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BEFORE THE ARIZONA CORPORATIC...

COMMISSIONERS

SUSAN BITTER SMITH - CHAIRMAN
BOB STUMP
BOB BURNS
DOUG LITTLE
TOM FORESE

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AZ CORP COMMISSION
DOCKET CONTROL

IN THE MATTER OF THE APPLICATION OF
EPCOR WATER ARIZONA, INC., AN ARIZONA
CORPORATION, FOR A DETERMINATION OF
THE CURRENT FAIR VALUE OF ITS UTILITY
PLANT AND PROPERTY AND FOR INCREASES
IN ITS RATES AND CHARGES FOR UTILITY
SERVICE BY ITS MOHAVE WATER DISTRICT,
PARADISE VALLEY WATER DISTRICT, SUN
CITY WATER DISTRICT, TUBAC WATER
DISTRICT, AND MOHAVE WASTEWATER
DISTRICT.

DOCKET NO. WS-01303A-14-0010

**STAFF'S NOTICE OF FILING
SUPPLEMENTAL DIRECT
TESTIMONY**

The Utilities Division ("Staff") of the Arizona Corporation Commission ("Commission") hereby files the supplemental direct testimony of Michael Thompson.

Staff hereby requests that the supplemental testimony of Michael Thompson be admitted as a late filed exhibit. During the hearing in this matter, Staff indicated that it would conduct an inspection of certain plant items to clear up any confusion surrounding Staff's recommendations regarding the inclusion of post test year plant. The Company and RUCO indicated that each reserved the right to recall Mr. Thompson for cross-examination. Should he be recalled, Staff would expect to have his supplemental testimony admitted at that time. Should neither RUCO nor the Company request to recall Mr. Thompson, Staff would respectfully request that that the supplemental testimony of Michael Thompson be admitted as a late filed exhibit.

RESPECTFULLY SUBMITTED this 8th day of April, 2015.

Arizona Corporation Commission

DOCKETED

APR 08 2015

DOCKETED BY

RC

Robin R. Mitchell
Matthew Laudone
Attorneys, Legal Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007
(602) 542-3402

1 Original and thirteen (13) copies of
2 the foregoing filed this 8th day of
3 April, 2015, with:

3 Docket Control
4 Arizona Corporation Commission
5 1200 West Washington Street
6 Phoenix, Arizona 85007

6 Copy of the foregoing emailed on this
7 8th day of April, 2015, to:

7	Thomas H. Campbell	tcampbel@lrrlaw.com
	Michael T. Hallam	mhallam@lrrlaw.com
8	Daniel W. Pozefsky	dpozefsky@azruco.gov
	Cheryl Fraulob	cfraulob@azruco.gov
9	Marshall Magruder	marshall@magruder.org
	Greg Patterson	gpatterson3@cox.net
10	Robert J. Metli	rjmetli@mungerchadwick.com
	Andrew Miller	amiller@paradisevalleyaz.gov
11	Rich Bohman	rtbnmbaz@aol.com
	Delman Eastes	delman_eastes@yahoo.com
12	Jim Stark	N743ks@cox.net
	Jim Patterson	jampat@q.com
13	William F. Bennett	edelano@paradisevalleycc.com
	Albert E. Gervenack	agervenack@bmi.net

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BEFORE THE ARIZONA CORPORATION COMMISSION

SUSAN BITTER SMITH
Chairman
BOB STUMP
Commissioner
BOB BURNS
Commissioner
DOUG LITTLE
Commissioner
TOM FORESE
Commissioner

IN THE MATTER OF THE APPLICATION OF)
EPCOR WATER ARIZONA, INC., AN)
ARIZONA CORPORATION, FOR A)
DETERMINATION OF THE CURRENT FAIR)
VALUE OF ITS UTILITY PLANT AND)
PROPERTY AND FOR INCREASES IN ITS)
RATES AND CHARGES FOR UTILITLY)
SERVICE BY ITS MOHAVE WATER DISTRICT,)
PARADISE VALLEY WATER DISTRICT, SUN)
CITY WATER DISTRICT, TUBAC WATER)
DISTRICT, AND MOHAVE WASTEWATER)
DISTRICT.)
_____)

DOCKET NO. WS-01303A-14-0010

SUPPLEMENTAL TO DIRECT

TESTIMONY

OF

MICHAEL S. THOMPSON, P. E.

UTILITIES ENGINEER

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

APRIL 8, 2015

TABLE OF CONTENTS

	PAGE
INTRODUCTION	1
POST TEST YEAR RP INSPECTION REPORT.....	1

EXHIBITS

Report for EPCOR Water Arizona, Inc. Post Test Year Recurring Projects	MST-6
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1 **INTRODUCTION**

2 **Q. Are you the same Michael Thompson that filed the Direct Testimony?**

3 A. Yes.

4
5 **Q. What is the purpose of the Supplemental to your Direct Testimony?**

6 A. To present the findings of Staff's engineering evaluation of the Post Test Year Recurring
7 Projects ("RPs") for EPCOR Water Arizona, Inc.'s ("EWAZ") Mohave Water, Paradise
8 Valley Water, Sun City Water, Tubac Water, and Mohave Wastewater districts. The findings
9 are contained in the Report that was prepared for this Supplemental. The Report is included
10 as Exhibit MST-6.

