John H. Dermer and Gloria Dermer, Trustees of the Dermer Family Trust, dated July 13, 1976, with Gloria B. Dermer, sole beneficiary; Highway 287-Florence Boulevard Inc., an Arizona corporation; Madison Diversified 882 Corp., an Arizona corporation; Comman Tweedy 560, LLC, a Delaware limited liability company; and Sun Lakes-Casa Grande Development, LLC, a Delaware limited liability company

The Arizona Department of Water Resources has evaluated the Analysis of Assured Water Supply application for EJR Ranch pursuant to A.A.C. R12-15-712. The proposed development includes 7,644 single-family residential lots, 455 multifamily residential lots and 679 non-residential acres containing commercial and open space areas, schools, and rights-of-way. The water provider has yet to be determined. Conclusions of the review are indicated below based on the assured water supply criteria referenced in A.R.S. § 45-576 and A.A.C. R12-15-701 *et seq.*

- **Physical, Continuous, and Legal Availability of Water for 100 Years**
  On the basis of the hydrologic study submitted and the Department's review, the Department has determined that 5,624 acre-feet per year of groundwater will be physically and continuously available, which equals the projected demands for the development of 5,623.89 acre-feet per year. The legal availability of the water is not proven at this time. The development is not located within any current service area or Certificate of Convenience and Necessity boundary. Applications for Certificates of Assured Water Supply that follow the Analysis of Assured Water Supply will need to provide a detailed plan of how water service will be established. This may include use of Type 1 or Type 2 water rights or recovery of long term storage credits to create a new or satellite service area, or extension of existing service area lines to include the proposed development. Individual Notices of Intent to Serve will be required for each application for a Certificate of Assured Water Supply.

- **Adequate Water Quality**
  Adequate water quality has not been demonstrated at this time. The proposed development lies outside any current service area, therefore, no drinking water compliance data are available. No water quality data was submitted with the application. To provide service in this area, a provider will likely have to construct new wells. The

Arizona Department of Environmental Quality will require water quality analyses for new source approval for each well. This requirement of an Analysis of Assured Water Supply will be reevaluated for each application for a Certificate of Assured Water Supply.

- **Consistency with Management Plan for the Pinal Active Management Area**
  The projected demand for the development is consistent with the Third Management Plan for the Pinal AMA. EJR Ranch will use low water use landscaping and plumbing fixtures will comply with the statewide Low Flow Plumbing Code.

- **Consistency with Management Goal of the Pinal Active Management Area**
  The Assured and Adequate Water Supply Rules (A.A.C. § R12-15-705) allocate a volume of groundwater to each new subdivision in an AMA to allow for the phasing in of renewable supplies. This groundwater allowance may be increased by extinguishing irrigation grandfathered groundwater rights (IGFR). Any groundwater delivery in excess of the groundwater allowance must be met through the direct or indirect use of renewable water supplies (surface water or effluent). Options for demonstrating "consistency with management goal" include: 1) direct use of surface water or effluent; 2) recharge and recovery of surface water or effluent; or 3) membership in the Central Arizona Groundwater Replenishment District (CAGRD).

  The application indicates that the proposed development will enroll the lands of the entire development, including the commercial and open space areas, schools, and other non-residential areas, in the CAGRD to meet this requirement. The membership documents must be executed and recorded before a Certificate of Assured Water Supply will be issued.

  Prior to preparing an application for a Certificate of Assured Water Supply for an individual subdivision plat, the Pinal AMA Office or the Office of Assured Water Supply may be contacted for further guidance.

- **Financial Capability of the Owner to Construct the Necessary Distribution System**
  Pursuant to A.A.C. R12-15-707, financial capability will be evaluated by the local platting authority as a part of the process for obtaining a Certificate of Assured Water Supply for each subdivision. The application for a Certificate of Assured Water Supply includes a Verification of Construction Assurance for a Proposed Subdivision form. This form should be signed by the appropriate platting entity to provide evidence of financial capability. This requirement of an assured water supply will be evaluated upon application for a Certificate of Assured Water Supply.

The term of this Analysis of Assured Water Supply is ten years from the date of this letter and may be renewed upon request, subject to approval by the Department. Throughout the term of this determination, the projected demand of this development will be considered when reviewing other requests for assured water supply in the area.

Prior to obtaining plat approval by the local platting authority and approval of the public report by the Department of Real Estate, a Certificate of Assured Water Supply must be obtained for each subdivision plat. The findings of this Analysis of Assured Water Supply may be used to demonstrate that certain requirements for a Certificate have been met. This determination may be invalidated if the development plan or other conditions change prior to filing for a Certificate of Assured Water Supply.

Questions may be directed to the Office of Assured Water Supply at (602) 417-2465.

Mark Frank

Mark Frank, Acting Assistant Director
Water Management Division

cc: Randy Edmond, Area Director, Pinal Active Management Area

DEPARTMENT OF WATER RESOURCES
Office of Assured Water Supply

MEMORANDUM

TO: Michael J. Lacey, Director, ADWR

FROM: Joel Klein, Office of Assured and Adequate Water Supply

THROUGH: Andrew J. Craddock, Office of Assured and Adequate Water Supply

RE: Request for Approval for an Analysis of Assured Water Supply

Application Summary:

Name of Subdivision:	EJR Ranch
Owner Name:	CORNMAN TWEEDY 560, LLC, a Delaware limited liability company, owner,
DWR No.:	42-401544.0001
Number of Lots:	
Residential Demand:	af/yr
Non-Residential Demand:	af/yr
Total Demand:	2858.5 af/yr
Water Provider:	Picacho Water Company
Type of Water Delivered:	groundwater
Physical Availability:	analysis,
Amount of Water Remaining for AWS	2858.5

Certification for Issuance:
Based on the review of this application by the appropriate agency divisions, it has been determined complete and correct. It is therefore recommended that the Department approve this application for an Analysis of Assured Water Supply.

Date: January 26, 2015 Primary Reviewer: Joel Klein

Date: 1/26/15 Secondary Reviewer: [signature]

ARIZONA DEPARTMENT OF WATER RESOURCES OFFICE OF ASSURED AND ADEQUATE WATER SUPPLY 3550 NORTH CENTRAL AVENUE, 2nd FLOOR PHOENIX, ARIZONA 85012 (602) 771-8599 Fax: (602) 771-8689	DATE RECEIVED: RECEIVED JAN 21 2015 OFFICE OF ASSURED WATER SUPPLY
42-401544.0001 APPLIC EJR Ranch	

EXTENSION OF AN ANALYSIS OF ASSURED WATER SUPPLY APPLICATION
PART A - GENERAL INFORMATION

1. Has an Analysis of Assured Water Supply (Analysis) previously been issued for this property? ☒ Yes ☐ No. If "no," this may not be the appropriate application form. Please contact the Office of Assured and Adequate Water Supply for assistance.

   Name of Analysis: EJR Ranch

   Analysis DWR No. 28-401544.0000 (copy attached)

   Date Issued: March 2, 2015

2. Please check one or more of the following as appropriate:

   ☒ The holder of the Analysis has made substantial capital investment in developing the land included in the analysis.

   ☒ The holder of the Analysis has made material progress in developing the land included in the analysis.

   ☒ Progress in developing the land included in the analysis has been delayed for reasons outside the control of the analysis holder.

   Please attach an explanation of the statement(s) checked above and reference as an attachment: **Attachment 1**

   Please attach appropriate documentation of the statement(s) checked above and reference as a n attachment. Attachment: **Attachment 2**

3. Contact person for questions regarding this application:
   Name: Rob Anderson, Esq.
   Company: Fennemore Craig, PC E-Mail: randerson@fclaw.com
   Address: 2394 E. Camelback Road, Suite 600, Phoenix, AZ 85016 Phone: 602.916.5455 Fax: 602.916.5655

4. Owner(s) of the property or Developer (if applicable) (attach additional sheets, if necessary):
   Owner: Cornman Tweedy 560, LLC , a Delaware limited liability company Phone: 480.895.9200 Fax: 480.895.5455
   Address: 9532 E. Riggs Road, Sun Lakes, AZ 85248-7411 email: tfitzgerald@bnraz.com
   Developer (if applicable): _____ Phone: _____ Fax: _____
   Address: _____ E-mail: _____

   NOTE: Please attach proof of ownership in the form of a title report, condition of title report, limited search title report, or recorded deed, dated within 90 days of the date this application is submitted to the Department. If the buyers will participate in the application process, provide evidence of a purchase agreement. If the property is being developed by someone other than the owner, such as a developer, written consent of the owner must be provided in addition to proof of ownership. **Attachment 3**

FEES:

The initial fee for an Extension of an Analysis of Assured Water Supply Application is $1,000. Total fees for this application are based upon an hourly billable rate, which can be found on the ADWR website @ www.azwater.gov. If the costs of reviewing your application exceed $1,000, you will be invoiced for the difference, up to a maximum total fee of $10,000. Payment may be made by cash, check, or credit card (if you wish to pay by credit card, please contact the Office of Assured and Adequate Water Supply at 602-771-8599). Checks should be made payable to the Arizona Department of Water Resources. In addition to the hourly application fee, the applicant must pay any review-related costs associated with the application and the actual cost of mailing or publishing any legal notice of the application or any notice of a pre-decision administrative hearing on the application. Review-related costs are: (1) costs associated with a pre-decision hearing on the application, such as court reporter services and facility rentals for the hearing, and (2) mileage expenses for a site visit conducted before issuing a decision on the application. **Failure to enclose the initial application fee will cause the application to be returned. Fees for an extension of an Analysis of Assured Water Supply Application are authorized by A.R.S. § 45-113 and A.A.C. R12-15-103.**

INITIAL FEE DUE: **$1,000.00**

I DO HEREBY certify that the information contained in this application and all information accompanying it is true and correct to the best of my knowledge and belief. **NOTE:** All owners must sign (attach additional sheets, if necessary). **NOTE:** You may use the Department's Letter of Authorization for Signature form to give another person the authority to sign this application on your behalf, or you may submit a letter signed by you and dated within 90 days of the date this application is submitted, authorizing your representative to submit applications for permits regarding the land to be included in this Analysis.

See Attached Signature Page

Please print the name and title of the owner or the owner's authorized agent (if signator is someone other than the owner)

See Attached Signature Page

Signature of Owner or Owner's Authorized Agent Date

SIGNATURE PAGE
EXTENSION OF AN ANALYSIS OF ASSURED WATER SUPPLY APPLICATION
NO. 28-401544.0000

OWNER:

Comman Tweedy 560, LLC,
a Delaware limited liability company

By: Steve Soriano

Printed Name: Steven Soriano

Its: VP

Date: 12-15-14

ARIZONA DEPARTMENT OF WATER RESOURCES
Office of Assured and Adequate Water Supply
500 North Third Street, Phoenix, Arizona 85004
Telephone (602) 417-2465
Fax (602) 417-2467

JANET NAPOLITANO
Governor

HERB GUENTHER
Director

ANALYSIS OF ASSURED WATER SUPPLY

March 2, 2005

File Number:	28-401544.0000
Development:	EJR Ranch
Location:	Township 6 South, Range 7 East, Sections 26, 27, 28, 32, 33 & 34, and Township 7 South, Range 7 East, Sections 1, 2 & 3 Pinal County, Arizona Pinal AMA
Land Owner:	John H. Dermer and Gloria Dermer, Trustees of the Dermer Family Trust, dated July 13, 1976, with Gloria B. Dermer, sole beneficiary; Highway 287-Florence Boulevard Inc., an Arizona corporation; Madison Diversified 882 Corp., an Arizona corporation; Comman Tweedy 560, LLC, a Delaware limited liability company; and Sun Lakes-Casa Grande Development, LLC, a Delaware limited liability company

The Arizona Department of Water Resources has evaluated the Analysis of Assured Water Supply application for EJR Ranch pursuant to A.A.C. R12-15-712. The proposed development includes 7,644 single-family residential lots, 455 multifamily residential lots and 679 non-residential acres containing commercial and open space areas, schools, and rights-of-way. The water provider has yet to be determined. Conclusions of the review are indicated below based on the assured water supply criteria referenced in A.R.S. § 45-576 and A.A.C. R12-15-701 *et seq.*

- **Physical, Continuous, and Legal Availability of Water for 100 Years**
  On the basis of the hydrologic study submitted and the Department's review, the Department has determined that 5,624 acre-feet per year of groundwater will be physically and continuously available, which equals the projected demands for the development of 5,623.89 acre-feet per year. The legal availability of the water is not proven at this time. The development is not located within any current service area or Certificate of Convenience and Necessity boundary. Applications for Certificates of Assured Water Supply that follow the Analysis of Assured Water Supply will need to provide a detailed plan of how water service will be established. This may include use of Type 1 or Type 2 water rights or recovery of long term storage credits to create a new or satellite service area, or extension of existing service area lines to include the proposed development. Individual Notices of Intent to Serve will be required for each application for a Certificate of Assured Water Supply.

- **Adequate Water Quality**
  Adequate water quality has not been demonstrated at this time. The proposed development lies outside any current service area, therefore, no drinking water compliance data are available. No water quality data was submitted with the application. To provide service in this area, a provider will likely have to construct new wells. The

Arizona Department of Environmental Quality will require water quality analyses for new source approval for each well. This requirement of an Analysis of Assured Water Supply will be reevaluated for each application for a Certificate of Assured Water Supply.

- **Consistency with Management Plan for the Pinal Active Management Area**
  The projected demand for the development is consistent with the Third Management Plan for the Pinal AMA. EJR Ranch will use low water use landscaping and plumbing fixtures will comply with the statewide Low Flow Plumbing Code.

- **Consistency with Management Goal of the Pinal Active Management Area**
  The Assured and Adequate Water Supply Rules (A.A.C. § R12-15-705) allocate a volume of groundwater to each new subdivision in an AMA to allow for the phasing in of renewable supplies. This groundwater allowance may be increased by extinguishing irrigation grandfathered groundwater rights (IGFR). Any groundwater delivery in excess of the groundwater allowance must be met through the direct or indirect use of renewable water supplies (surface water or effluent). Options for demonstrating "consistency with management goal" include: 1) direct use of surface water or effluent; 2) recharge and recovery of surface water or effluent; or 3) membership in the Central Arizona Groundwater Replenishment District (CAGRD).

  The application indicates that the proposed development will enroll the lands of the entire development, including the commercial and open space areas, schools, and other non-residential areas, in the CAGRD to meet this requirement. The membership documents must be executed and recorded before a Certificate of Assured Water Supply will be issued.

  Prior to preparing an application for a Certificate of Assured Water Supply for an individual subdivision plat, the Pinal AMA Office or the Office of Assured Water Supply may be contacted for further guidance.

- **Financial Capability of the Owner to Construct the Necessary Distribution System**
  Pursuant to A.A.C. R12-15-707, financial capability will be evaluated by the local platting authority as a part of the process for obtaining a Certificate of Assured Water Supply for each subdivision. The application for a Certificate of Assured Water Supply includes a Verification of Construction Assurance for a Proposed Subdivision form. This form should be signed by the appropriate platting entity to provide evidence of financial capability. This requirement of an assured water supply will be evaluated upon application for a Certificate of Assured Water Supply.

The term of this Analysis of Assured Water Supply is ten years from the date of this letter and may be renewed upon request, subject to approval by the Department. Throughout the term of this determination, the projected demand of this development will be considered when reviewing other requests for assured water supply in the area.

Prior to obtaining plat approval by the local platting authority and approval of the public report by the Department of Real Estate, a Certificate of Assured Water Supply must be obtained for each subdivision plat. The findings of this Analysis of Assured Water Supply may be used to demonstrate that certain requirements for a Certificate have been met. This determination may be invalidated if the development plan or other conditions change prior to filing for a Certificate of Assured Water Supply.

Questions may be directed to the Office of Assured Water Supply at (602) 417-2465.

Mark Frank

Mark Frank, Acting Assistant Director
Water Management Division

cc: Randy Edmond, Area Director, Pinal Active Management Area

ATTACHMENT I
TO
EXTENSION OF ANALYSIS OF ASSURED WATER SUPPLY APPLICATION
ANALYSIS No. 28-401544.0000
EJR Ranch

General Description of Substantial Capital Investment

The land included in Analysis No. 28-401544.0000 will be developed for the proposed EJR Ranch Community ("EJR Ranch"). The owners of EJR Ranch have invested in excess of $2.4 million towards development of the subject property. This amount does not include the purchase price of the land at EJR Ranch. This capital investment includes, but is not limited to, permitting activities, engineering costs, environmental studies, surveying, field consultants, and other expenses as shown on Attachment 2.

The investment by the applicant/owners of in excess of $2.4 million constitutes a substantial capital investment.

General Description of Material Progress in Developing the Land

Corman Tweedy 560, LLC has applied for and received a Certificate of Assured Water Supply covering 3,640 lots at EJR Ranch, Certificate No. 27-402076.0000, issued July 12, 2006. A Certificate of Assured Water Supply was reissued on March 9, 2007, Certificate No. 31-402076.0001, for these lots to add effluent supplies as an additional source of supply.

General Description of Delay in Development Progress

The Great Recession, a severe ongoing global economic problem that began in December 2007, took a particularly sharp downward turn in September, 2008. The Great Recession has affected the entire world economy in the areas of high unemployment, low consumer confidence, the continuing decline in home values and increase in foreclosures and personal bankruptcies, an escalating federal debt crisis, inflation, and rising gas and food prices. (from http://en.wikipedia.org/wiki/Late_2000s_recession.)

The Arizona real estate market has been severely affected by this recession. Locally, analysts have stated that long-term stability in the housing market will require a gradual shift away from the current, investor-dominated market to one in which the bulk of demand comes from homebuyer occupants. Although it appears that recovery has begun, the Arizona real estate market remains depressed.

The economic recession and down-turn in the real estate market is outside the control of the analysis holder of EJR Ranch and has created delays in the development of the EJR Ranch Property.

Attachment 2

Extension of an Analysis of Assured Water Supply Application No. 28-401544.0000

Capital Investment/Development EJR Ranch		
Description	**Category**	**Estimated Cost**
Attorney Fees	Legal Fees	$ 154,185.00
Misc. Consultants	Consultant Fees	$ 3,245.00
Architectural	Planning, Engineering & Architectural Design	$ 5,700.00
Permits & Government	Assured Water/Master Plan/Water & Sewer Co	$ 282,543.00
Improvement District	Planning Engineering & Architectural Design	$ 4,923.00
Hydrology Study	404, water, and wastewater permit activities	$ 17,448.00
Engineering/Master Plan/preliminary plat	Planning, Engineering & Architectural Design	$ 1,225,055.00
Surveying	Planning, Engineering & Architectural Design	$ 12,181.00
Structual/Building	Demolition/construction/earthwork	$ 58,853.00
Water Company/Well/Permitting	Planning, Engineering & Consultant	$ 658,877.00
Soil Engineering	Geotechnical & Environmental	$ 4,717.00
TOTAL		$ 2,427,727.00

A

STATE OF ARIZONA
DEPARTMENT OF WATER RESOURCES
CERTIFICATE OF ASSURED WATER SUPPLY

This is to certify that

Cornman Tweedy 560, LLC, a Delaware Limited Liability Company

has met the requirements of A.R.S. §§ 45-576, 45-579, and the applicable regulations, and

By powers vested in the Director of the Arizona Department of Water Resources by the State of Arizona, and subject to the conditions contained in the applicable regulations,

Is issued this Certificate of Assured Water Supply for

EJR Ranch, Phase II
Section 32, 33 & 34 Township 06 South, Range 07 East
GSRB&M Pinal County, Pinal Active Management Area

Sufficient water of adequate quality will be continuously available to satisfy the water demand of the referenced subdivision for at least one hundred years. The referenced subdivision consists of **3640 lots** as described in the preliminary plat on file with the Department, and has an estimated water demand of **2686.37 acre-feet per year.** The subdivision will be served **groundwater** by **Picacho Water Company.**

This Certificate is invalid as to any entity not named above. A subsequent owner of the referenced property may apply for a new certificate pursuant to A.A.C. R12-15-708, within 90 days of the change of ownership. This Certificate may be assigned pursuant to A.R.S. § 45-579.

Certificate Number: 27-402076.0000

ARIZONA DEPARTMENT OF WATER RESOURCES

Sandra Fabritz-Whitney
Assistant Director

7/12/2006
Date

STATE OF ARIZONA
DEPARTMENT OF WATER RESOURCES
CERTIFICATE OF ASSURED WATER SUPPLY

This is to certify that

Cornman Tweedy 560, L.L.C., a Delaware limited liability company,

has met the requirements of A.R.S. §§45-576 and the applicable regulations, and

By powers vested in the Director of the Arizona Department of Water Resources by the State of Arizona, and subject to the conditions contained in the applicable regulations,

Is issued this Certificate of Assured Water Supply for

EJR Ranch Phase II
Township 6 South, Range 7 East, Sections 32, 33, & 34
GSRB&M Pinal County, PINAL Active Management Area

Sufficient water of adequate quality will be continuously available to satisfy the water demand of the referenced subdivision for at least one hundred years. The referenced subdivision consists of **3640 lots** as described in the preliminary plat on file with the Department, and has an estimated water demand of **2686.37 acre-feet per year.** The subdivision will be served **groundwater by Picacho Water Company and treated effluent provided by Picacho Sewer Company.**

This Certificate is invalid as to any entity not named above.
This Certificate may be assigned pursuant to A.A.C. R12-15-705.

Certificate Number: 31-402076.0001
Original Issue Date: July 12, 2006

ARIZONA DEPARTMENT OF WATER RESOURCES

Sandra Fabritz-Whitney
Assistant Director

29 MARCH 2007
Date

TYPE A CERTIFICATE

Order No.
4707005012

Ref No.

Guarantee No.
A02040-ALRA-112487

SUBJECT TO THE EXCLUSIONS FROM COVERAGE, THE LIMITS OF LIABILITY AND THE CONDITIONS AND STIPULATIONS OF THIS GUARANTEE,

OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY

a Corporation, of Minneapolis, Minnesota

GUARANTEES

the Assured named in Schedule A against actual monetary loss or damage not exceeding the liability amount stated in Schedule A, which the Assured shall sustain by reason of any incorrectness in the assurances set forth in Schedule A.

Dated: December 30th, 2014 at 5:00:00 PM

OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY
A Corporation
400 Second Avenue South, Minneapolis, Minnesota 55401
(612) 371-1111

Countersigned:

By Ramon L. Castillo
Validating Officer

By *President*

Attest *Secretary*

OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY

Fee	$ 75.00
No.	A02040-ALRA-112487
Date	December 30th, 2014 at 5:00:00 PM
File No.	4707005012

Schedule A

Limited Realty Guarantee

Assured:

Robson Communities

After examination of the proper indices in the Company's Title Plant affecting real property in the County of Pinal, State of Arizona, for a period of ten years preceding the date hereof, the following information is furnished without examination as to the sufficiency or validity of any instruments which purport to affect the real property described herein.

No search has been made for taxes or special improvement liens, nor has any search been made for any encumbrances, liens or title interests other than those set forth below.

OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY, a Minnesota Corporation, in consideration of payment of its fee, and acceptance hereof with liability limited to $100.00, reports that a search of said indices reveals the following:

Owner:

Cornman Tweedy 560, LLC, a Delaware limited liability company

Legal Description:

See Exhibit "A" attached hereto

Unpaid Mortgages and Agreements:

1. Deed of Trust to secure an indebtedness of the amount stated below and any other amounts payable under the terms thereof,

Amount	:	[redacted]
Trustor/Borrower	:	Cornman Tweedy 560, LLC, a Delaware limited liability company
Trustee	:	FIRST AMERICAN TITLE INSURANCE COMPANY
Beneficiary/Lender	:	California Bank & Trust, A California banking coproration
Dated	:	December 16, 2004
Recorded	:	December 17, 2004 in Pinal County Records at Fee No. 2004-104003

Mesne Modifications of recrod, pertaining to said Deed of Trust, the last of which.

Recorded : August 12, 2014 in Pinal County Records at Fee No. 2014-046456

2. Deed of Trust to secure an indebtedness of the amount stated below and any other amounts payable under the terms thereof,

Amount	:	[redacted]
Trustor/Borrower	:	Corman Tweedy 560. LLC, a Delaware limited liability company
Trustee	:	First American Title Insurnce Company
Beneficiary/Lender	:	JPMORGAN CHASE BANK, N.A.
Dated	:	October 16, 2007
Recorded	:	November 29, 2007 in Pinal County Records at Fee No. 2007-130538

Modification , pertaining to said Deed of Trust.

Recorded : August 12, 2014 in Pinal County Records at Fee No. 2014-046455

SCHEDULE OF EXCLUSIONS FROM COVERAGE OF THIS GUARANTEE (Revised 09/12/08)

1. Except to the extent that specific assurances are provided in Schedule A of this Guarantee, the Company assumes no liability for loss or damage by reason of the following:

(a) Defects, liens, encumbrances, adverse claims or other matters against the title, whether or not shown by the public records.

(b) (1) Taxes or assessments of any t[illegible] levies taxes or assessments on real property; or, (2) Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not the matters excluded under (1) or (2) are shown by the records of the taxing authority or by the public records.

(c) (1) Unpatented mining claims; (2) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (3) water rights, claims or title to water, whether or not the matters excluded under (1), (2) or (3) are shown by the public records.

2. Notwithstanding any specific assurances which are provided in Schedule A of this Guarantee, the Company assumes no liability for loss or damage by reason of the following:

(a) Defects, liens, encumbrances, adverse claims or other matters affecting the title to any property beyond the lines of the land expressly described in the description set forth in Schedule (A), (C) or in Part 2 of this Guarantee, or title to streets, roads, avenues, lanes, ways or waterways to which such land abuts, or the right to maintain therein vaults, tunnels, ramps or any structure or improvements; or any rights or easements therein, unless such property, rights or easements are expressly and specifically set forth in said description.

(b) Defects, liens, encumbrances, adverse claims or other matters, whether or not shown by the public records; (1) which are created, suffered, assumed or agreed to by one or more of the Assureds; (2) which result in no loss to the Assured; or (3) which do not result in the invalidity or potential invalidity of any judicial or non-judicial proceeding which is within the scope and purpose of the assurances provided.

(c) The identity of any party shown or referred to in Schedule A.

(d) The validity, legal effect or priority of any matter shown or referred to in this Guarantee.

GUARANTEE CONDITIONS AND STIPULATIONS

1. DEFINITION OF TERMS

The following terms when used in this Guarantee mean:

(a) "the Assured": the party or parties na[illegible] in this Guarantee, or on a supplemental writing executed by the Company.

(b) "land": the land described or referred to in Schedule (A) (C) or in Part 2, and improvements affixed thereto which by law constitute real property. The term "land" does not include any property beyond the lines of the area described or referred to in Schedule (A) (C) or in Part 2, nor any right, title, interest estate or easement in abutting streets, roads, avenues, alleys, lanes, ways or waterways.

(c) "mortgage": mortgage, deed of trust, trust deed, or other security instrument.

(d) "public records": records established under state statutes at Date of Guarantee for the purpose of imparting constructive notice of matters relating to real property to purchasers for value and without knowledge.

(e) "date": the effective date.

2. NOTICE OF CLAIM TO BE GIVEN BY ASSURED CLAIMANT

An Assured shall notify the Company promptly in writing in case knowledge shall come to an Assured hereunder of any claim of title or interest which is adverse to the title to the estate or interest, as stated herein, and which might cause loss or damage for which the Company may be liable by virtue of this Guarantee. If prompt notice shall not be given to the Company, then all liability of the Company shall terminate with regard to the matter or matters for which prompt notice is required; provided, however, that failure to notify the Company shall in no case prejudice the rights of any Assured under this Guarantee unless the Company shall be prejudiced by the failure and then only to the extent of the prejudice.

3. NO DUTY TO DEFEND OR PROSECUTE

The Company shall have no duty to defend or prosecute any action or proceeding to which the Assured is a party, notwithstanding the nature of any allegation in such action or proceeding.

4. COMPANY'S OPTION TO DEFEND OR PROSECUTE ACTIONS; DUTY OF ASSURED CLAIMANT TO COOPERATE

Even though the Company has no duty to defend or prosecute as set forth in Paragraph 3 above:

(a) The Company shall have the right, at its sole option and cost, to institute and prosecute any action or proceeding, interpose a defense, as limited in (b), or to do any other act which in its opinion may be necessary or desirable to establish the title to the estate or interest as stated herein, or to establish the lien rights of the Assured, or to prevent or reduce loss or damage to the Assured. The Company may take any appropriate action under the terms of this Guarantee, whether or not it shall be liable hereunder, and shall not thereby concede liability or waive any provisions of this Guarantee. If the Company shall exercise its rights under this paragraph, it shall do so diligently.

(b) If the Company elects exercise its options as stated in Paragraph 4(a) the Company shall have the right to select counsel of its choice (subject to the right of such Assured to object for reasonable cause) to represent the Assured and shall not be liable for and will not pay the fees of any other counsel, nor will the Company pay any fees, costs or expenses incurred by an Assured in the defense of those causes of action which allege matters not covered by this Guarantee.

(c) Whenever the Company shall have brought an action or interposed a defense as permitted by the provisions of this Guarantee, the Company may pursue any litigation to final determination by a court of competent jurisdiction and expressly reserves the right, in its sole discretion, to appeal from an adverse judgment or order.

(d) In all cases where this Guarantee permits the Company to prosecute or provide for the defense of any action or proceeding, an Assured shall secure to the Company the right to so prosecute or provide for the defense of any action or proceeding, and all appeals therein, and permit the Company to use, at its option, the name of such Assured for this purpose. Whenever requested by the Company, an Assured, at the Company's expense, shall give the Company all reasonable aid in any action or proceeding, securing evidence, obtaining witnesses, prosecuting or defending the action or lawful act which in the opinion of the Company may be necessary or desirable to establish the title to the estate or interest as stated herein, or to establish the lien rights of the Assured. If the Company is prejudiced by the failure of the Assured to furnish the required cooperation, the Company's obligations to the Assured under the Guarantee shall terminate.

5. PROOF OF LOSS OR DAMAGE

In addition to and after the notices required under Section 2 of these Conditions and Stipulations have been provided to the Company, a proof of loss or damage signed and sworn to by the Assured shall be furnished to the Company within ninety (90) days after the Assured shall ascertain the facts giving rise to the loss or damage. The proof of loss or damage shall describe the matters covered by this Guarantee which constitute the basis of loss or damage and shall state, to the extent possible, the basis of calculating the amount of the loss or damage. If the Company is prejudiced by the failure of the Assured to provide the required proof of loss or damage, the Company's obligation to such Assured under the Guarantee shall terminate. In addition, the Assured may reasonably be required to submit to examination under oath by any authorized representative of the Company an shall produce for examination, inspection and copying, at such reasonable times and places as may be designated by any authorized representative of the Company, all records, books, ledgers, checks, correspondence and memoranda, whether bearing a date before or after Date of Guarantee which reasonably pertain to the loss or damage. Further, if requested by any authorized representative of the Company, the Assured shall grant its permission, in writing, for any authorized representative of the Company to examine, inspect and copy all records, books, ledgers, checks, correspondence and memoranda in the custody or control of a third party, which reasonable pertain to the loss or damage. All information designated as confidential by the Assured provided to the Company pursuant to this Section shall not be disclosed to others unless, in the reasonable judgment of the Company, it is necessary in the administration of the claim. Failure of the Assured to submit for examination under oath, produce other reasonably requested information or grant permission to secure reasonably necessary information from third parties as required in the above paragraph, unless prohibited by law or governmental regulation, shall terminate any liability of the Company under this Guarantee to the Assured for that claim.

6. OPTIONS TO PAY OR OTHERWISE SETTLE CLAIMS: TERMINATION OF LIABILITY

In case of a claim under this Guarantee, the Company shall have the following additional options:

(a) To Pay or Tender Payment of the Amount of Liability or to Purchase the Indebtedness.