11
12 **Q. When was this inspection performed?**

13 A. The inspection was made during the week of March 23, 2015.

14
15 **Q. Why was this inspection performed?**

16 A. The purpose of the inspection visits was to confirm the used and useful status of the districts
17 RPs. During the hearing on this matter, Staff indicated that it would conduct an inspection
18 of certain plant items to clear up any confusion surrounding Staff's recommendations
19 regarding the inclusion of post test year plant.

20
21 **POST TEST YEAR RP INSPECTION REPORT**

22 **Q. Please describe the information contained in your Report.**

23 A. The Report provides the results from the site inspections of randomly selected Post Test
24 Year RPs at each EWAZ District. Based on the site inspection results, Staff concluded that
25 the Post Test Year RPs are used and useful to the Districts' provision of service.

26

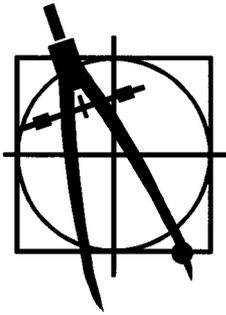
1 **Q. Was the Report prepared by you?**

2 A. Yes.

3

4 **Q. Does this conclude your Direct Testimony?**

5 A. Yes, it does.



**POST TEST YEAR RECURRING
PROJECT REPORT FOR EPCOR Water
Arizona, Inc.**

Docket No. WS-01303A-14-0010

By Michael Thompson, P. E.

April 8, 2015

INTRODUCTION

On March 7, 2014, EPCOR Water Arizona, Inc. (“EWAZ” or “Company”) filed an application with the Arizona Corporation Commission (“ACC” or “Commission”) for approval of a rate increase for four (4) of its Water District’s, and one (1) of its Wastewater Districts. The districts included in the rate application are Mohave Water District (“Mohave Water”), Sun City Water District (“Sun City Water”), Paradise Valley Water District (“Paradise Valley Water”), Tubac Water District (“Tubac Water”), and Mohave Wastewater District (“Mohave Wastewater”). During the hearing on this matter, Staff indicated that it would conduct an inspection of certain plant items to clear up any confusion surrounding Staff’s recommendations regarding the inclusion of post test year plant.

EWAZ incorporated Post Test Year Recurring Projects (“RPs”) for each of the districts in its rate application. The EWAZ Post Test Year commenced on July 1, 2013 and concluded on June 30, 2014. EWAZ describes RPs as routine capital improvements that generally include the installation of short sections of water mains, hydrants, valves, meters, service lines, small pumps and motors, and other items considered to be general equipment. The RPs are categorized by groups that include Distribution, Facilities¹, Vehicles, and Tools & Equipment. Table 1 illustrates the breakdown of costs for each category in each of the five (5) districts.

Table 1. Post Test Year Recurring Project Costs – All EWAZ Districts

EWAZ District	All Project Costs				
		Facilities	Vehicles	Tools & Equipment	
Mohave Water	\$ 1,290,738	\$ 176,133	\$ 37,556	\$ 0	\$ 1,504,427
Mohave Wastewater	\$ 22,551	\$ 75,394	\$ 0	\$ (1,560)	\$ 96,385
Paradise Valley Water	\$ 893,819	\$ 773,133	\$ (6,958)	\$ (26,974)	\$ 1,633,020
Sun City Water	\$ 1,678,562	\$ 413,300	\$ (3,825)	\$ 0	\$ 2,088,037
Tubac Water	\$ 8,850	\$ 11,266	\$ 0	\$ 0	\$ 20,116
Total Cost	\$ 3,901,485	\$ 1,442,261	\$ 26,773	\$ (28,534)	\$ 5,341,985

¹ The Facilities category includes, but not limited to, well sites, booster pump sites, pumps, Supervisory Control & Data Acquisition (“SCADA”), and Treatment Plants.

In its application, EWAZ is requesting recovery of the Post Test Year RPs for its districts in the total amount of \$5,341,985.

During the week of March 23, 2015, four (4) of the five (5) EWAZ districts were visited by Commission Utilities Division Staff ("Staff") member Michael Thompson. The four (4) districts that were visited were Mohave Water, Mohave Wastewater, Paradise Valley Water, and Sun City Water. The purpose of the visits was to confirm the used and useful status of the districts RPs. The confirmation process involved the selection of a random number of RPs from each district, coupled with a visual/physical inspection. A combined total of 127 RPs were completed during the Post Test Year. Tubac, which completed sixteen (16) of the RPs, was excluded from inspection due to its RP costs being relatively minor in relation to the other four (4) districts.

EWAZ DISTRICT VISITS – POST TEST YEAR RECURRING PROJECTS

1) Mohave Water District

Mohave Water was visited on March 23 & 24, 2015. Mr. Thompson was accompanied by Mr. Jeffrey Stuck (EWAZ Director of Operations, Eastern Division) and Mr. Dave Evans (EWAZ Operations Manager, Mohave Water and Wastewater Districts).

Table 2 is a list of the Post Test Year RPs for Mohave Water. Mohave Water completed thirty-four (34) RPs during the Post Test Year totaling \$1,504,427. Five (5) RPs, highlighted on Table 2, were selected for inspection in Mohave Water. They include Valve Replacements – RP #479141, Meter Replacements – RP #379104, Service Replacements - RP #379107, SCADA PLC Panel Installations - RP #279185, and a Mini-Excavator - RP #279480.

Attachment 1 is a map of the Mohave Water meter routes. Routes 1008, 1009, 1011, 1012, 1015, 1034, 1036, 1046, 1114, and 1136 were established as inspection sites since the RPs selected from Table 2 were within those routes.

Table 2. Post Test Year Plant Additions – Mohave Water District Recurring Projects (Used and Useful)

Recurring Project Groups	EWAZ Project Number	NARUC Account Number	Total Adjusted Cost
Distribution Projects			
Valves, New	279164	331200	(\$2,751)
Valves, New	379109	331001	\$4,048
Valves, New	479140	331001	\$11,690
Valves Replaced	379110	331001	\$57,104
Valves Replaced	479141	331001	\$91,554
Meters Replaced	279187	334100	(\$93,557)
Meters Replaced	379104	334100	\$214,804
Meters Replaced	479138	334100	\$31,571
Meters Replaced	479166	334100	\$190
Meters Replaced	479167	334100	\$365
Meters Replaced	479424	311200	\$2,576
Services Replaced	379107	333000	\$579,867
Services Replaced	379108	333000	\$23,415
Services Replaced	479139	333000	\$363,470
Services Replaced	479171	333000	\$3,239
Services Replaced	479173	333000	\$5,903
Main Breaks	379102	331200	\$6,831
Main Breaks	479136	331200	\$7,994
Main Breaks	479163	331200	\$72
Mains Replaced	279369	331200	(\$17,647)
Total Distribution Project Costs			\$1,290,738
Facility Projects			
SCADA – Installed at Remote Sites	279185	346190	\$156,090
Water Treatment – Camp Mohave	279309	320100	(\$287)
Booster Pump Station – Rebuild Motor	279312	311200	\$1,709
Booster Pump Station – Rebuild Pump & Motor	279318	311200	\$5,256
Well Site 24-1 – Equipment used during Well installation	279324	311200	(\$1,417)
Big Bend Acres Well Site – Rewind Booster Pump Motor	279325	311200	(\$3,279)
Well Site 24-1 – Back-up Pump	279337	311200	(\$938)
Water System GIS Map Books	279353	339600	\$7,124
Bullhead City Equipment	279444	343000	(\$256)
Security – Security enhancements at the maintenance shop	379106	346100	\$11,055
Plant Facilities Equipment – Various replacements (Chemical Pumps, mechanical seals, etc.)	379333	311200	\$222
Metal Locator	479481	311200	\$854
Total Facility Project Costs			\$176,133
Vehicle Projects			
Mohave Water Vehicle – Mini Excavator for repairs	279480	341400	\$37,556
Total Vehicle Project Costs			\$37,556
Total Recurring Project Costs			\$1,504,427

Meter Replacements – RP #379104

According to EWAZ, 1,615 existing meters were replaced with Neptune Automated Meter Reading (“AMR”) meters in Routes 1034, 1036, 1046, and 1136 under RP #379104. Approximately 55 meters that were replaced with AMRs were physically inspected, while an additional 100 were

visually validated² as having been replaced with AMRs. Staff concludes that the replacement meters under RP #379104 are used and useful to the District's provision of service.

Valve Replacements – RP #479141

Under RP #479141, a total of 125 valves were replaced in Routes 1011, 1012, and 1114. Approximately 53 replacement valves were inspected. Actually, the street cuts where the replaced valves were located were inspected, since the valves themselves were buried below grade. Staff concludes that the valves that were replaced under RP #479141 are used and useful to the District's provision of service.

Service Replacements – RP #379107

Under RP #379107, a total of 362 long and short side services were replaced in Routes 1008, 1009, 1011, 1012, and 1015. Approximately 137 service replacements were inspected. Actually, the street cuts where the replaced services were located were inspected, since the services themselves were buried below grade. Staff concludes that the services replaced under RP #379107 are used and useful to the District's provision of service.

SCADA – Programmable Logic Control (“PLCs”) Panels – RP #279185

Under RP #279185, eighteen (18) PLC panels were installed at various remote sites within Mohave Water, with one (1) PLC panel having been installed at each remote site. In all, six (6) PLC panels were inspected. The PLC panels inspected were located at Well Sites 16.1, 16.2, & 16.3, Desert Foothills Well Site, Laughlin Well #1 Site, and the Terraces Booster Pump Station. Staff concludes that the PLC panels installed under RP #279185 are used and useful to the District's provision of service.

Mini-Excavator – RP #279480

The Mini-Excavator was located at the Mohave Water Operations Center. When inspected the excavator was sitting on a flatbed trailer which is used to transport it to jobs in the field. The excavator is used for various routine jobs which includes but is not limited to digging trenches to repair/replace water mains, valves, and services. Staff concludes that the Mini-Excavator purchased under RP #279480 is used and useful to the District's provision of service.

2) *Mohave Wastewater District*

Mohave Wastewater was visited on March 24, 2015. Mr. Thompson was accompanied by Mr. Jeffrey Stuck (EWAZ Director of Operations, Eastern Division) and Mr. Dave Evans (EWAZ Operations Manager, Mohave Water and Wastewater Districts).

² Visually validated meter replacements, in Mohave Water, were located on the same alley or street where the meters that were physically inspected were located.