The Company shall have the option to pay or settle or compromise for or in the name of the Assured any claim which could result in loss to the Assured within the coverage of this Guarantee, or to pay the full amount of this Guarantee or, if this Guarantee is issued for the benefit of a holder of a mortgage or a lienholder, the Company shall have the option to purchase the indebtedness secured by said mortgage or said lien for the amount owing thereon, together with any costs, reasonable attorneys' fees and expenses incurred by the Assured claimant which were authorized by the Company up to the time of purchase.

Such purchase, payment or tender of payment of the full amount of the Guarantee shall terminate all liability of the Company hereunder. In the event after notice of claim has been given to the Company by the Assured the Company offers to purchase said indebtedness, the owner of such indebtedness shall transfer and assign said indebtedness, together with any collateral security, to the Company upon payment of the purchase price.

Upon the exercise by the Company of the option provided for in Paragraph (a) the Company's obligation to the Assured under this Guarantee for the claimed loss or damage, other than to make the payment required in that paragraph, shall terminate, including any obligation to continue the defense or prosecution of any litigation for which the Company has exercised its options under Paragraph 4, and the Guarantee shall be surrendered to the Company for cancellation.

(b) To Pay or Otherwise Settle With Parties Other Than the Assured or With the Assured Claimant. To pay or otherwise settle with other parties for or in the name of an Assured claimant any claim assured against under this Guarantee, together with any costs, attorneys' fees and expenses incurred by the Assured claimant which were authorized by the Company up to the time of payment and which the Company is obligated to pay.

Upon the exercise by the Company of the option provided for in Paragraph (b) The Company's obligation to the Assured under this Guarantee for the claimed loss or damage, other than to make the payment required in that paragraph, shall terminate, including any obligation to continue the defense or prosecution of any litigation for which the Company has exercised its options under Paragraph 4.

7. DETERMINATION AND EXTENT OF LIABILITY

This Guarantee is a contract of Indemnity against actual monetary loss or damage sustained or incurred by the Assured claimant who has suffered loss or damage by reason of reliance upon the assurances set forth in this Guarantee and only to the extent herein described, and subject to the Exclusions From Coverage of This Guarantee.

The liability of the Company under this Guarantee to the Assured shall not exceed the least of:

(a) the amount of liability stated in Schedule A or in Part 2;

(b) the amount of the unpaid principal indebtedness secured by the mortgage of an Assured mortgagee, as limited or provided under Section 6 of these Conditions and Stipulations or as reduced under Section 9 of these Conditions and Stipulations, at the time the loss or damage assured against by this Guarantee occurs, together with interest thereon; or

(c) the difference between the value of the estate or interest covered hereby as stated herein and the value of the estate or interest subject to any defect, lien or encumbrance assured against by this Guarantee.

GUARANTEE CONDITIONS AND STIPULATIONS (Continuation)

8. LIMITATION OF LIABILITY

(a) If the Company establishes the title, or removes the alleged defect, lien or encumbrance, or cures any other matter assured against by this Guarantee in a reasonably diligent manner by any method, including litigation and the completion of any appeals therefrom, it shall have fully performed its obligations with respect to that matter and shall not be liable for any loss or damage caused thereby.
(b) In the event of any litigation by the Company or with the Company's consent, the Company shall have no liability for loss or damage until there has been a final determination by a court of competent jurisdiction, and disposition of all appeals therefrom, adverse to the title, as stated herein.
(c) The Company shall not be liable for loss or damage to any Assured for liability voluntarily assumed by the Assured in settling any claim or suit without the prior written consent of the Company.

9. REDUCTION OF LIABILTITY OR TERMINATION OF LIABILITY

All payments under this Guarantee, except payments made for costs, attorneys' fees and expenses pursuant to paragraph 4 shall reduce the amount of liability pro tanto.

10. PAYMENT OF LOSS

(a) No payment shall be made without producing this Guarantee for endorsement of the payment unless the Guarantee has been lost or destroyed, in which case proof of loss or destruction shall be furnished to the satisfaction of the Company.
(b) When liability and the extent of loss or damage has been definitely fixed in accordance with these Conditions and Stipulations, the loss or damage shall be payable within thirty (30) days thereafter.

11. SUBROGATION UPON PAYMENT OR SETTLEMENT

Whenever the Company shall have settled and paid a claim under this Guarantee, all right of subrogation shall vest in the Company unaffected by any act of the Assured claimant.
The Company shall be subrogated to and be entitled to all rights and remedies which the Assured would have had against any person or property in respect to the claim had this Guarantee not been issued. If requested by the Company, the Assured shall transfer to the Company all rights and remedies against any person or property necessary in order to perfect this right of subrogation. The Assured shall permit the Company to sue, compromise or settle in the name of the Assured and to use the name of the Assured in any transaction or litigation involving these rights or remedies.
If a payment on account of a claim does not fully cover the loss of the Assured the Company shall be subrogated to all rights and remedies of the Assured after the Assured shall have recovered its principal, interest, and costs of collection.

12. ARBITRATION

Unless prohibited by applicable law, either the Company or the Assured may demand arbitration pursuant to the Title Insurance Arbitration Rules of the American Land Title Association.
Arbitrable matters may include, but are not limited to, any controversy or claim between the Company and the Assured arising out of or relating to this Guarantee, any service of the Company in connection with its issuance or the breach of a Guarantee provision or other obligation. All arbitrable matters when the amount of liability is $2,000,000 or less shall be arbitrated at the option of either the Company or the Assured. All arbitrable matters when the amount of liability is in excess of $2,000,000 shall be arbitrated only when agreed to by both the Company and the Assured.
The Rules in effect at Date of Guarantee shall be binding upon the parties. The award may include attorneys' fees only if the laws of the state in which the land is located permits a court to award attorneys' fees to a prevailing party. Judgment upon the award rendered by the Arbitrator(s) may be entered in any court having jurisdiction thereof.
The law of the situs of the land shall apply to an arbitration under the Title Insurance Arbitration Rules.
A copy of the Rules may be obtained from the Company upon request.

13. LIABILITY LIMITED TO THIS GUARANTEE; GUARANTEE ENTIRE CONTRACT

(a) This Guarantee together with all endorsements, if any, attached hereto by the Company is the entire Guarantee and contract between the Assured and the Company. In interpreting any provision of this Guarantee, this Guarantee shall be construed as a whole.
(b) Any claim of loss or damage, whether or not based on negligence, or any action asserting such claim, shall be restricted to this Guarantee.
(c) No amendment of endorsement to this Guarantee can be made except by a writing endorsed hereon or attached hereto signed by either the President, a Vice President, the Secretary, an Assistant Secretary, or validating officer or authorized signatory of the Company.

14. NOTICES, WHERE SENT

All notices required to be given the Company and any statement in writing required to be furnished the Company shall include the number of this Guarantee and shall be addressed to the Company at the office which issued this Guarantee or to its Home Office at 400 Second Avenue South, Minneapolis, Minnesota 55401-2499, (612) 371-1111.

(8)

First American Title

OFFICIAL RECORDS OF
PINAL COUNTY RECORDER
LAURA DEAN-LYTLE

DATE/TIME: 12/17/04 1630
FEE: $19.00
PAGES: 8
FEE NUMBER: 2004-104001

When Recorded, Return To:

Cornman Tweedy 560, LLC
9532 East Riggs Road
Sun Lakes, Arizona 85248
Attn: Peter Gerstman

NCS-84111-PHX1

SPECIAL WARRANTY DEED

For valuable consideration, EL DESERTO, LLLP, an Arizona limited partnership qualified as a limited liability limited partnership under Arizona law ("Grantor"), hereby conveys to CORNMAN TWEEDY 560, LLC, a Delaware limited liability company ("Grantee"), the real property located in Pinal County, Arizona, more particularly described on Exhibit "A" attached hereto and made a part hereof by this reference (the "Property"), SUBJECT ONLY TO those covenants, conditions, easements and other matters of record set forth on Exhibit "B" attached hereto and made a part hereof by this reference, and to any matters that would be disclosed by an A.L.T.A. survey of the Property.

Grantor warrants title as against its own acts and none other, subject to the matters set forth above.

DATED: December 16, 2004.

GRANTOR:

EL DESERTO, LLLP, an Arizona limited liability limited partnership

By: J-T DERMER FARMS, INC.,
an Arizona corporation,
Managing General Partner

By: _____
TIMOTHY L. DERMER,
President

STATE OF ARIZONA)
) ss.
County of Maricopa)

This instrument was acknowledged before me this 16 day of December, 2004, by TIMOTHY L. DERMER, President of J-T DERMER FARMS, INC., an Arizona corporation, Managing General Partner of EL DESERTO, LLLP, an Arizona limited liability limited partnership, who acknowledged that he executed the foregoing on behalf of said entity.

Jeanne S. Tyler
Notary Public

My commission expires:

OFFICIAL SEAL
JEANNE S. TYLER
Notary Public - State of Arizona
MARICOPA COUNTY
My Comm. Expires July 16, 2005

EXHIBIT "A"

PARCEL 1:

THE NORTHWEST QUARTER OF SECTION 27, TOWNSHIP 6 SOUTH, RANGE 7 EAST OF THE GILA AND SALT RIVER MERIDIAN, PINAL COUNTY, ARIZONA.

PARCEL 2:

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EXCEPT ANY PORTION LYING WITHIN THE FLORENCE-CASA GRANDE CANAL.

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THENCE SOUTH ALONG THE EAST LINE OF SAID SOUTHEAST QUARTER 510 FEET;

THENCE SOUTH 77 DEGREES 34 MINUTES WEST 625 FEET;

THENCE SOUTH 83 DEGREES 47 MINUTES WEST 1028 FEET;

THENCE SOUTH 3 DEGREES 36 MINUTES WEST TO SOUTH LINE OF NORTHWEST QUARTER OF THE SOUTHEAST QUARTER;

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EXCEPT ANY PORTION LYING WITHIN THE FLORENCE-CASA GRANDE CANAL.

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EXCEPT ANY PORTION LYING WITHIN THE FLORENCE-CASA GRANDE CANAL.

PARCEL 13:

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EXCEPT ANY PORTION LYING WITHIN THE FLORENCE-CASA GRANDE CANAL.

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THE WEST HALF OF THE SOUTHEAST QUARTR OF SECTION 28, TOWNSHIP 6 SOUTH, RANGE 7 EAST OF THE GILA AND SALT RIVER MERIDIAN, PINAL COUNTY, ARIZONA.

PARCEL 17:

THE NORTH HALF OF THE NORTHEAST QUARTER OF SECTION 28, TOWNSHIP 6 SOUTH, RANGE 7 EAST OF THE GILA AND SALT RIVER MERIDIAN, PINAL COUNTY, ARIZONA.

PARCEL 18:

THE NORTHEAST QUARTER OF SECTION 32, TOWNSHIP 6 SOUTH, RANGE 7 EAST OF THE GILA AND SALT RIVER MERIDIAN, PINAL COUNTY, ARIZONA.

Exhibit "B"

1. A Resolution by the Board of Supervisors of Pinal County, Arizona, recorded February 21, 1964 in Docket 375, Page 572, purporting to establish a county roadway.

2. The terms and provisions contained in the document entitled "Agreement Relating to Exercise of Reserved Right-of-Way" recorded March 2, 1988 as Docket 1510, Page 080 of Official Records.

   (Affects Parcel No. 7, 16 and 17)

3. The terms and provisions contained in the document entitled "Notice of Exercise of Reserved Right-of-Way" recorded May 19, 1989 as Docket 1606, Page 355 of Official Records.

   (Affects Parcel No. 8)

4. The terms and provisions contained in the document entitled "Notice of Exercise of Reserved Right-of-Way" recorded May 19, 1989 as Docket 1606, Page 365 of Official Records.

   (Affects Parcel No. 7, 16 and 17)

5. The terms and provisions contained in the document entitled "Notice of Exercise of Reserved Right-of-Way" recorded May 19, 1989 as Docket 1606, Page 369 of Official Records.

   (Affects Parcel No. 5, 9 and 11)

6. The terms and provisions contained in the document entitled "Agreement Relating to Exercise of Reserved Right-of-Way" recorded April 6, 1990 as Docket 1668, Page 291 of Official Records.

   (Affects Parcel No. 7, 15, 16 and 17)

7. The terms and provisions contained in the document entitled "Agreement Relating to Exercise of Reserved Right-of-Way" recorded April 6, 1990 as Docket 1668, Page 299 of Official Records.

   (Affects Parcel No. 8)

8. The terms and provisions contained in the document entitled "Agreement Relating to Exercise of Reserved Right-of-Way" recorded April 6, 1990 as Docket 1668, Page 307 of Official Records.

   (Affects Parcel No. 5, 9 and 11)

9. The terms and provisions contained in the document entitled "Agreement Relating to Exercise of Reserved Right-of-Way" recorded April 6, 1990 as Docket 1668, Page 315 of Official Records.

   (Affects Parcel No. 2, 4, 12 and 13)

10. An easement for pipe lines and incidental purposes in the document recorded as Book 52 of Deeds, Page 457 of Official Records.

    (Affects Parcel No. 5, 10 and 11)

11. An easement for pipe lines and incidental purposes in the document recorded as Book 52 of Deeds, Page 459 of Official Records.

(Affects Parcel No. 5)

12. An easement for pipe lines and incidental purposes in the document recorded as Book 52 of Deeds, Page 460 of Official Records.

(Affects Parcel No. 18)

13. An easement for pipe lines and incidental purposes in the document recorded as Book 63 of Deeds, Page 373 of Official Records.

(Affects Parcel No. 18)

14. An easement for public highway and incidental purposes in the document recorded as Docket 38, Page 20 of Official Records.

(Affects Parcel No. 5, 6, 10 and 11)

15. An easement for pipe lines and incidental purposes in the document recorded as Docket 40, Page 329 of Official Records.

(Affects Parcel No. 9 and 11)

16. An easement for public highway and incidental purposes in the document recorded as Docket 45, Page 431 of Official Records.

(Affects Parcel No. 12)

17. An easement for public highway and incidental purposes in the document recorded as Docket 45, Page 433 of Official Records.

(Affects Parcel No. 13)

18. An easement for meter station and/or pipe line and incidental purposes in the document recorded as Docket 105, Page 181 of Official Records.

(Affects Parcel No. 5)

19. An easement for meter station and/or pipe line and incidental purposes in the document recorded as Docket 126, Page 133 of Official Records.

(Affects Parcel No. 13)

20. An easement for public highway and incidental purposes in the document recorded as Docket 205, Page 236 of Official Records.

(Affects Parcel No. 3, 5, 8, 9, 10, 11 and 12)

21. An easement for electrical transmission line and incidental purposes in the document recorded as Docket 361, Page 358 of Official Records.

(Affects Parcel No. 3)

22. This item has been intentionally deleted:

23. An easement for electric transmission line and incidental purposes in the document recorded as Docket 740, Page 443 of Official Records.

(Affects Parcel No. 6 and 18)

24. An easement for electrical transmission line and incidental purposes in the document recorded as Docket 740, Page 444 of Official Records.

(Affects Parcel No. 5)

25. An easement for electrical transmission line and incidental purposes in the document recorded as Docket 740, Page 445 of Official Records.

(Affects Parcel No. 13)

26. An easement for electrical transmission line and incidental purposes in the document recorded as Docket 740, Page 446 of Official Records.

(Affects Parcel No. 2 and 4)

27. An easement for electrical transmission line and incidental purposes in the document recorded as Docket 808, Page 133 of Official Records.

(Affects Parcel No. 1 and 2)

28. An easement for electrical transmission line and incidental purposes in the document recorded as Docket 862, Page 933 of Official Records.

(Affects Parcel No. 1 and 2)

29. An easement for electric transmission line and incidental purposes in the document recorded as Docket 862, Page 949 of Official Records.

(Affects Parcel No. 7 and 17)

30. An easement for electrical transmission line and incidental purposes in the document recorded as Docket 866, Page 389 of Official Records.

(Affects Parcel No. 1)

31. An easement for electrical transmission line and incidental purposes in the document recorded as Docket 906, Page 301 of Official Records.

(Affects Parcel No. 1)

AFFIDAVIT OF PROPERTY VALUE

1. ASSESSOR'S PARCEL NUMBER(S) (primary parcel number):
Primary Parcel: 401-18-650 - _____
BOOK MAP PARCEL SPLIT LETTER
Does this sale include any parcels that are being split / divided?
Check one: Yes ☐ No ☐
How many parcels, other than the Primary Parcel, are included in this sale? 19
Please list the additional parcels below (no more than four):
(1) 401-01-660 (3) 401-01-690
(2) 401-01-680 (4) 401-01-720

COUNTY OF RECORDATION: PINAL
FEE NO: 2004-104001
RECORD DATE: 12/17/04
nk
Recording Number:
Validation Codes:
(e) ASSESSOR: (f) DOR
ASSESSOR'S USE ONLY
Verify Primary Parcel in Item 1: ___-___-___-___
Use Code: Full Cash Value: $

2. SELLER'S NAME AND ADDRESS:
El Deserto, LLLP
6446-75 East Trailridge Circle
Mesa, AZ 85215

3. (a) BUYER'S NAME AND ADDRESS:
Cornman Tweedy 560, LLC
9532 E. Riggs Road
Sun Lakes, AZ 85248

(b) Are the Buyer and Seller related: Yes _____ No X
If yes, state relationship:

4. ADDRESS OF PROPERTY:
Vacant Land
, AZ

5. MAIL TAX BILL TO:
Cornman Tweedy 560, LLC
9532 E. Riggs Road
Sun Lakes, AZ 85248

6. PROPERTY TYPE (for Primary Parcel): NOTE: Check Only One Box

a. [X] Vacant Land
b. [ ] Single Family Residence
c. [ ] Condo or Townhouse
d [ ] 2-4 Plex
e. [ ] Apartment Building
f. [ ] Commercial or Industrial Use
g. [ ] Agricultural
h. [ ] Mobile or Manufactured Home
i. [ ] Other Use, Specify:

7. RESIDENTIAL BUYER'S USE: If you checked b, c, d, or h in Item 6 above, please check one of the following:

[ ] To be occupied by owner or "family member."
[ ] To be rented to someone other than "family member."

See reverse side for definition of a "family member."

8. NUMBER OF UNITS: [ ]
For Apartment Properties, Motels, Hotels, Mobile Home Parks, RV Parks, Mini-Storage Properties, etc.

10. TYPE OF DEED OR INSTRUMENT (Check Only One Box):

a. [ ] Warranty Deed
b. [X] Special Warranty Deed
c. [ ] Joint Tenancy Deed
d [ ] Contract or Agreement
e [ ] Quit Claim Deed
f. [ ] Other

11. SALE PRICE: 26,092,050.00 | 00

12. DATE OF SALE (Numeric Digits): April 05, 2004
Month Year
(For example: 03 / 05 for March 2005)

13. DOWN PAYMENT: $ 6,674,730.00 | 00

14. METHOD OF FINANCING:

a. [ ] Cash (100% of Sale Price)
b. [ ] Exchange or trade
c. [ ] Assumption of existing loan(s)
d. [ ] Seller Loan (Carryback)
e. [X] New loan(s) from Financial Institution:
(1) [X] Conventional
(2) [ ] VA
(3) [ ] FHA
f. [ ] Other financing; Specify:

15. PERSONAL PROPERTY *(see reverse side for definition)*:

(a) Did the Sale Price in Item #11 include Personal Property that Impacted the Sale Price by 5% or more? Yes _____ No X

(b) If Yes, provide the dollar amount of the Personal Property:
$ 0.00 | 00 AND
briefly describe the Personal Property:

16. PARTIAL INTEREST: If only a partial ownership interest is being sold, briefly describe the partial interest:

17. PARTY COMPLETING AFFIDAVIT (Name, Address, Phone):
First American Title Insurance Company National Commercial Services
4801 E. Washington Street, S-110
Phoenix, AZ 85034
NCS-84111-PHX1 (cap) Phone (602) 685-7560

18. LEGAL DESCRIPTION *(attach copy if necessary)*:
See attached Exhibit A for complete legal

THE UNDERSIGNED BEING DULY SWORN, ON OATH, SAYS THAT THE FOREGOING INFORMATION IS A TRUE AND CORRECT STATEMENT OF THE FACTS PERTAINING TO THE TRANSFER OF THE ABOVE DESCRIBED PROPERTY.

Signature of Seller/Agent: Tom Cingolani
State of AZ, County of Maricopa
Subscribed and sworn to before me on this 17th day of December
Notary Public: Scott S. Pearson
Notary Expiration Date: 10-9-08

OFFICIAL SEAL
SCOTT S. PEARSON
NOTARY PUBLIC - ARIZONA
PINAL COUNTY
My Comm. Expires Oct. 9, 2008

Signature of Buyer/Agent: Tom Cingolani
State of AZ, County of Maricopa
Subscribed and sworn to before me on this 17th day of December
Notary Public: Scott S. Pearson
Notary Expiration: 10-9-08

Reproduction by First American Title Insurance 05/2003

OFFICIAL SEAL
SCOTT S. PEARSON
NOTARY PUBLIC - ARIZONA
PINAL COUNTY
My Comm. Expires Oct. 9, 2008

EXHIBIT "A"

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PARCEL 2:

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BEGINNING AT THE NORTHEAST CORNER OF THE SOUTHEAST QUARTER;

THENCE SOUTH ALONG THE EAST LINE OF SAID SOUTHEAST QUARTER 510 FEET;

THENCE SOUTH 77 DEGREES 34 MINUTES WEST 625 FEET;

THENCE SOUTH 83 DEGREES 47 MINUTES WEST 1028 FEET;

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THE NORTHEAST QUARTER OF SECTION 32, TOWNSHIP 6 SOUTH, RANGE 7 EAST OF THE GILA AND SALT RIVER MERIDIAN, PINAL COUNTY, ARIZONA.

BACKGROUND INFORMATION

Office of Assured & Adequate Water Supply
General Information and Review Status

File Number **42-401544.0001** Subdivision **EJR Ranch**

AMA **PINAL AMA**
County **Pinal**
City

Date Received **01/21/2015**
Application Status **Pending**
Status Date **01/21/2015**
☑ Plat Active

Primary Water Provider **Picacho Water Company**

Owner **CORNMAN TWEEDY 560, LLC, a Delaware limited liability company**

Quad:	T	½	R	½	Sec	Q160	Q40	Q10	Q2½
D	6		7		26				
D	6		7		27				
D	6		7		28				
D	6		7		32				
D	6		7		33				
D	6		7		34				
D	7		7		1				
D	7		7		2				
D	7		7		3				

REVIEW / APPROVAL STATUS

Office of Assured Water Supply	**Joel**	**Klein**	Approved	**01/26/2015**
OAWS - Peer	**Richard**	**Obenshain**	Approved	**01/26/2015**
Water Quality	**Joel**	**Klein**	Approved	**01/26/2015**
Active Management Area	**Joel**	**Klein**	Approved	**01/26/2015**
Hydrology	**Joel**	**Klein**	Approved	**01/26/2015**
Legal	**Richard**	**Obenshain**	Approved	**01/26/2015**

Office of Assured and Adequate Water Supply
Legal Review

File Number **42-401544.0001** **Subdivision** **EJR Ranch**

Legal Ownership/Authority Consistent

Application verified	**Yes**
NOI to Serve verified	**No**
Construction Assurance Form verified	**No**
Public Notice verified	**No**
GRD Application verified	**No**
Other Contracts verified	**No**

Fully Executed

NOI to Serve	
Construction Assurance Form	
Appropriate Public Notice	**No**
Approval of other Divisions	**No**

Consistency with Management goal

Executed and recorded GRD agreement and covenants

Stamped by Recorder's Office

Internet Checked

Certificate of Extinguishment of GF Rights/Sufficient Quantity

Dry Lot/20 or fewer lot exemption

Special Circumstances

Legal Right to Use Water

Pri. Provider service area right

Sec. Provider service area right

Type 1

Type 2

Exempt domestic well

If non-groundwater, legal proof

Legal Issues

User When

Comments

User **WRRBO** When **01/26/2015**
File is complete.

Legal Reviewer

Richard **Obenshain** **Approved** **01/26/2015**

Office of Assured and Adequate Water Supply
Application Review

File Number **42-401544.0001** Subdivision **EJR Ranch**

- [x] Application Complete
- [ ] Hydrologic study attached
- [ ] Update Study
- [ ] Contracts attached
- [ ] Plat
- [x] Correct Fees

Land Owner Verified

- [x] Independent Review
- [ ] GRD

- [ ] Plat Change
- [ ] Mat. Plat Change

- [ ] Change of Ownership
- [ ] Full Assignment
- [ ] Partial Assignment
- [ ] 708

Public Notice

Date Declared Complete

Date Complete and Correct

Date of First Notice

Date of Second Notice

Final Date for Public Comment

Posted to Website

- [ ] Protests
- [ ] Hearing

Financial Capability

- [ ] Performance Bond
- [ ] Constructed Infrastructure
- [x] Does Owner Name match application?

NumLots

Owner Name **CORNMAN TWEEDY 560, LLC, a Delaware limited liability company, owner,**

City/County Platting Auth

Elements of Water Delivery System

- [ ] Signed NOI
- [x] Potable Delivery System
- [ ] Potable Storage Facility
- [ ] Potable Treatment Facility
- [ ] Off-Site Pipeline
- [ ] Effluent Delivery System
- [ ] Effluent Treatment Facility
- [ ] Other:

Original File CAWS

Conveying CAWS

Assign as Type A

- [ ] Assigned Portion
- [ ] Retained Portion
- [ ] Both Assigned and Retained Portion
- [ ] Full Assignment

Qualification as Type A

- [ ] Groundwater via existing service area right
- [ ] Groundwater via pending service area right
- [ ] CAP via provider's non-declining, long-term M&I subcontract
- [ ] Surface water via provider's SW right or claim
- [ ] Effluent owned and served via provider
- [ ] Type 1 owned by provider

Office of Assured and Adequate Water Supply
Application Review

File Number **42-401544.0001** Subdivision **EJR Ranch**

Time Frame

Application Routed to

OAWS Comments

OAWS Reviewers

Office of Assured Water Supply	**Joel Klein**	**Approved**	**01/26/2015**
OAWS - Peer	**Richard Obenshain**	**Approved**	**01/26/2015**

Office of Assured and Adequate Water Supply
Active Management Area Review

File Number **42-401544.0001** Subdivision **EJR Ranch**

NonResidential Demand

	SqFt	Acres	Demand Factor (af/ac)	Non-Residential Demand (af/yr)
Common Area1				
Common Area2				
Right of Way				
Golf Course				
Commercial Use				
Public Pool (length x width = sqft)				
Parks1				
Parks2				
Retention/Detention Basins1				
Retention/Detention Basins2				
School Landscape1				
School Landscape2				
School Interior				

AMA Comments

AMA Reviewers

Active Management Area	**Joel Klein**	**Approved**	**01/26/2015**

Office of Assured and Adequate Water Supply
Hydrology Review

File Number **42-401544.0001** Subdivision **EJR Ranch**

Subbasin **Eloy** Aquifer description

Depth to Water, ft WL change, ft/yr

Sat Thickness, ft Impact Analysis Method

100YR Impact

Proj 100yr water level change, ft Estimated depth to water after 100 years:

max, ft Location

Surface Water Supply

Source

Firm Yield, af/yr Median flow, af/yr

Groundwater Supply

Basis of Physical Availability

☐ Water Availability Letter/PAD

☑ Analysis

☐ Study included w/ application

☐ Hydrologic data on file

Original amount of physical availability, af/yr

Balance after this application, af/yr

Source of Physical Availability

28-401544.0000 **2858.5**

Total Availability, af: 2858.5

Demand

Applicant's projected demand, af/100 yrs

AMA's projected demand, af/100 yrs **28585**

Hydro Comments

Hydro Reviewers

Hydrology	**Joel Klein**	**Approved**	**01/26/2015**

Office of Assured and Adequate Water Supply
Water Quality Review

File Number **42-401544.0001** Subdivision **EJR Ranch**

Primary Water Provider **Picacho Water Company**

Primary Provider System

PWS Number

New Provider (checked if yes) ☐

Is Water Provider in compliance with safe Drinking Water Standards, per ADEQ/County ?

Do the lab results meet the drinking water quality standards ? (checked if yes) ☐

Is there a known WQARF, Superfund or Solid Waste site within one mile?

Has the mitagation and migration analysis been submitted? (checked if yes) ☐

Are there expected changes to water quality so as to make it likely that the pledged water supply in the future will not meet current water quality standards?

Applicant has chosen NOT to prove water quality at this time

Comments

User	When

Preliminary WQ Reviewer

Final WQ Reviewer

Joel	**Klein**	**Approved**	**01/26/2015**

FENNEMORE CRAIG, P.C.

2394 East Camelback Road, Suite 600
Phoenix, Arizona 85016-3429
(602) 916-5000

Annie M. Stewart
Paralegal
Direct Phone: (602) 916-5714
Direct Fax: (602) 916-5914
astewart@fclaw.com

Law Offices
Denver (303) 291-3200
Las Vegas (702) 692-8000
Nogales (520) 281-3480
Phoenix (602) 916-5000
Reno (775) 788-2200
Tucson (520) 879-6800

January 16, 2015

VIA CERTIFIED MAIL

Mr. Rick Obenshain
Office of Assured and Adequate Water Supply
Arizona Department of Water Resources
3550 North Central Avenue, 2nd Floor
Phoenix, AZ 85012

Re: Extension of an Analysis of Assured Water Supply Application: EJR Ranch, DWR No. 28-401544.0000

Dear Rick:

Enclosed is an Extension Application as referenced above, together with all attachments, and a check in the amount of $1,000.00 for the initial fee.

The Extension Application is being submitted by Cornman Tweedy 560, LLC, a Delaware limited liability company, the current owner of substantial portions of land included in Analysis of Assured Water Supply No. 28-401544.0000. Consistent with R12-15-703(H), we are requesting that the Department of Water Resources extend the term of this Analysis for five (5) years.

If you have any questions or need additional information, please contact me. Thank you.

Sincerely,

FENNEMORE CRAIG, P.C.

Annie

Annie M. Stewart

Enclosures

cc: Todd Fitzgerald (w/enc)
Robert Anderson, Esq. (w/o enc via email)

STATE OF ARIZONA REMITTANCE ADVICE

WARRANT NO.
216931699

DEPT OF WATER RESOURCES (602) 417-2450 EXT.

INVOICE NO.	INVOICE DATE	INVOICE DESCRIPTION	AGY	DOCUMENT/SFX	AMOUNT
42-401544.0001	02/04/15	REFUND FEE	WCA	25CAR436	410.00

CORNMAN TWEEDY 560, LLC (EJR Ranch) JPMorgan Chase Bank, N.A. Stub 1 of 1 Check No. 1231697 Date 01/09/15

Invoice Number	Inv Date	Payment Advice	Gross	Discount	Net
01051572471101	010515	Extend Analysis Assured Wtr	1,000.00		1,000.00
			1,000.00		1,000.00

Vendor No. 71101 Name ARIZONA DEPT OF WATER RES apcheck

EVER WONDER WHERE YOUR PAYMENT FROM THE STATE IS? OR, WHICH STATE AGENCY PAID YOU THROUGH DIRECT DEPOSIT/ACH? VISIT OUR VENDOR PAYMENT WEBSITE, HTTP://WWW.VENPAY.GAO.AZDOA.GOV/.