Table 3 is a list of the Post Test Year RPs for Mohave Wastewater. Mohave Wastewater completed seven (7) RPs during the Post Test Year totaling \$96,385. Four (4) RPs, highlighted on Table 3, were selected for inspection in Mohave Wastewater. They include an 8-Inch Gravity Main Installation – RP #479453, Plant Facility Installations – RP #379333, the Wishing Well Effluent Line Installation - RP #279454, and the GIS Map Books - RP #279354.

Table 3. Post Test Year Plant Additions – Mohave Wastewater District Recurring Projects (Used and Useful)

Recurring Project Groups	EWAZ Project Number	NARUC Account Number	Total Adjusted Cost
Distribution Projects			
Manhole Replacement	279210	361100	(\$3,330)
8-inch Gravity Main Installation	479453	380000	\$25,881
Total Distribution Project Costs			\$22,551
Facility Projects			
Wishing Well WWTP	279321	380000	(\$6,110)
Plant Facility	379333	380000	\$91,747
Wishing Well Effluent Line	279454	361100	(\$13,792)
Wastewater GIS Map Books	279354	389600	\$3,549
Total Facility Project Costs			\$75,394
Tools & Equipment			
Tools	279222	393000	(\$1,560)
Total Vehicle Project Costs			(\$1,560)
Total Recurring Project Costs			\$96,385

8-Inch Gravity Main Installation – RP #479453

This project included the removal of the Mountain View Lift Station, the installation of an 8-inch gravity main, installation of manholes, and a concrete berm around the Green Lift Station. By eliminating the Mountain View Lift Station, Mohave Wastewater was able to improve operational efficiency and lower maintenance costs. The manholes and concrete berm were inspected. The graded area where the 8-inch gravity main was located was inspected, since the gravity main itself was buried below grade. Staff concludes that the 8-inch gravity main, concrete berm, and manholes installed under RP #479453 are used and useful to the District’s provision of service.

Plant Facility – RP #379333

This project primarily included the installation of two (2) Effluent Lift Pumps (pump to the lakes at Los Lagos subdivision), treatment plant concrete repairs, and the replacement of 218 air diffusers³ in the Wishing Well Wastewater Treatment Plant Anox 2 and Aeration Basins. The two Effluent Lift Pumps and treatment plant concrete repairs were inspected. Since the Anox and Aeration Basins were in operation, at the time of my inspection, the 218 air diffusers were covered with wastewater and as a result could not be inspected. However, from an operational point of view,

³ The wastewater treatment plant air diffusers are located at the bottom of the Anox and Aeration basins. They are used to distribute air bubbles evenly and uniformly which rise slowly from the floor of the tanks providing substantial and efficient mass transfer of oxygen to the wastewater. The oxygen combined with the wastewater allows bacteria to produce enzymes which help to break down the waste so that it can settle in the treatment plant clarifiers.

air bubbles were evident indicating that the air diffusers were present and operational. Staff concludes that the Plant Facility installations under RP #379333 are used and useful to the District's provision of service.

Wishing Well Effluent Line – RP #279454

This project included the installation of a 6-inch effluent main from the Wishing Well Treatment Plant to the Tribe wastewater system. Normally, effluent is pumped from the treatment plant, via a dedicated effluent line, to the Lakes at Los Lagos. However, at times the lakes are unable to receive effluent from the treatment plant. Consequently, the 6-inch effluent line was installed to divert excess effluent to the Tribe wastewater system. The graded area where the 6-inch effluent line was located was inspected, since the effluent line itself was buried below grade. Staff concludes that the Wishing Well Effluent Line installation under RP #279454 is used and useful to the District's provision of service.

Wastewater GIS Map Books – RP #279354

The Wastewater GIS Map Books are generated to provide up-to-date and accurate wastewater system information for EWAZ employees, especially operators and field maintenance crews. The Map Books are revised continuously in order to remain pertinent and reliable. The books contain the locations of gravity sewer mains, force mains, sewer lift stations, sewer laterals, manholes, the wastewater treatment plant facility, and effluent lines. While at the Mohave Water/Wastewater office the Map Books were reviewed. Staff concludes that the Wastewater GIS Map Books updated under RP #279354 is used and useful to the District's provision of service.

3) *Paradise Valley Water District*

Paradise Valley Water was visited on March 25, 2015. Mr. Thompson was accompanied by Mr. Jeffrey Stuck (EWAZ Director of Operations, Eastern Division), Mr. Tim Williams (EWAZ Production Supervisor), and Mr. Lee Huddleston (EWAZ Distribution Foreman).

Table 4 is a list the Post Test Year RPs for Paradise Valley Water. Paradise Valley Water completed thirty-three (33) RPs during the Post Test Year totaling \$1,633,020. Six (6) RPs, highlighted on Table 4, were selected for inspection in Paradise Water. They include Meter Replacements – RP #379104, Valve Replacements – RP #379110, Service Replacements – RP #379107, Hydrant Replacements – RP #479144, Arsenic Removal Facility (“ARF”) Hatch Replacements – RP #279404, and SCADA PLC Panel Installations – RP #379334.

Attachment 2 is a map of the Paradise Valley Water meter routes. Routes 23380, 23420, 23448, 23458, and 23459 were established as inspection sites since the RPs selected from Table 4 were within those routes.

Table 4. Post Test Year Plant Additions – Paradise Valley Water District Recurring Projects (Used and Useful)

Recurring Project Groups	EWAZ Project Number	NARUC Account Number	Total Cost
Distribution Projects			
Valves, Replaced	279217	331001	(\$54,000)
Valves, Replaced	379110	331001	\$125,876
Valves, Replaced	479149	331001	\$105,328
Meters Replaced	379104	334100	\$187,112
Meters Replaced	479147	334100	\$33,177
Services Replaced	379107	333000	\$229,393
Services Replaced	479148	333000	\$157,530
Main Breaks	379102	331200	\$31,046
Main Breaks	479145	331200	\$10,277
Main Replaced	379331	331200	\$26
Hydrants, New	279211	335000	(\$48)
Hydrants, New	479143	335000	\$1,265
Hydrants Replaced	379101	335000	\$16,118
Hydrants Replaced	479144	335000	\$50,719
Total Distribution Project Costs			\$893,819
Facility Projects			
ARF, Replaced Faulty Pressure Filter Hatches	279409	320200	\$64,725
ARF, Repair Distributive Pump No.3 VFD	479458	311200	\$23,198
Automated External Defibrillator	479437	311200	\$2,098
GIS Map Books	279358	339600	\$1,490
Las Brisas Booster Pump Replacement	279458	311200	\$2,192
Las Brisas Electrical Meter Replacement	479389	311200	\$5,792
MRTF, Well No.15 Repair	279319	320100	(\$12,760)
MRTF, Distributive Pump No.2 Rebuild	279427	311200	(\$1,288)
Plant Facilities, Replace Chemical & Distributive pumps, and Mechanical Seals	379333	311200	\$73,894
SCADA	279400	346190	(\$268)
SCADA, Panels and PLCs	379334	346190	\$591,754
Well No.11, Repair Meter	279452	311200	\$2,710
Well No.12B, Repairs	279481	311200	\$2,394
Well No.14, Repair Well Pump	479477	311200	\$1,504
Well No.15, Replace Well Pump	479408	311200	\$15,698
Total Facility Project Costs			\$773,133
Vehicle Projects			
Up-fit Valve Exercising Truck	279303	341400	(\$6,958)
Total Vehicle Project Costs			(\$6,958)
Tools and Equipment			
Drills, Shovels, hammers, etc.	279226	343000	(\$21,584)
Concrete Saw	279410	343000	(\$220)
Drills, Shovels, etc.	379108	343000	(\$5,170)
Total Tools & Equipment Costs			(\$26,974)
Total Recurring Project Costs			\$1,633,020

Meter Replacements – RP #379104

EWAZ replaced 609 existing meters with Neptune AMRs under RP #379104 in Routes 23420, 23380, 23448, 23458, and 23459. Approximately 34 meters that were replaced with AMRs

were physically inspected, while an additional 50 were visually validated⁴ as having been replaced with AMRs. Staff concludes that the replacement meters under RP #379104 are used and useful to the District's provision of service.

Valve Replacements – RP #379110

A total of 20 valves were replaced in Routes 23380, 24448, and 23458. Approximately 12 replacement valves were inspected. Actually, the street cuts where the replaced valves were located were inspected, since the valves themselves were buried below grade. Staff concludes that the valves that were replaced under RP #379110 are used and useful to the District's provision of service.

Service Replacements – RP #379107

Under RP #379107, a total of 85 long and short side services were replaced in Routes 23380, 23448, 23458, 23460. Approximately 10 service replacements were inspected. Actually, the street cuts where the replaced services were located were inspected, since the services themselves were buried below grade. Staff concludes that the services replaced under RP #379107 are used and useful to the District's provision of service.

Hydrant Replacements – RP #479144

Nine (9) hydrants were replaced under RP # 479144. Three (3) hydrants were inspected. Staff concludes that the hydrants replaced under RP #479144 are used and useful to the District's provision of service.

ARF Filter Hatch Replacements – RP #279409

This project included the removal and replacement of six (6) faulty Arsenic Filter Hatches. During the inspection, it was confirmed that all six (6) hatches were replaced. Staff concludes that the ARF Filter Hatches that were replaced under RP #279409 are used and useful to the District's provision of service.

SCADA – Programmable Logic Control (“PLCs”) Panels – RP #379334

Under RP #379334, eighteen (18) PLC panels were installed at various remote sites within Paradise Valley Water, with one (1) PLC panel having been installed at each remote site. Of the eighteen (18), seven (7) PLC panels were inspected. The PLC panels inspected were located at Well Sites 12 & 17, Club Estates Booster Pump Station, Glen Drive Booster Pump Station and Storage Tank Site, Stone Canyon Booster Station, Clearwater Hills Booster Pump Station, and the Highcliff Booster Pump Station. Staff concludes that the PLC panels installed under RP #279185 are used and useful to the District's provision of service.

⁴ Visually validated replacement meters, in Paradise Valley Water, were located on the same street where the meters that were physically inspected were located. All replacement meters had meter box lids with a circular disc indicating that an AMR meter had been installed.

4) *Sun City Water District*

Sun City Water was visited on March 26, 2015. Mr. Thompson was accompanied by Mr. Melvin Huntspan (EWAZ Field Operations/Field Services Manager) and Mr. Paul Taylor (EWAZ Operations Supervisor).