FUND: 2509 ISSUE DATE: 02/04/15 WARRANT AMOUNT 410.00

VENDOR NAME: ROBSON COMMUNITIES

FOLD ON SEPARATE ALLOCATED LINE BELOW

STATE OF ARIZONA

NOT GOOD AFTER VOID DATE SHOWN

91-113
1221

DATE ISSUED MO-DAY-YR	VOID AFTER MO-DAY-YR
02/04/15	08/03/15

BANK	WARRANT NO.
21	6931699

FUND 2509 AGENCY WCA DOCUMENT NO. 25CAR436

PAY THIS AMOUNT $410.00

**********FOUR HUNDRED TEN AND 00/100 DOLLARS

PAY TO THE ORDER OF:

ROBSON COMMUNITIES
9532 E RIGGS RD

SUN LAKES AZ 85248

DEPARTMENT OF ADMINISTRATION

COUNTERSIGNED GOVERNOR

PAYABLE THRU STATE SERVICING BANK OF STATE TREASURER OF ARIZONA

[redacted] 0000000000 2 4

EXHIBIT
AWC-12
ADMITTED

AWC -12

STATE OF ARIZONA
CORPORATION COMMISSION

To all to Whom these Presents shall Come Greeting:

I, JODI JERICH, EXECUTIVE DIRECTOR OF THE ARIZONA CORPORATION COMMISSION, DO HEREBY CERTIFY THAT

The attached is a true, complete and correct copy of the OPINION AND ORDER as issued by this Commission on December 20, 1984 in DOCKET NO.U-2269-84-046 and U-2269-84-047 (S-0229-84-0046 and S-0229-84-0047), IN THE MATTER OF THE APPLICATION OF PINEWOOD-SUN LAKES DEVELOPMENT CO., INC. TO TRANSFER ITS CERTIFICATE OF CONVENIENCE AND NECESSITY TO PINEWOOD SEWER COMPANY, INC. AND FOR PINEWOOD SEWER, INC. TO ISSUE STOCK., bearing Decision No. 54278.

IN WITNESS WHEREOF, I HAVE HEREUNTO SET MY HAND AND AFFIXED THE OFFICIAL SEAL OF THE ARIZONA CORPORATION COMMISSION, AT THE CAPITOL, IN THE CITY OF PHOENIX,

THIS 6th DAY of January, 2016.

Jodi A. Jerich

EXECUTIVE DIRECTOR

Arizona Corporation Commission
DOCKETED
DEC 20 1984
DOCKETED BY C.M.

BEFORE THE ARIZONA CORPORATION COMMISSION

RICHARD KIMBALL
CHAIRMAN
JUNIUS HOFFMAN
COMMISSIONER
MARIANNE M. JENNINGS
COMMISSIONER

IN THE MATTER OF THE APPLICATION OF PINEWOOD-SUN LAKES DEVELOPMENT CO., INC. TO TRANSFER ITS CERTIFICATE OF CONVENIENCE AND NECESSITY TO PINEWOOD SEWER COMPANY, INC. AND FOR PINEWOOD SEWER COMPANY, INC. TO ISSUE STOCK.	DOCKET NO. U-2269-84-046 & U-2269-84-047 DECISION NO. 54278 OPINION AND ORDER

DATE OF HEARING: November 19, 1984

PLACE OF HEARING: Phoenix, Arizona

PRESIDING OFFICER: Jerry L. Rudibaugh

APPEARANCES: Fennemore, Craig, von Ammon, Udall & Powers, P.C., by Kent A. Blake, on behalf of the Applicant.

Timothy M. Hogan, Attorney, Legal Division, on behalf of the Arizona Corporation Commission Staff.

BY THE COMMISSION:

On February 27, 1984, the Pinewood-Sun Lakes Development Co., Inc. ("Development Company") filed an Application with the Arizona Corporation Commission ("Commission") to transfer its Certificate of Public Convenience and Necessity to operate a sewage disposal system to the Pinewood Sewer Company, Inc. ("Sewer Company").

Pursuant to Notice dated November 2, 1984, the Application came on for hearing before a duly authorized Hearing Officer of the Commission at its offices in Phoenix, Arizona, on November 19, 1984. Development Company and the Commission's Utilities Division Staff ("Staff") appeared through counsel. Evidence was presented in support of the Application, and after a full public hearing, this matter was adjourned pending submission of a Recommended Opinion and order by the Presiding Officer to the Commission.

DISCUSSION

Development Company has been operating and managing the sewage disposal system for its Pinewood Development since August, 1975. As it only has approximately 14 lots left to sell out of some 2200 developed lots, Development Company wants to spin-off its sewer operations into a separate but viable corporate entity. Development Company proposes to transfer all of the assets of their sewage disposal system, all accounts receivable for the sewer service, and $10,000 in cash to Sewer Company. In turn, Sewer Company proposes to issue 10,000 shares of its common stock to Development Company.

This transfer will provide Sewer Company with sufficient working capital so that it can operate at least through calendar year 1985 without any rate increase and at the same time accumulate a year of history in which to determine its profitability. It is noted that the Staff recommended approval of this matter, and that there was no evidence of any opposition to the Application.

* * * * * * * * * *

Having considered all the evidence herein and being fully advised in the premises, the Commission finds, concludes and orders that:

FINDINGS OF FACT

1. Development Company is an Arizona corporation certified by the Commission, pursuant to Decision No. 51793 (January 5, 1981), to provide sewer utility services to the public within an area of Coconino County, Arizona, known as the Pinewood Development and described as Oakwood Unit One and Pinewood Units 1 through 10, 10A, 11A, 11B, 12, 14, 15, 16, and 17.

2. Development Company has sold all but approximately 14 of its 2200 developed lots in the Pinewood Development.

3. At the present time, there are approximately 2000 customers being serviced by the sewer system.

Oakwood Unit 1 and Pinewood Units 1 through 10,10A, 11A, 11B, 12, 14, 15, 16, and 17, Coconino County Arizona.

IT IS FURTHER ORDERED that Pinewood Sewer Company, Inc. is hereby authorized to issue 10,000 shares of its common stock having a par value of $100 per share to Pinewood-Sun Lakes Development Co., Inc. in consideration for all of the physical assets of the sewage disposal system, all accounts receivable for the sewer service, and $10,000 in cash.

IT IS FURTHER ORDERED that Pinewood Sewer Company, Inc. is hereby granted a variance to A.C.R.R. R14-2-608(A)(1) and may bill for services pursuant to Finding of Fact No. 16, hereinabove.

IT IS FURTHER ORDERED that this Decision shall become effective immediately upon issuance.

BY ORDER OF THE ARIZONA CORPORATION COMMISSION.

CHAIRMAN COMMISSIONER COMMISSIONER

IN WITNESS WHEREOF, I, LORRIE DROBNY, Executive Secretary of the Arizona Corporation Commission, have hereunto set my hand and caused the official seal of this Commission to be affixed at the Capitol, in the City of Phoenix, this 20th day of December, 1984.

LORRIE DROBNY
Executive Secretary

DISSENT_____
dp

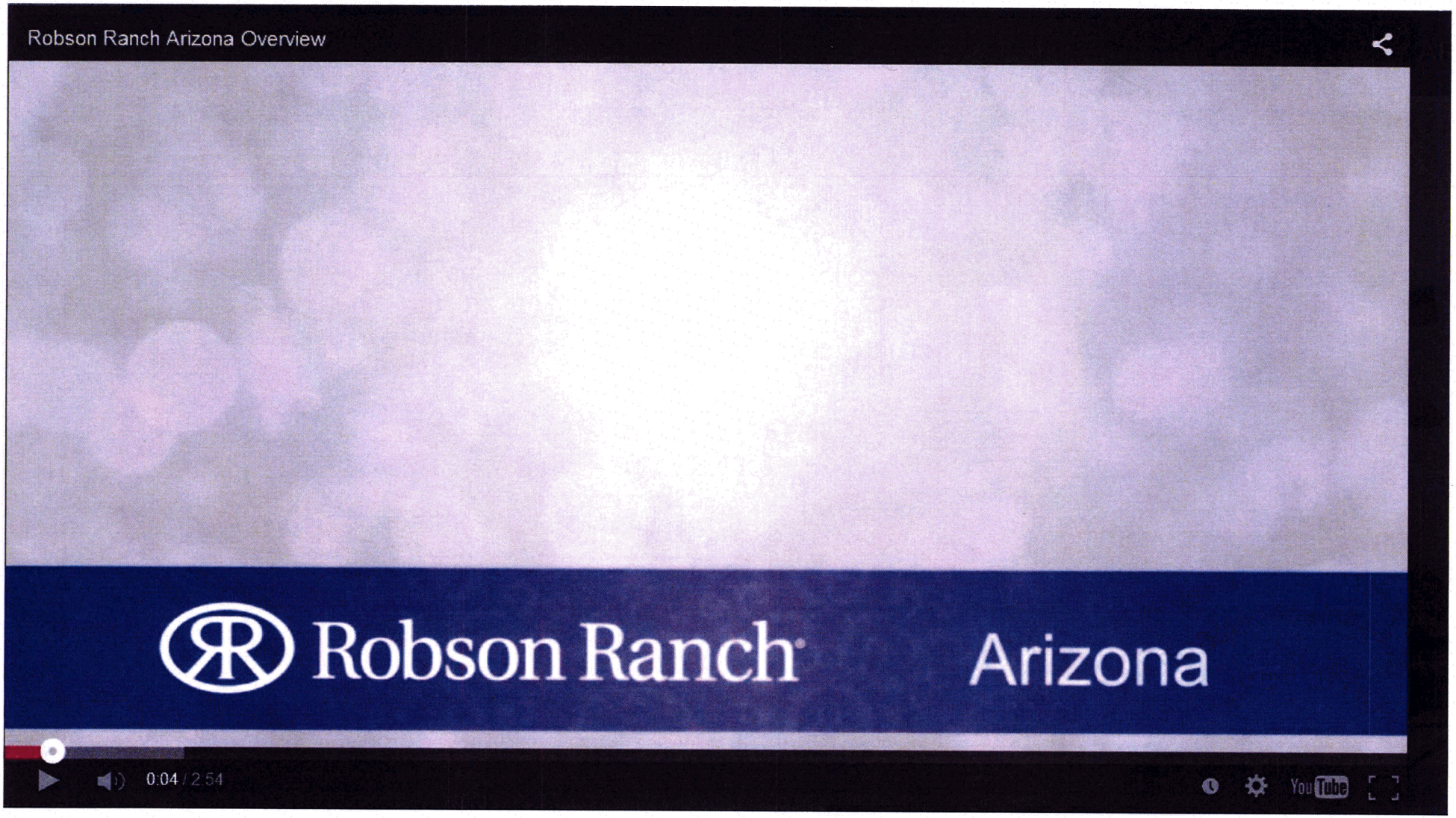
EXHIBIT

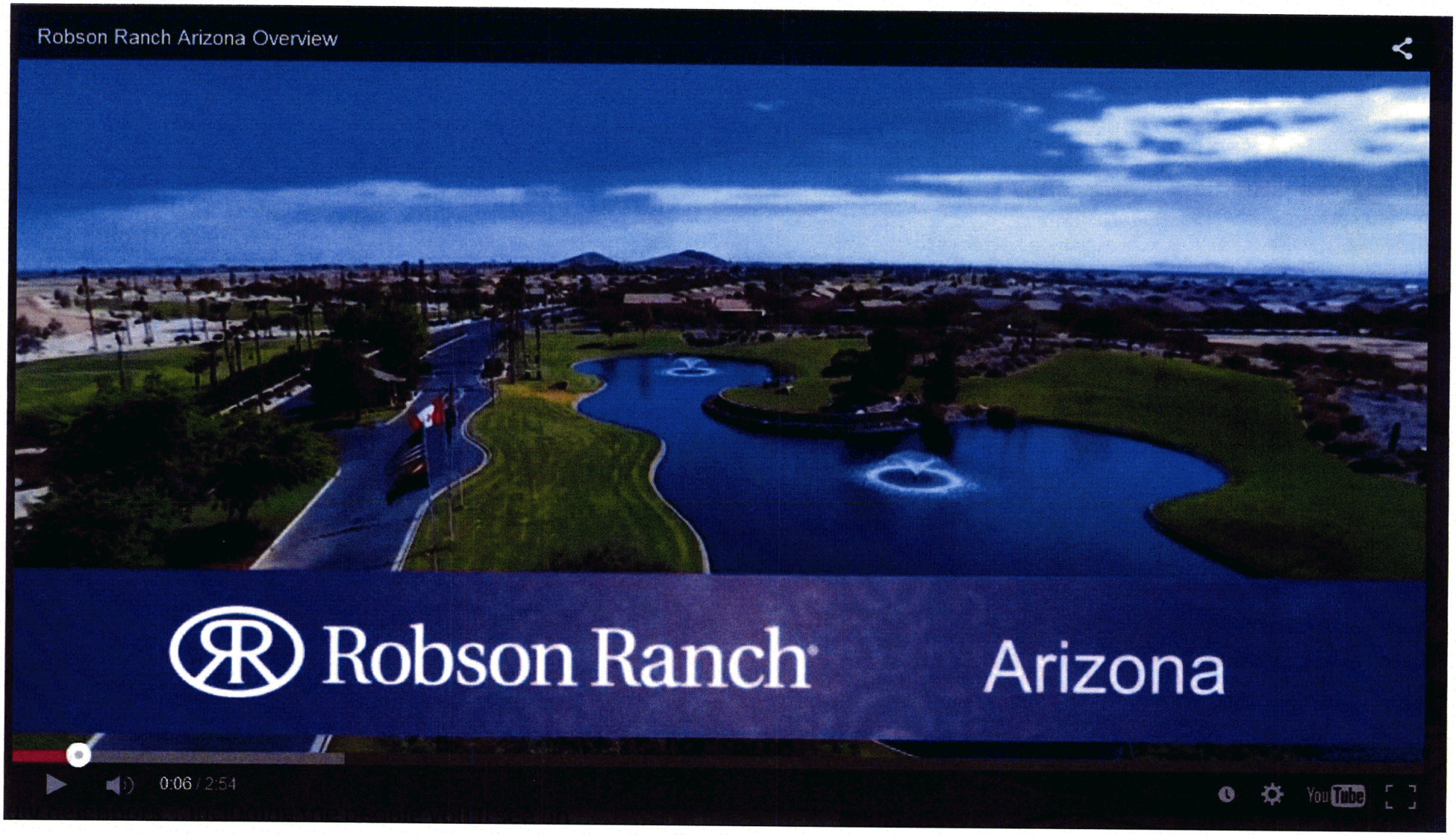
AWC-14

ADMITTED

AWC -14

Robson Ranch (Sun Lakes)