Table 5 is a list the Post Test Year RPs for Sun City Water. Sun City Water completed thirty-seven (37) RPs during the Post Test Year totaling \$2,088,037. Eight (8) RPs, highlighted on Table 5, were selected for inspection in Sun City Water. They include Meter Replacements – RP #379104, Valve Replacements – RP #379110, Service Replacements – RP #479108, Hydrant Replacements – RP #379101, Water Plant #5 Replacements – RP #279333, Well #5.4 Motor Rewind – RP #379333, Well #5.1 Pump & Motor Replacements – RP #479418, and Pressure Reducing Valve (“PRV”) Replacements – RP #479421.

Attachment 3 is a map of the Sun City Water meter routes. Routes 117, 119, 120, 121, 122, 123, and 124 were established as inspection sites since the RPs selected from Table 5 were within those routes.

Table 5. Post Test Year Plant Additions – Sun City Water District Recurring Projects (Used and Useful)

Recurring Project Groups	EWAZ Project Number	NARUC Account Number	Total Cost
Distribution Projects			
Valves, Replaced	379110	331001	\$82,488
Valves, Replaced	479109	331001	\$64,035
Meters Replaced	379104	334100	\$552,482
Meters Replaced	479107	334100	\$348,836
Services Replaced	379107	333000	\$84,971
Services Replaced	479108	333000	\$107,112
Main Breaks	379102	331200	\$146,007
Main Breaks	479106	331200	\$152,351
Mains Replaced	379331	331200	\$35,897
Hydrants Replaced	379101	335000	\$76,615
Hydrants Replaced	479105	335000	\$27,768
Total Distribution Project Costs			\$1,678,562
Facility Projects			
SCADA	279150	346190	(\$38,063)
Telemetry & Control	279302	346190	(\$235)
WP No.5 – Repair BP #1, Install VFDs, Replace Pump, Motor, & Valves BP #8, replace Gate & Check Valves BP #3.	279333	320100	\$97,539
WP No.5 VFDs	279334	320100	(\$3,138)
Well No. 2.1 – Replaced Mag Meter, Check Valve, & Isolation Valve	279335	311200	(\$30,608)
WP No.6 – Replace BP #3 & #4 Check Valves, replace 150 hp Motor BP #6, replace six Storage Tank Butterfly Valves	279336	320100	(\$3,998)
GIS Map Books	279347	339600	\$5,536
Well No.6.4 – Repair Submersible Pump	279363	311200	(\$2,879)
WP No.5, Repair BP No.1	279372	311200	(\$289)
WP No.5, Replace BP No.8 Valves	279376	311200	(\$1,476)
Well No.8.2 – Pull & Inspect Well, and Replace Production Meter	279382	311200	(\$7,873)
WP No.9, TDR – Replace Emergency Generator Block Heater	279386	320100	(\$2,192)
WP No.6, SCADA Upgrade	279397	346190	(\$35)
Well No.6.2 – Replace Motor Bearings	279401	311200	(\$1,608)
Generator, Block Heater Replaced	279403	320100	(\$11)
WP No.1 – Replace Motors BP #2 & #3	279468	320100	(\$1,232)
Well No.5.4 – Rewind Motor & various repairs due to Theft	379333	311200	\$169,376
WP No.1, Replace Prod. Meter	479384	311200	\$16,208
Well No.9.2, Repair Cla-Valve	479385	331001	\$2,334
WP No.2, Suction & Discharge Gate Valves Replaced	479386	311200	\$22,553
WP No.2, BP No.1 – Rebuild Booster Pump	479401	311200	\$4,400
Well No.5.1 – Replace Well Pump & Motor	479418	311200	\$98,931
PRV Station Installations (3)	479421	311200	\$79,438
WP No.4 – Repair Gas Engine	479436	311200	\$10,622
Total Facility Project Costs			\$413,300
Vehicle Projects			
Transportation Equipment – Golf Cart	279379	341400	(\$3,825)
Total Vehicle Project Costs			(\$3,825)
Total Recurring Project Costs			\$2,088,037

Meter Replacements – RP #379104

EWAZ replaced 3,414 existing meters with Neptune AMRs under RP #379104 in Routes 117, 120, 121, 122, 123, 124, 132, and 201. Approximately 19 meters that were replaced with AMRs

were physically inspected, while an additional 30 were visually validated⁵ as having been replaced with AMRs. Staff concludes that the replacement meters under RP #379104 are used and useful to the District's provision of service.

Valve Replacements – RP #379110

A total of 20 valves were replaced in Routes 23380, 24448, and 23458. Approximately 12 replacement valves were inspected. Actually, the street cuts where the replaced valves were located were inspected, since the valves themselves were buried below grade. Staff concludes that the valves that were replaced under RP #379110 are used and useful to the District's provision of service.

Service Replacements – RP #479108

Under RP #479108, a total of 85 long and short side services were replaced in Routes 23380, 23448, 23458, 23460. Approximately 10 service replacements were inspected. Actually, the street cuts where the replaced services were located were inspected, since the services themselves were buried below grade. Staff concludes that the services replaced under RP #479108 are used and useful to the District's provision of service.

Hydrant Replacements – RP #379101

Ten (10) hydrants were replaced under RP #379101. Three (3) hydrants were inspected. Staff concludes that the hydrants replaced under RP #379101 are used and useful to the District's provision of service.

Water Plant #5 Replacements – RP #279333

This project included the installation of two (2) Variable Frequency Drives ("VFDs") for the operation of Booster Pumps #4 & #8, replacement of the pump, motor, and gate valve on Booster Pump #8, repair of Booster Pump #1, and the replacement of a gate valve and check valve on Booster Pump #3. Staff concludes that Water Plant #5 replacements under RP #279333 are used and useful to the District's provision of service.

Well #5.4 Motor Rewind – RP #379333

Vandals broke into Well Site #5.4 stealing the main power feed wire (copper wire) to the well. Theft of the wire caused the wells oil drip tube to wrap around the well shaft which ultimately generated major damage to the wells' 400 hp motor. RP #379333 included the replacement of the main power feed wire, replacement of the oil drip line, and repairs to the 400 hp motor. Staff concludes that Well #5.4 Motor Rewind under RP #379333 is used and useful to the District's provision of service.

⁵ Visually validated replacement meters, in Sun City Water, were located on the same street where the meters that were physically inspected were located. All replacement meters had meter box lids with a circular disc indicating that an AMR meter had been installed.

Well #5.1 Pump & Motor Replacements – RP #479418

The motor thrust bearing on Well #5.1 failed causing the well shaft to drop, which in turn caused the pump impellers to drop within the pump bowls, and subsequently damaging the impellers. This project included the replacement of the pump (bowls and impellers) and motor. Staff concludes that Well #5.1 Pump & Motor Replacements under RP #479418 are used and useful to the District's provision of service.

Pressure Reducing Valves ("PRV") – RP #479421

This project included the installation of three (3) PRVs on three separate water mains that provide water to the distribution system located south of Grand Avenue in Sun City. The water system was experiencing excessive water main breaks due to the excessive water pressure. Installation of the PRVs enabled Sun City Water to regulate and reduce the excessive water pressure in the distribution system, and ultimately eliminate water main breaks. Staff concludes that the three (3) PRVs installed under RP #479421 are used and useful to the District's provision of service.

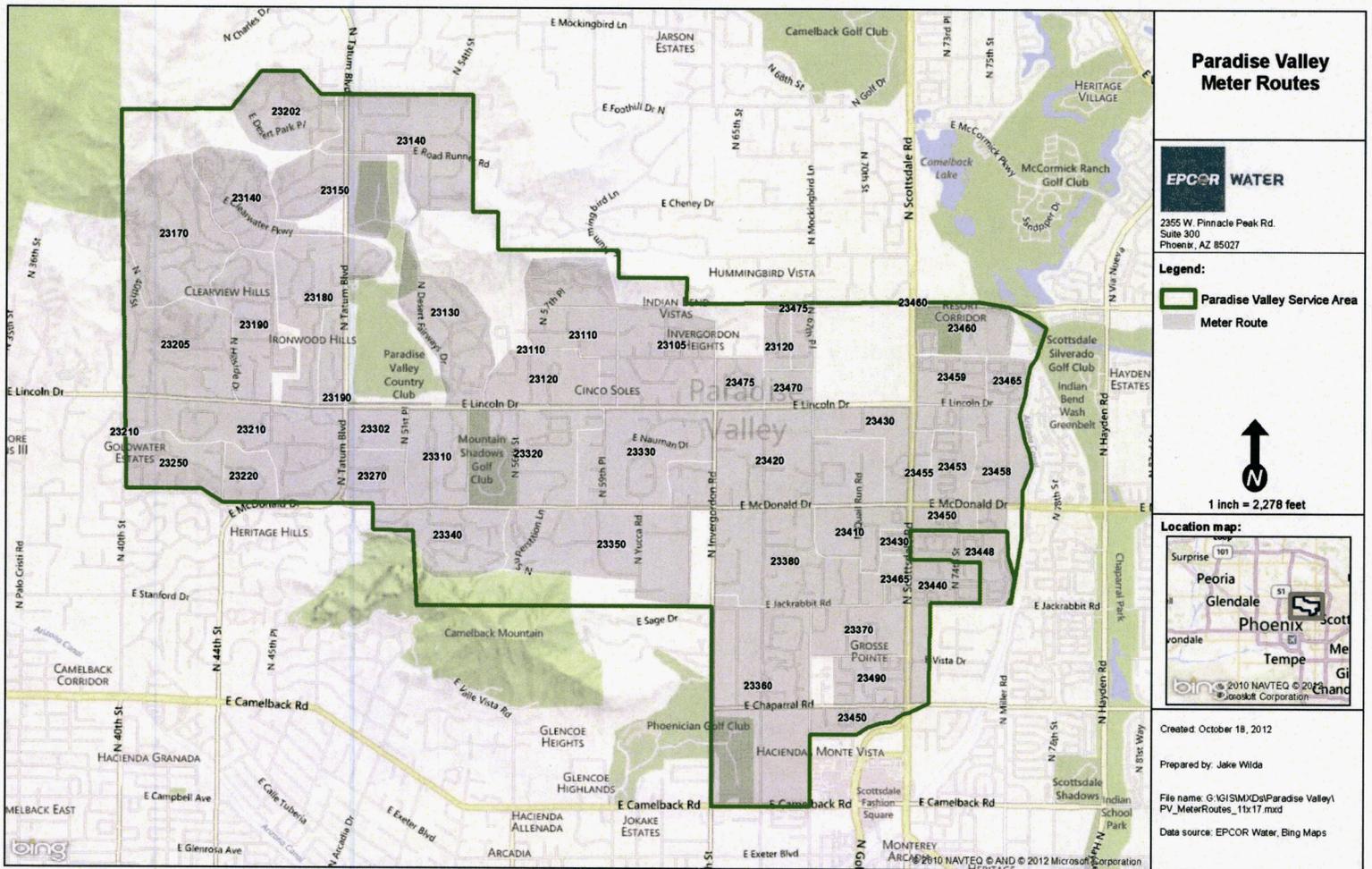
CONCLUSIONS

Staff concludes that the Post Test Year RPs for the Mohave Water, Mohave Wastewater, Paradise Valley Water, and Sun City Water are used and useful to the Districts' provision of service.