Robson Ranch Arizona Overview
Robson Ranch
Arizona
0:04 / 2:54

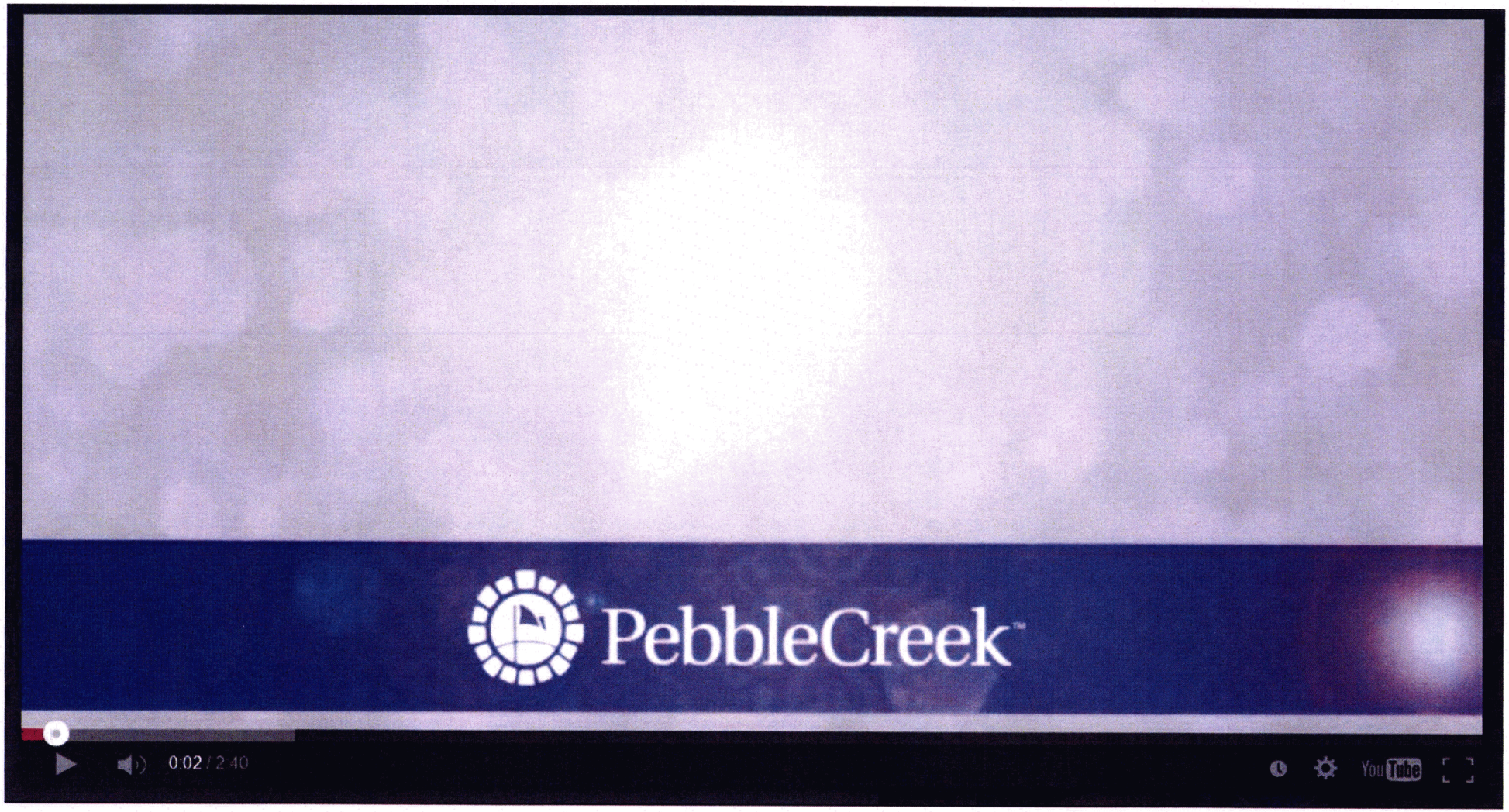

Robson Ranch Arizona Overview
Robson Ranch
Arizona
0:06 / 2:54

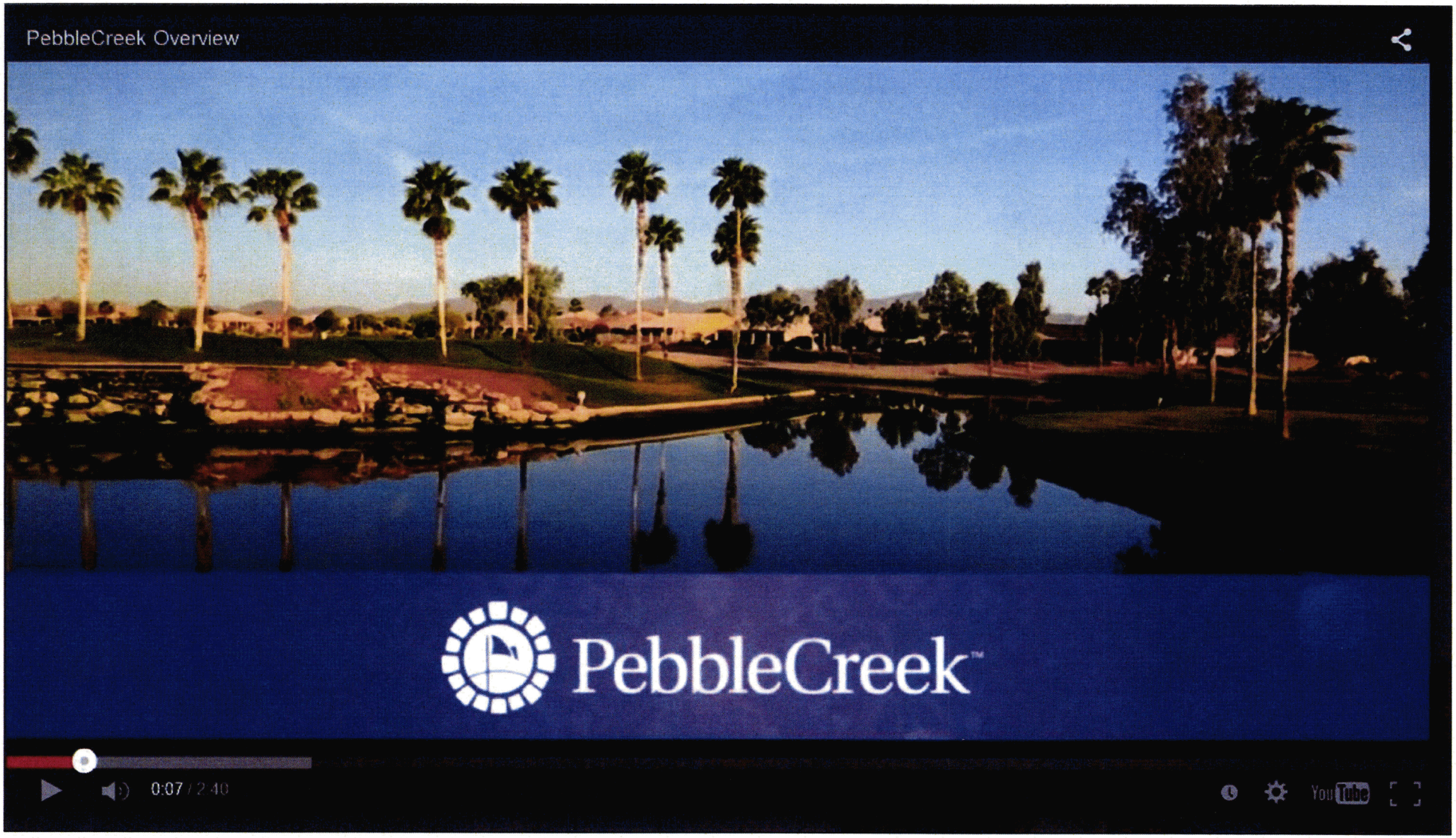
Robson Ranch Arizona Overview
0:20 / 2:54
YouTube

EXHIBIT
AWC-15
ADMITTED

AWC -15

PebbleCreek


PebbleCreek
0:02 / 2:40
YouTube


PebbleCreek Overview
PebbleCreek™
0:07 / 2:40

PebbleCreek Overview
Metro Phoenix
0:10 / 2:40

PebbleCreek Overview
0:30 / 2:40
YouTube

PebbleCreek Overview
Luxurious Clubhouses
1:23 / 2:40

EXHIBIT
AWC-16
ADMITTED

AWC -16

QuailCreek

Quail Creek Overview
Quail Creek
0:03 / 2:16

Quail Creek Overview
Quail Creek
Quail Creek
0:05 / 2:16
YouTube

Quail Creek Overview
0:22 / 2:16

Quail Creek Overview
27 Holes of Championship Golf
0:57 / 2:16
YouTube

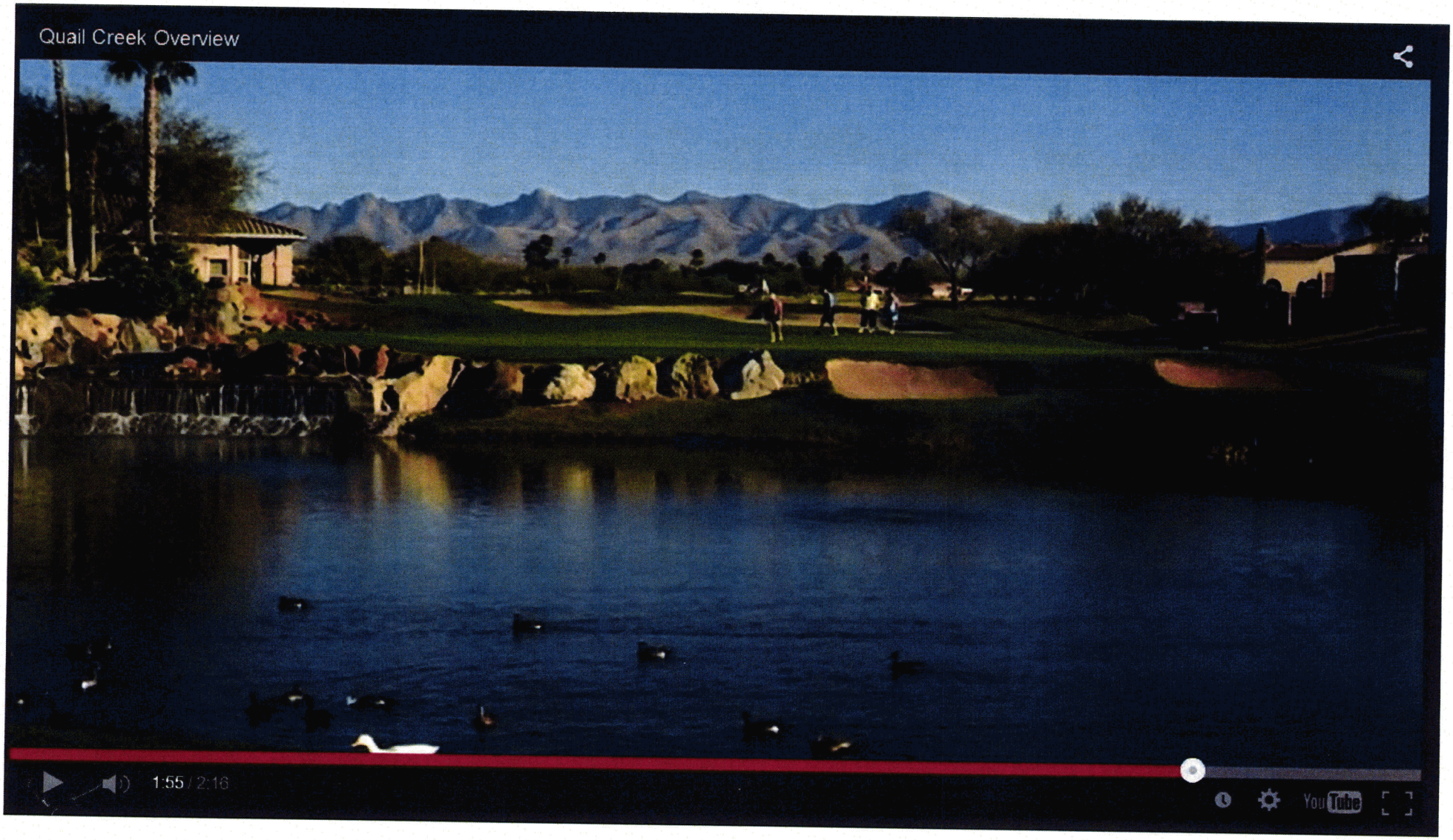
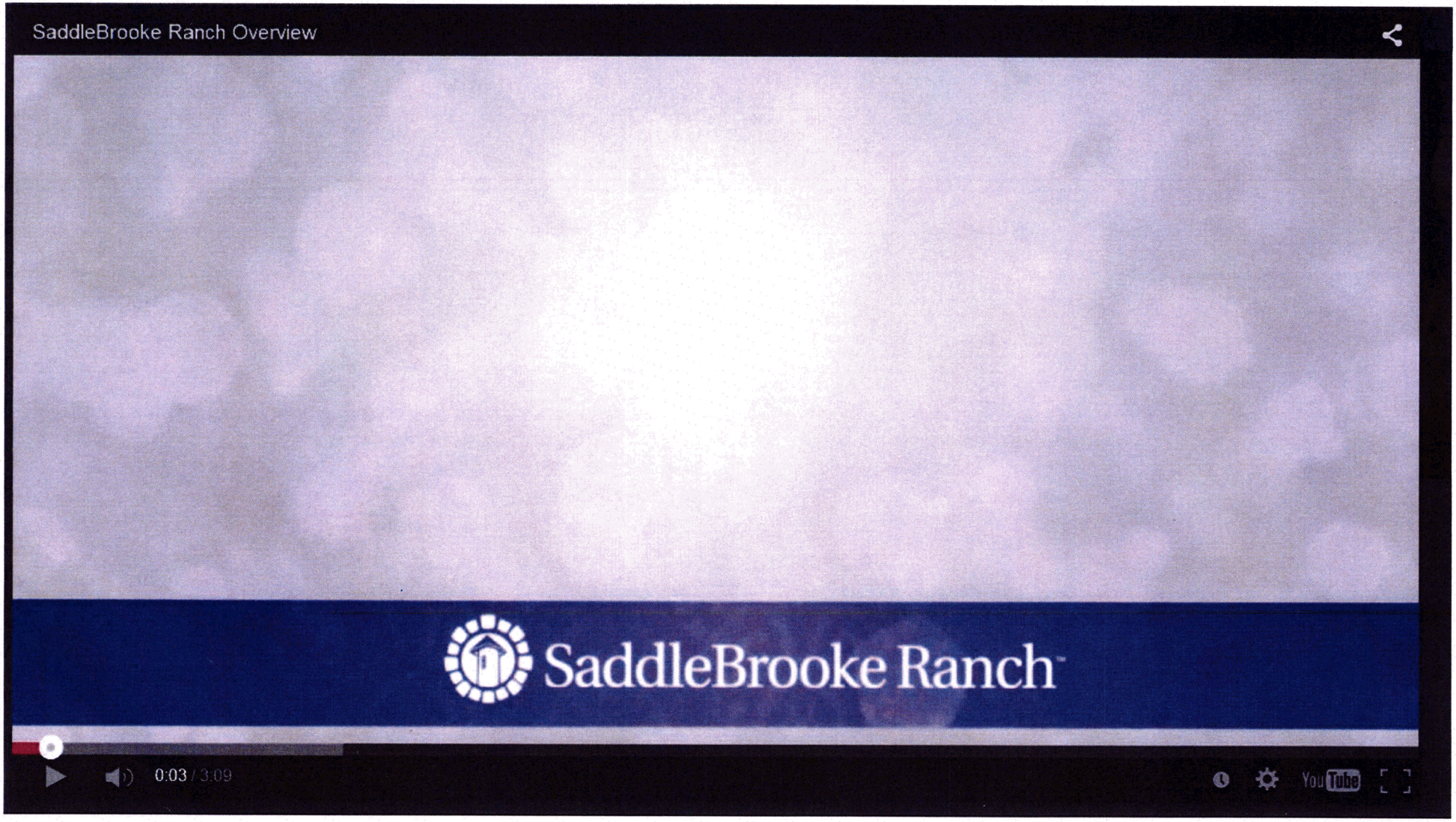
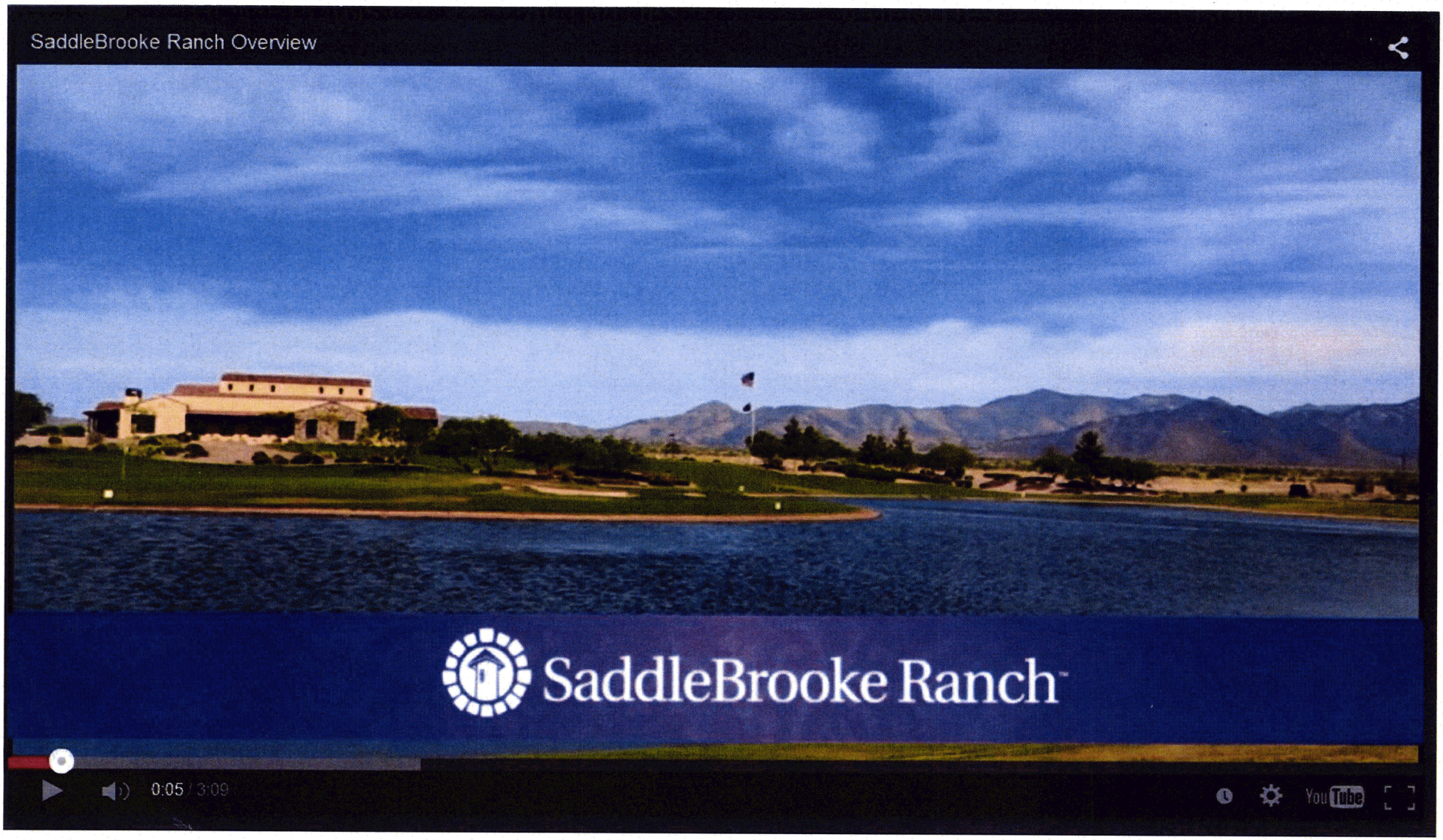