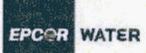
ATTACHMENTS

Attachment 2

Paradise Valley Water District



Paradise Valley Meter Routes



2355 W. Pinnacle Peak Rd.
 Suite 300
 Phoenix, AZ 85027

- Legend:**
- Paradise Valley Service Area
 - Meter Route

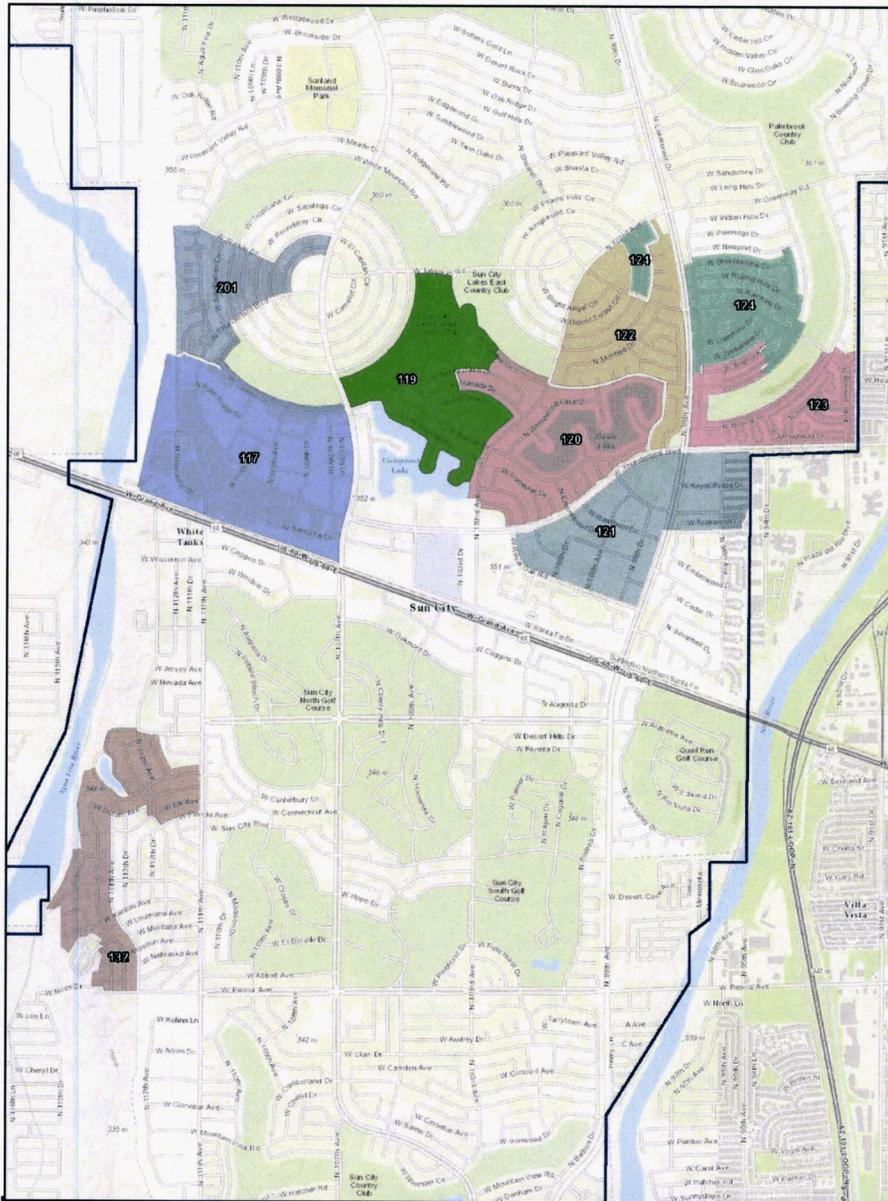


1 inch = 2,278 feet



Created: October 18, 2012
 Prepared by: Jake Wilda
 File name: G:\GISMXD\Paradise Valley\ PV_MeterRoutes_11x17.mxd
 Data source: EPCOR Water, Bing Maps

Attachment 3
Sun City Water District



<p>Location Map:</p>	<p>Created: March 23, 2015 Prepared by: Jake Wilda File name: G:\GIS\MXD\Sun City\MeterRouteSC.mxd Data source: EPCOR Water, ESRI</p> <p>0 0.25 0.5 Miles</p>	<p>Legend:</p> <ul style="list-style-type: none"> Meter Route Sun City Service Area <p>Service Layer Credits: Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp.,</p>	<p>Sun City Meter Routes</p> <p>2395 W. Pinnacle Peak Rd. Suite 300 Phoenix, AZ 85027</p>
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