Quail Creek Overview
1:55 / 2:16
YouTube

EXHIBIT
AWC-17
ADMITTED

AWC -17

SaddleBrooke Ranch


SaddleBrooke Ranch Overview
SaddleBrooke Ranch
0:03 / 3:09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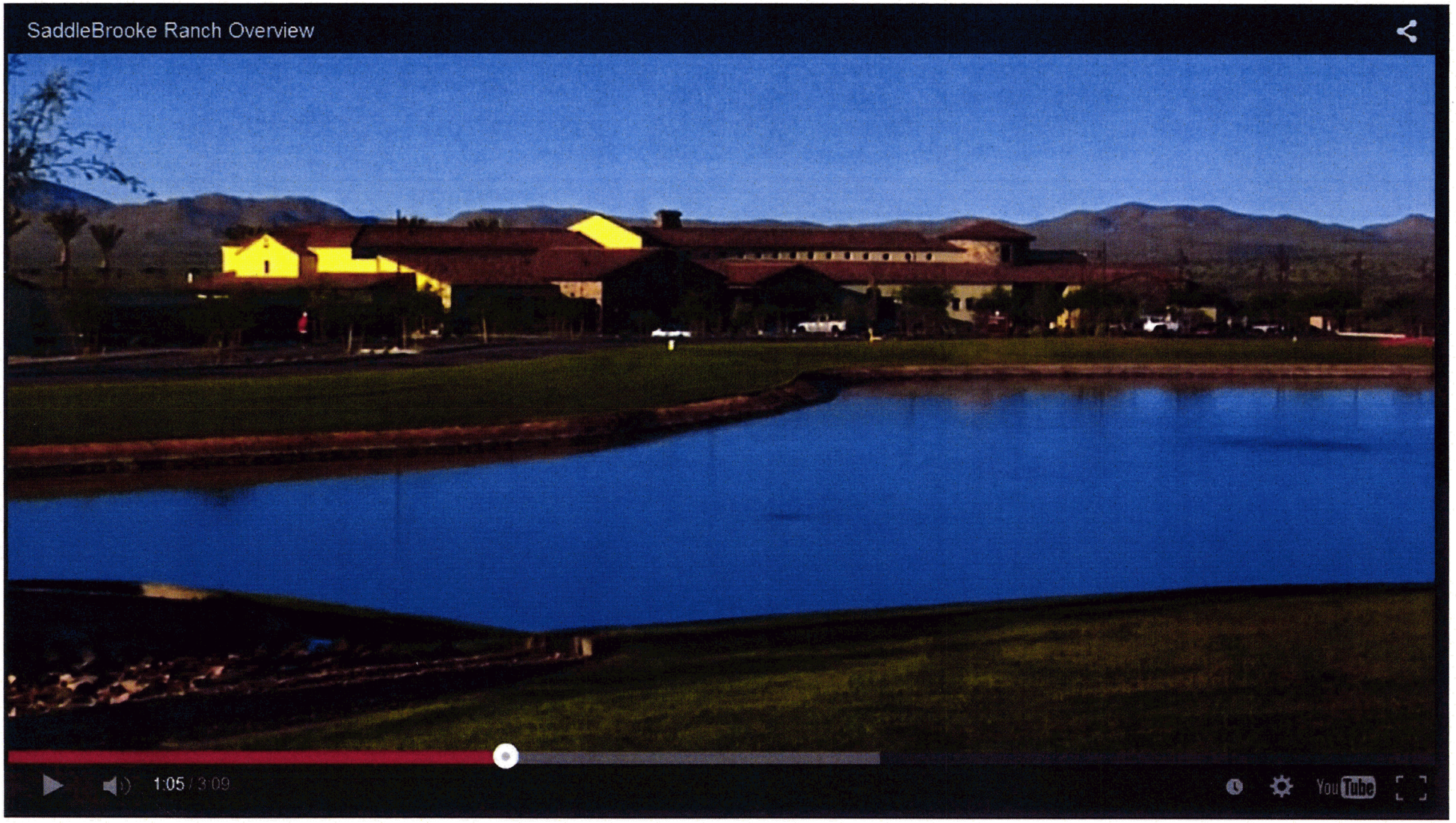
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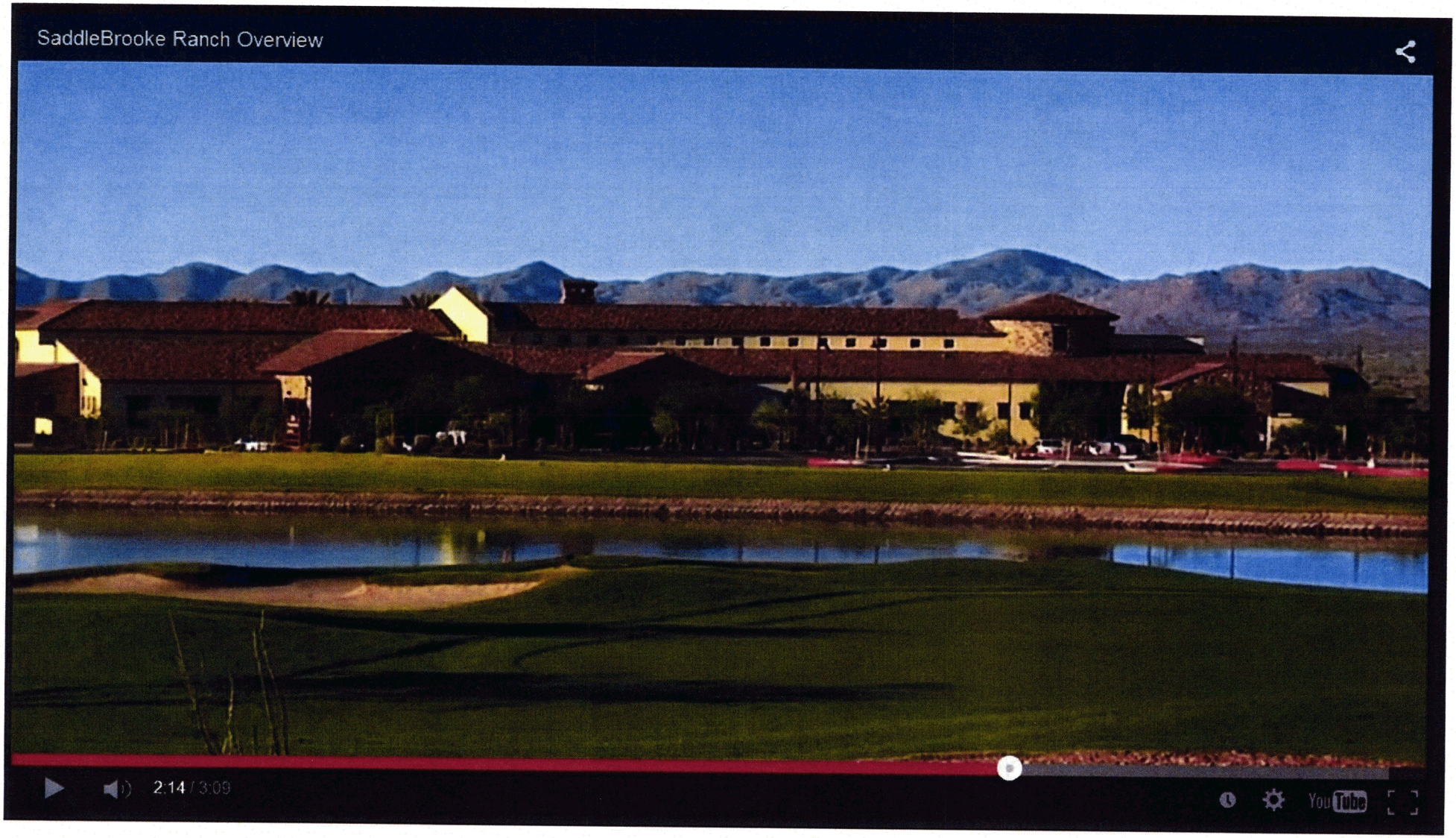
YouTube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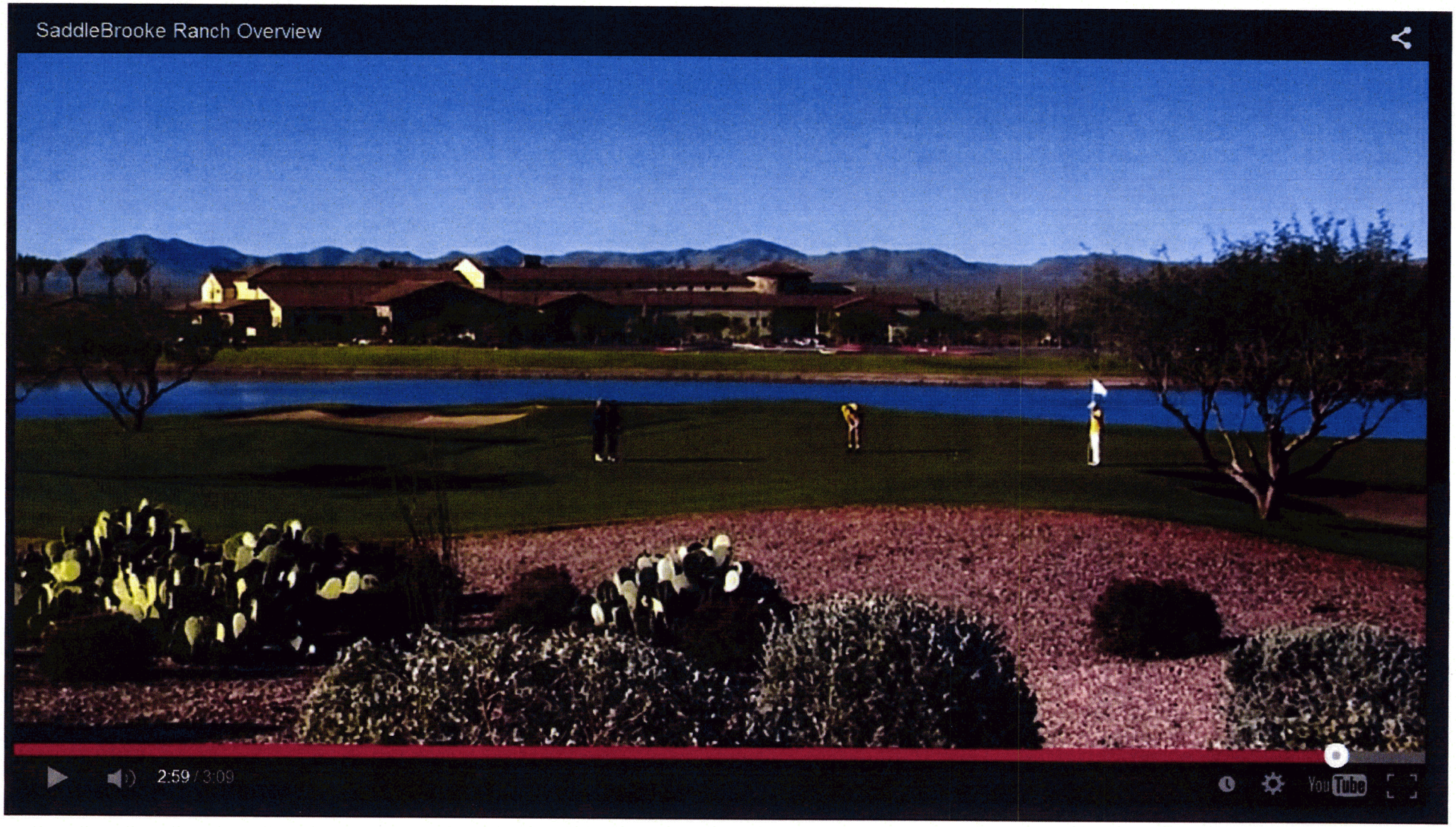
YouTube


SaddleBrooke Ranch Overview
2:59 / 3:09
YouTube

Quail Creek Development - 2014

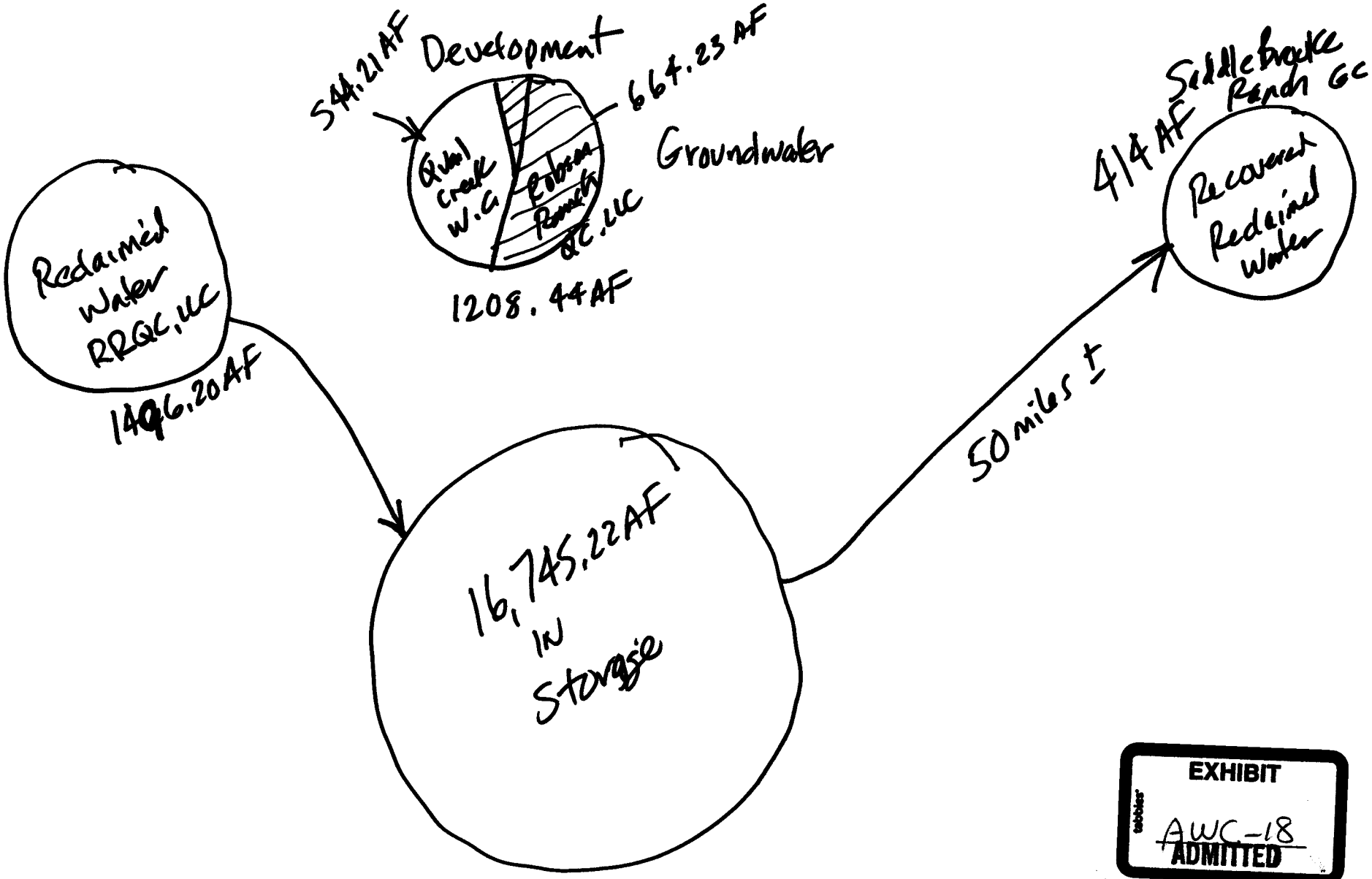


EXHIBIT
AWC-18
ADMITTED

AWC-18

Sun Lakes Development- Chandler 2014

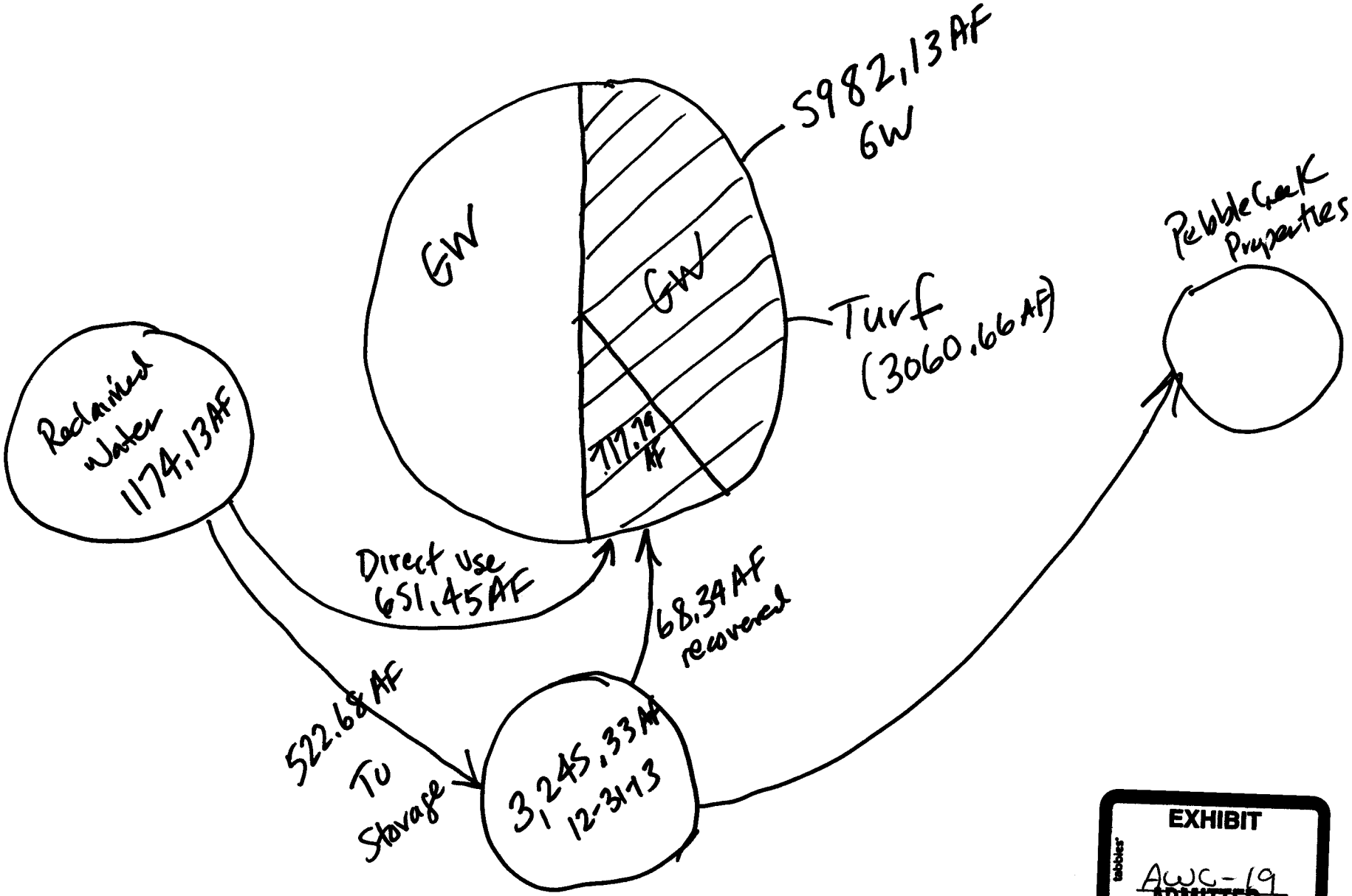


EXHIBIT
AWC-19
ADMITTED

AWC-19

Arizona Water Company – 2015 Pinal Valley

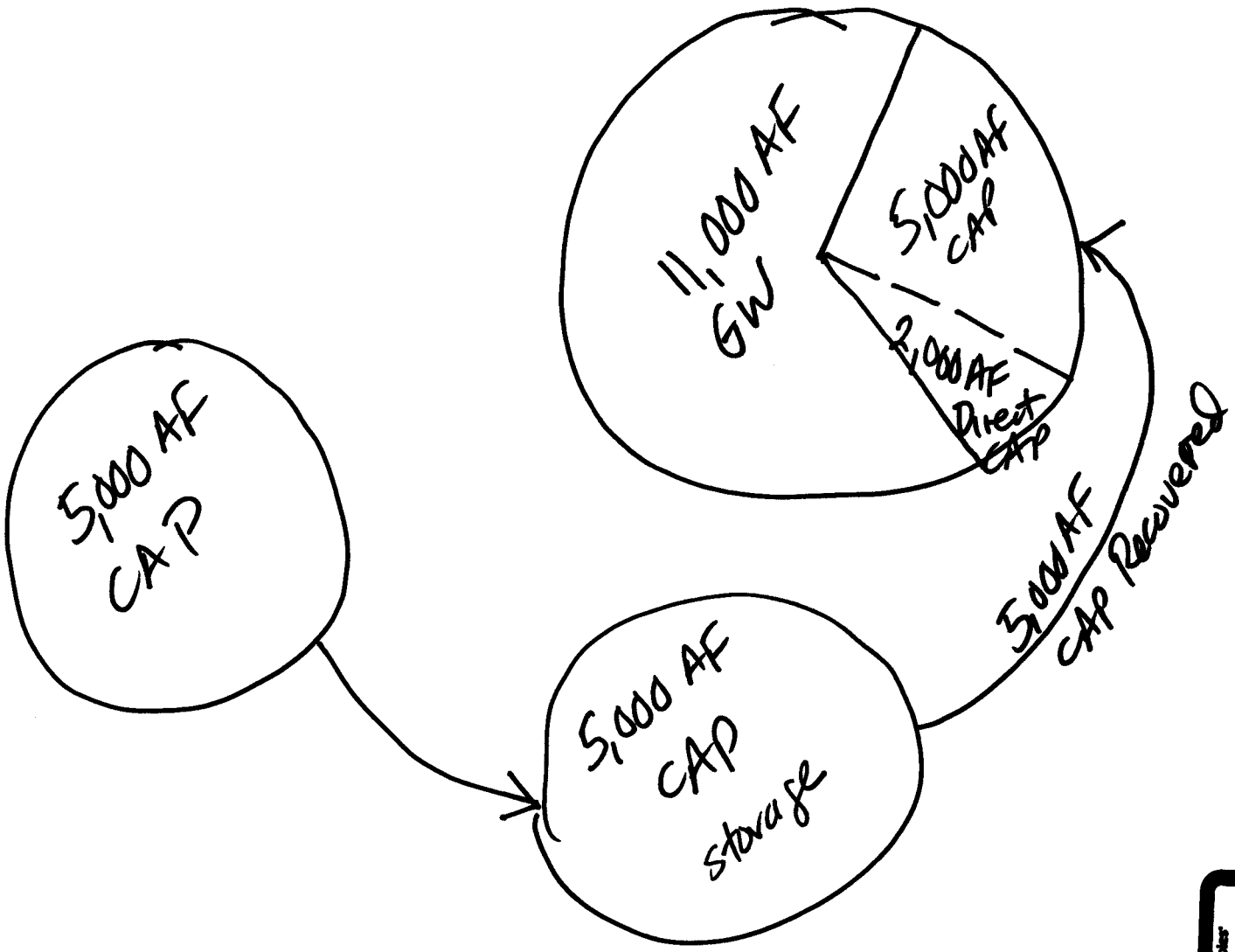


EXHIBIT
AWC-20
ADMITTED

AWC-20

EXHIBIT
S-1
(Remand)
ADMITTED

BEFORE THE ARIZONA CORPORATION COMMISSION

MIKE GLEASON
Chairman
WILLIAM A. MUNDELL
Commissioner
JEFF HATCH-MILLER
Commissioner
KRISTIN K. MAYES
Commissioner
GARY PIERCE
Commissioner

IN THE MATTER OF THE APPLICATION OF ARIZONA WATER COMPANY FOR AN EXTENSION OF THE SERVICE AREA UNDER ITS EXISTING CERTIFICATE OF CONVENIENCE AND NECESSITY TO PROVIDE WATER UTILITY SERVICES	)	DOCKET NO. W-01445A-03-0559

REBUTTAL

TESTIMONY

OF

STEVE OLEA

ASSISTANT DIRECTOR

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

JANUARY 18, 2008

INTRODUCTION

Q. Please state your name and business address?

A. I am Steve Olea and my business address is 1200 West Washington, Phoenix, Arizona, 85007.

Q. For whom do you work and in what capacity?

A. I work for the Arizona Corporation Commission as one of two Assistant Directors of the Utilities Division.

Q. Are you the same Steve Olea that has previously filed a Utilities Division Staff ("Staff") Report in this case?

A. Yes, I filed a Staff Report on June 12, 2006.

Q. Did you also provide testimony for the July 10, 2006 hearing in this matter?

A. Yes.

Q. Did you review the prefiled Direct Testimony filed by Arizona Water Company and Cornman Tweedy 560, LLC?

A. Yes.

Q. Based on this review do you have any Rebuttal Testimony to present in response to the Direct Testimony of Arizona Water Company and Cornman Tweedy 560, LLC?

A. No.

Q. Based on this review do you have anything at this time to add to the Staff Report or your testimony from the July 10, 2006 hearing?

A. No.

Q. Does this conclude this portion of your testimony?

A. Yes.

EXHIBIT
S-2
(Remand)
ADMITTED

BEFORE THE ARIZONA CORPORATION COMMISSION

DOUG LITTLE
Interim Chairman
BOB STUMP
Commissioner
BOB BURNS
Commissioner
TOM FORESE
Commissioner

IN THE MATTER OF THE APPLICATION OF ARIZONA WATER COMPANY TO EXTEND ITS EXISTING CERTIFICATE OF CONVENIENCE AND NECESSITY AT CASA GRANDE AND PINAL COUNTY, ARIZONA.	)	DOCKET NO. W-01445A-03-0559

DIRECT

TESTIMONY

OF

VICKI WALLACE

EXECUTIVE CONSULTANT III

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

JANUARY 6, 2016

INTRODUCTION

Q. Please state your name and business address.

A. I am Vicki Wallace, and my business address is 1200 West Washington Street, Phoenix, AZ, 85007.

Q. For whom do you work and in what capacity?

A. I work for the Arizona Corporation Commission in the Utilities Division as an Executive Consultant III.

Q. Please briefly describe your relevant background.

A. I have an undergraduate Business Degree and 30 years of experience in public utility regulation, 12 of which have been in various capacities with the Arizona Corporation Commission, Utilities Division.

Q. What are your duties in your capacity as an Executive Consultant III?

A. My primary duties include, but are not limited to, the review and analysis of applications involving Certificates of Convenience and Necessity ("CC&N") to provide electric, water, or wastewater services to the public. I also review and provide Staff approval for main line extension submissions of water utilities, coordinate the recruitment and management activities of Interim Managers appointed by the ACC, and conduct research and prepare special reports/testimony for the Director's Office.

Q. Did you review the Staff Report prepared by Steve Olea in this matter and filed on June 12, 2006 as well as the pre-filed testimonies also prepared by Steve Olea in this matter and filed on July 5, 2006 and January 18, 2008?

A. Yes.

Q. Did you review the testimony filed by Arizona Water Company filed on May 30, 2014 and by Cornman Tweedy 560, LLC filed on July 18, 2014?

A. Yes.

Q. In response to the procedural order dated December 9, 2015, did you investigate the number of integrated versus non-integrated water and wastewater utilities in Arizona, the differences between integrated and non-integrated water and wastewater utilities, and actual performance- and compliance-related data for integrated and non-integrated Arizona water and wastewater utilities?

A. Yes.

Q. How may integrated water and wastewater utilities are there in Arizona?

A. There are approximately 24 combination water and sewer providers under our jurisdiction.

Q. How many non-integrated water utilities are there are in Arizona?

A. There are approximately 280 water companies operating approximately 400 systems.

Q. Does Staff have a view as to the differences between integrated and non-integrated water and wastewater utilities?

A. Staff views an integrated utility as one that is in a situation where the water and wastewater utilities serving in a given service territory have common ownership (the same company or parent company). A non-integrated utility provides only water or only wastewater service within the service territory.

Q. Does Staff have any actual performance-related data comparing integrated and non-integrated water and wastewater utilities?

A. Not to my knowledge.

Q. Does Staff have any actual compliance-related data comparing integrated and non-integrated water and wastewater utilities?

A. Not to my knowledge.

Q. Does this conclude your testimony?

A. Yes, it does.

EXHIBIT
S-3
(Remand)
ADMITTED

BEFORE THE ARIZONA CORPORATION COMMISSION

DOUG LITTLE
Chairman
BOB STUMP
Commissioner
BOB BURNS
Commissioner
TOM FORESE
Commissioner
ANDY TOBIN
Commissioner

IN THE MATTER OF THE APPLICATION OF ARIZONA WATER COMPANY TO EXTEND ITS EXISTING CERTIFICATE OF CONVENIENCE AND NECESSITY AT CASA GRANDE AND PINAL COUNTY, ARIZONA.	)	DOCKET NO. W-01445A-03-0559

TESTIMONY

OF

VICKI WALLACE

EXECUTIVE CONSULTANT III

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

FEBRUARY 9, 2016

1 **INTRODUCTION**

2 **Q. Please state your name and business address.**

3 **A.** I am Vicki Wallace, and my business address is 1200 West Washington Street, Phoenix, AZ,
4 85007.

5

6 **Q. For whom do you work and in what capacity?**

7 **A.** I work for the Arizona Corporation Commission in the Utilities Division as an Executive
8 Consultant III.

9

10 **Q. Are you the same Vicki Wallace that filed testimony on January 6, 2016?**

11 **A.** Yes.

12

13 **Q. Did you review the testimony of Arizona Water Company and Corman-Tweedy**
14 **witnesses filed on February 1, 2016?**

15 **A.** Yes.

16

17 **Q. Do you have anything to add?**

18 **A.** No.

19

20 **Q. Does this conclude your testimony?**

21 **A.** Yes.